CATALOG
2012-2013

Christian Brothers University is a private, independent, Catholic University for men and women with baccalaureate programs in Arts, Business, Engineering, and Sciences and with specialized graduate programs. The University is not financed in any way by the hierarchy of the Church.
LOCATION
Christian Brothers University is located on nearly 75 acres in the heart of Greater Memphis. The University is ideally situated, as it is only four miles from downtown Memphis and four miles from Memphis International Airport. The University is just a few steps from the Liberty Bowl Memorial Stadium, home of the Liberty Bowl Football Classic and other top attractions.

INFORMATION
In the list below are the officials to whom inquiries of various types may be sent.

General Interests of the University.................................................................President
Academic Work of Students, Transcripts and Withdrawals ..............................................Registrar
The Academic Program, Housing, Health, Counseling, Safety, Ministry, and General Student Welfare ....... Vice President for Missions and Identity
Campus Activities, and International Students ..................................Vice President for Academics Athletics.............................................................................................................Director of Athletics
Day Admission Applications and Information.............................................Dean of Admissions
Professional Studies Applications and Information Director of Graduate and Professional Studies
Graduate Program Applications and Information Director of Graduate and Professional Studies
Payment of University Bills .............................................................................................Controller
Scholarships and Financial Aid ..........................................................Dean of Student Financial Assistance

THE UNIVERSITY MAILING ADDRESS IS
Christian Brothers University
650 East Parkway South
Memphis, Tennessee 38104-5581

Telephone: (901) 321-3200
Toll-free: (877) 321-4CBU
Internet: http://www.cbu.edu

OFFICE OF DAY ADMISSIONS
(901) 321-3205
(800) 288-7576
FAX: (901) 321-3202

Christian Brothers University does not discriminate on the basis of race, age, color, religion, sex, sexual orientation, national and ethnic origin, or handicap in its education programs or activities, including employment and admissions.

CATALOG INFORMATION ACCURACY
The information contained herein is accurate according to the best information available at the time of review; however, all statements regarding offerings, requirements, tuition charges and fees, academic regulations, and student life are subject to change without notice or obligation.
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POLICIES
&
UNDERGRADUATE
PROGRAMS
GENERAL INFORMATION

MISSION STATEMENT
Educating minds.
Touching hearts.
Remembering the presence of God.

HERITAGE
Let us remember that we are in the holy presence of God.
Live Jesus in our hearts . . . forever.
As a Catholic institution of higher learning, Christian Brothers University brings the timeless wisdom and religious heritage of centuries into an encounter with the twenty-first century. Universities are dedicated to teaching, to fostering research and to the education of students who freely associate with their teachers in a common love of knowledge. The privileged task of a Catholic university is to bring together in one community the intellectual search for truth in the context of faith based on the gospel and mission of Jesus Christ. (Blessed) John Paul II described the Catholic university as “an incomparable center of creativity and dissemination of knowledge for the good of humanity . . . born from the heart of the Church.”

At CBU, the rich intellectual heritage of the Catholic university is expressed within the Lasallian tradition. St. John Baptist de La Salle is the patron saint of teachers and an educational innovator who founded the Brothers of the Christian Schools in seventeenth century France. Now a worldwide community of vowed religious brothers and dedicated associates, the Lasallian family remains committed to the vision of the founder: “… not only is God so good as to have created us, but God desires all of us to come to the knowledge of the truth.” St. John Baptist De La Salle, therefore, made it his life’s work to bring the blessings of a practical education beyond the privileged classes of French society, to all people, especially the young, who have an inherent dignity as those created in the image and likeness of God. A Lasallian institution continues to affirm the dignity of all people and embraces the presence of God.

THE BROTHERS IN MEMPHIS
The De La Salle Christian Brothers arrived in Memphis in 1871 from Chicago, and immediately opened a Catholic school that, within a few years, contained elementary and secondary grades, college classes and granted graduate degrees. Christian Brothers College, as it was then, became the first Catholic college in West Tennessee. The First World War brought an end to the college program as men went off to war. The elementary school declined and closed in 1926, while the high school prevailed. The college came into existence once more in 1940, and moved to its current location on East Parkway South. In 1965, the high school program moved to its present location on Walnut Grove Road, and the college, later to become a university, stood alone on East Parkway. In 2000, the Brothers agreed to the request of the Diocese of Memphis to administer one of the Jubilee Schools, De La Salle Blessed Sacrament. The circle was once more complete, with the Christian Brothers offering elementary, secondary and college programs with graduate degrees, continuing the tradition of committed Catholic education throughout the city of Memphis for more than 140 years.

OUR IDENTITY
Christian Brothers University is a Catholic university founded on the heritage of Lasallian education. While large enough to provide educational opportunities in the arts, business, education, engineering and sciences, the University is small enough to promote teaching as ministry and to provide challenging student-centered learning and personal growth. Students of diverse cultures and religious traditions are encouraged to grow in their own faith. The University welcomes students into an educational community of faith and service, one that is committed to academic excellence, the betterment of society and the care of God’s creation.

INSTITUTIONAL GOALS
In pursuit of its mission, Christian Brothers University aims specifically to:
1. Bring within the reach of all its students an opportunity for higher education founded on Judeo-Christian principles and particularly to develop persons who think, judge, and act according to the principles enunciated by enlightened ethical and religious beliefs;
2. Provide programs which teach and encourage students to be active, informed, interested, and concerned citizens with a global perspective and a strong sense of justice and responsibility;
3. Assist in the personal, spiritual, and academic development of students by fostering interaction, dialogue, and opportunities for community services involving students, faculty, and staff members;
4. Maintain a commitment to the ideals of free inquiry, pursuit of truth, and respect for all people;
5. Acquaint students with fundamental knowledge in the humanities, social sciences, physical sciences, and mathematics essential to an understanding of self and of the world in which they live;
6. Cultivate the skills of inquiry, reasoning, and communication which allow students to continue the process of intellectual growth;
7. Develop students’ capabilities for the intelligent and responsible use of information technology;
8. Assist the students in choosing and preparing for careers through counseling, opportunities for internships, pre-professional programs, and career placement;
9. Provide facilities, programs, and services which will encourage students’ academic, religious, social, moral, and cultural growth;
10. Sustain and promote the Catholic and Lasallian heritage of the University while welcoming persons from diverse religious faiths and social backgrounds and serving as a center for interfaith dialogue;
11. Contribute, as an urban institution of higher learning, a variety of services related to facilities and personnel which will benefit the people and institutions of the community; and
12. Encourage and support lifelong learning and the continuing spiritual and professional development of students, alumni, faculty, and staff.

NOTICE OF NON-DISCRIMINATORY POLICY AS TO STUDENTS
Christian Brothers University admits students of any race, age, color, religion, sex, sexual orientation, national and ethnic origin to all the programs and activities of the University with the rights and privileges generally accorded to students. It does not discriminate on the basis of race, age, color, religion, sex, sexual orientation, national and ethnic origin, or disability in its education programs or activities, including employment and admissions.

HISTORICAL SKETCH
Christian Brothers College was founded November 19, 1871, by members of the Institute of the Brothers of Christian Schools, a Roman Catholic religious teaching congregation. The Brothers came to Memphis at the request of the people and clergy of the city, a move which culminated more than a decade of efforts to persuade the Brothers to open a college in Memphis. Brother Maurelian was appointed the first President.

Brother Maurelian’s two terms as President totaled 33 years. During his presidency, the Brothers purchased the 612 Adams Street building which was to house the college until 1940 when the college moved to its present location at Central Avenue and East Parkway South. The college functioned as a combined elementary school, high school, and college, granting high school diplomas as well as Bachelor’s and Master’s Degrees from 1871 to 1915, when the college division was suspended. Elementary classes were dropped in 1922, and the institution operated as a high school only until 1940. Reopened at that time as a Junior College, the college began granting Associate of Arts Degrees in 1942.

In 1953, the decision was made to expand the Junior College into a four-year institution to more adequately serve the needs of the community. The four-year curriculum began with degrees in Business Administration and Electrical Engineering, with the first graduates in recent times receiving their degrees in 1955.

The curriculum was soon expanded to meet the needs for new programs in the fields of Mechanical Engineering and Chemistry. Through the ensuing years the following degree programs were added: Biology, Civil Engineering, Mathematics, English, Physics, Chemical Engineering, History, Psychology, Natural Science, Engineering Physics, Computer Science, and Religion & Philosophy. Teacher Preparation Programs in Secondary Education were added in 1969. Christian Brothers College became coeducational in 1970. Currently, women make up approximately fifty-five percent of the student body. An accelerated Evening Program offering a degree in Business Administration was added in 1978 to meet the needs of the adult student, and the Applied Psychology degree was added in 1999. Officially, Christian Brothers College became Christian Brothers University in June of 1990.

Programs at the graduate level were reinstituted in 1987 with the Master’s program in Telecommunication and Information Systems. The Master of Business Administration and the Master of Engineering Management were added in 1989. A Master of Education was added in 1997, and in 2001 a Master of Arts in Teaching and a Master of Science in Educational Leadership were added. Masters of Arts in Catholic Studies and Executive Leadership and a Master of Science in Engineering Management were added in 2005. In 2012, a Master of Physician Assistant Studies was added.

ACCREDITATION AND RECOGNITION
Christian Brothers University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane; Decatur, Georgia 30033-4097; telephone number 404-679-4501) to award the Bachelor’s Degree and the Master’s Degree. The three-fold purpose for publishing the Commission’s address and contact number is to enable interested constituents (1) to learn about the accreditation status of Christian Brothers University, (2) to file a third-party comment at the time of Christian Brothers University’s decennial review, or (3) to file a complaint against Christian Brothers University for alleged non-compliance with a standard or requirement. Normal inquiries about Christian Brothers University, such as admission requirements, financial aid, educational programs, etc., should be addressed directly to Christian Brothers University and not to the Commission’s office.

Christian Brothers University is a member of the National Catholic Educational Association and the Tennessee Association of Colleges. Most programs are approved for veterans’ training. Chemical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (111 Market Place, Suite 1050; Baltimore, MD 21202-4012; telephone number 410-347-7700). The University is accredited by the National Council for Accreditation of Teacher Education and approved by the State Department of Education of Tennessee as a Teacher Training Institution. Christian Brothers University is in full compliance with Title II Teacher Education Report Card reporting mandates. Information on the University’s performance levels may be obtained through the Department of Education.

CONSUMER INFORMATION
One of the policies of the Administration at Christian Brothers University is to provide facilities that will increase the success of each student. Opportunities for individual instruction are available at the University through appointments made with instructors. As a consequence, one who chooses to seek individual aid can easily secure the help needed.

To comply with the Family Education Rights and Privacy Act of 1974 (FERPA), Christian Brothers University allows students full access to their own records with 48 hours written notice and requires written consent by students before their records are transmitted to third parties except to the extent that FERPA authorizes disclosure without consent. Opportunity is afforded the student for correction of inaccurate, misleading, or inappropriate data. A complete statement on the confidentiality of records may be found in The Compass (the student handbook). Information regarding the following is available in the Registrar’s Office during normal business hours:

1. Annual Security Reports,
2. Athletic Participation Rates and Financial Support,
3. Athletic Graduation Rates,
4. Drug-Free Workplace.
PHOTOGRAPHY STATEMENT
The University reserves the right to photograph (including film and videotape) students, faculty, staff and visitors on campus. Such photography is limited to non-commercial purposes representing CBU. Expected uses of photography can include, but are not limited to, newspaper and television coverage, and officially recognized university published materials such as brochures, slide shows, videotapes, displays, and Web sites.

CAMPUS SAFETY
Christian Brothers University strives to provide a secure environment for its students. The Department of Campus Safety patrols the campus, provides assistance when requested, and coordinates any need for emergency assistance such as ambulance, police, and fire departments. The officers can be reached at (901) 321-3550.

Crime statistics for the campus and the surrounding area are available in the Campus Safety Office and on the University’s Web site under Campus Safety, as are tips on crime prevention.

Christian Brothers University has policies which govern the use of alcohol on campus and at University sponsored functions. These policies also prohibit the use of controlled substances. Policies regarding the use of alcohol and controlled substances are contained in the student handbook, The Compass.

LIBRARY SERVICES
Plough Memorial Library is a three-story building centrally located on campus. Contemporary and historical print, multimedia, and electronic resources are provided to support all academic programs. The entire Plough facility provides wireless access, and the library’s online resources are available remotely to students, faculty, and staff. The library staff helps with research needs and provides information literacy instruction. Plough Library also offers reciprocal borrowing privileges in cooperation with many Memphis-area libraries, including the University of Memphis, Rhodes College, and the Memphis College of Art. Materials held at libraries outside of Memphis may be accessed via interlibrary loan service. For more information, see http://www.cbu.edu/library.

STUDENT GRIEVANCE POLICY AND PROCEDURE
The University has a grievance policy and procedure for a student who may have a complaint with any aspect of the University. Details are to be found in the student handbook, The Compass, under Section 7, Student Code of Conduct. Any complaint, whether formal or informal, should be filed with the Dean of Students in the Office of Student Life located in the Thomas Center. The Dean of Students will address the student’s complaint and will be responsible for contacting the appropriate administrators on campus to resolve the issue. A file on complaints will be kept in the Dean of Students’ office.

For more information about these policies and others, as well as procedures on how to deal with harassment and discrimination, please refer to The Compass or the Student Life Web site under Current Students: Student Handbook.

GRADE APPEALS
The University has a policy and procedure for a student who wishes to appeal a grade for a course. Details are to be found in The Compass, Section 5, Academic Policies and Procedures, or on the Student Life Web site.

INFORMATION TECHNOLOGY SERVICES
Information Technology Services (ITS) is located in the Rosanne Beringer Center for Computer Studies (St. Joseph Hall). The primary server platform is UNIX with a Windows operating system as a client platform. A select number of Macintosh clients are accessible in certain programs of study. ITS supports ten general purpose labs and seven academic specific labs, in addition to providing Internet, email service with antivirus protection, multimedia, wireless access points, telephone service, cable TV, residence hall network access, and technical training for the campus community. Computer guidelines, policies, and additional general information may be viewed at http://www.cbu.edu/its.

POLICY FOR STUDENTS WITH DISABILITIES
It is the policy of Christian Brothers University to comply with Section 504 of the Rehabilitation Act of 1973 and with the Americans with Disabilities Act of 1990 in providing reasonable accommodations to qualified students with disabilities.

A qualified student with disabilities is defined as a person who meets the academic and non-academic admission criteria essential to participate in the program in question and who, with or without reasonable accommodation, can perform the essential functions of the program or course requirements. Students who meet these conditions should contact the Dean of Students in the Office of Student Life.

STUDENT LIFE
Christian Brothers University, through its Student Life Division, provides a comprehensive series of co-curricular programs and activities that promote the human development of each student. These are designed to complement the curricular education of a student and, as such, are an essential part of a student’s education at Christian Brothers University.

COUNSELING CENTER
The Counseling Center offers assistance and services to all students affiliated with Christian Brothers University. Confidential, professional services include personal counseling, crisis counseling, intervention, personal development forums/seminars, study skills assistance, consultation and referrals. Relevant reading and reference materials are available in the Counseling Center.

Through the Counseling Center, a unique Orientation/Peer Counseling Program is conducted each fall semester for all incoming freshmen. Small
groups of first year men and women meet with their respective Peer Counselors each week until fall break. Topics of discussion in the orientation classes include adjustment problems, communication skills, study skills, test anxiety, stress reduction, diversity, time management, values clarification, STD’s, date rape, sexual harassment, and chemical abuse. Tours of the campus, handbook review, guest speakers, videotapes, social activities, relevant handouts, various CBU policies/procedures, and introductions/referrals to campus resources are incorporated into the program. Successful completion of the Orientation 100 course is required for graduation from Christian Brothers University. Older students may apply for an exemption from this class after conferring with the Director of Counseling and the Dean of Academic Services. The Peer Counselors, under the auspices of the Director of Counseling, are specially selected upper-class students who are trained and prepared to help students in their transition and adaptation to life at Christian Brothers University. Further information about the Counseling Center can be found at the University’s website under Student Life (Student Counseling) http://www2.cbu.edu/cbu/StudentLife/StudentCounseling/index.htm.

CAREER CENTER
The Career Center provides group and individual counseling to facilitate the career decision-making process. Services are provided free of charge to all undergraduates, graduate students and alumni of the University. The Career Center Laboratory provides books, audio-visual materials, and publications that address self-assessment, career exploration and planning, job search strategies, placement, and follow-up. The Center has a variety of assessment tools available to all students and alumni, including SIGI-3, a computerized career decision-making program, the Strong Interest Inventory and the Myers-Briggs Type Indicator. Career-related workshops are held throughout the year, and a Student Career Advising Course is offered to train students to assist others in this area.

Assistance is offered to all students in securing part-time jobs, full-time jobs, and internships that are related to their areas of study. Job fairs are held each semester, and the Center maintains current listings of local and national career opportunities through the NACE-Link/Symplicity online database. The Center also includes a resume referral service, which utilizes internet services to provide instant access of student resumes to employers across the country. On-campus interviews are held frequently throughout the year for internships and full-time positions. Further information about the Career Center can be found at the University’s Web site (www.cbu.edu/career) and in the weekly Lifeline bulletin.

HEALTH RESOURCES
Health Resources provides health services and health information to all students attending Christian Brothers University. A part-time registered nurse and nurse practitioner are on staff. Office hours are posted on the CBU Web site and recorded weekly on the office telephone at (901) 321-3260. For further information regarding specific services, please contact the Health Resources Office. After hours, medical consult is also available to resident students. For additional information regarding services, please consult the Health Resources office.

DEAN OF STUDENTS
The Dean of Students is the University’s chief judicial affairs officer. The office is also designed to accommodate the needs of international students, students with disabilities, commuter and minority students, as well as to assist the University in its goal of supporting diversity. Specific programs include coordinating the non-academic disciplinary process, programs honoring nationally celebrated holidays, orientation programs and immigration services. Log on to www2.cbu.edu/cbu/StudentLife/DeanofStudents/index.htm for a detailed list of all services provided. The office is located in the Rozier Center, and the phone number is (901) 321-3536.

STUDENT ACTIVITIES
Christian Brothers University provides broad co-curricular and co-educational activity programs. A wide range of organizations, events, and other activities exist for the benefit and fulfillment of students. These include various social, cultural, and developmental events.

The Thomas Center provides much of the needed space for these programs and activities and contains facilities for student recreation, student food service, and student community. Other recreational facilities include an outdoor basketball court, a volleyball court, a swimming pool, and a fitness center. The Office of Student Life is located in the newly renovated Rozier Center.

Social life, dances, and other student events are planned with the students. Programs aimed at the cultural, educational, and entertainment interests of the student body are arranged and conducted with the advice and assistance of the Student Government Student Activities Council, which serves as a voice for the student body. The Student Activities Council, along with the Director of Student Activities, plans, coordinates, and implements a variety of activities for the students, which are publicized on campus bulletin boards, in various campus publications, and through special events posters on campus.

Some of the more than 40 clubs and organizations in which a student may participate are Student Government, social and service fraternities and sororities, professional groups, men’s and women’s organizations, and support groups. There are also clubs whose purpose is to assist the student in his or her major field of study. Opportunities are present for student participation in University theatre, art, music, and publications. Following is a listing of some of the various student clubs, groups, and organizations that are active each year on campus:

Alpha Chi Honor Society
Alpha Kappa Alpha
Alpha Psi Omega (Theatre Honor Society)
Alpha Sigma Tau
Alpha Xi Delta
American Institute of Chemical Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
Beta Beta Beta (Biology Honor Society)
Casting (literary magazine)
Catholic Student Association
CBU Dance
Christian Brothers Ultimate Club
Delta Sigma Pi (Business Society)
Gay-Straight Alliance
Institute of Electrical & Electronic Engineers
Institute of Management Accountants
Interfraternity Council
Kappa Alpha Psi  
Kappa Sigma  
Lasallian Collegians  
Mathematical Association of America  
Panhellenic Council  
Phi Alpha Theta (History Honor Society)  
Phi Beta Sigma  
Psi Chi (Psychology Honor Society)  
Rugby Club  

Society of Women Engineers  
Student Government Association  
Student Members of the American Chemical Society  
Tau Kappa Epsilon  
Up 'Til Dawn  
Zeta Phi Beta  
Zeta Tau Alpha

Christian Brothers University believes these activities allow students to grow spiritually, socially, and physically as well as promoting active citizenship.

CAMPUS MINISTRY
The Office of Campus Ministry at Christian Brothers University fosters the integration of faith and education. It does this by assisting the entire campus community in the formation of human and religious values and by supporting dialogue, harmony, and interpersonal relationships among students, faculty, and staff.

Although the University is a Catholic institution, Campus Ministry provides an important focus for nurturing an understanding of the ecumenical dimension of its Catholic identity. In addition to Sunday liturgies, provision is made throughout the year for special worship services, welcoming people of all faiths and religious traditions.

Personal and communal growth is encouraged through a variety of prayer experiences, retreats, and pastoral counseling to assist students especially in the development of their respective gifts for the pursuit of peace and social justice within a multi-religious and multi-cultural world.

RESIDENCE LIFE
UNIVERSITY RESIDENCE POLICY: All Freshmen and Sophomores whose permanent address is beyond a 30 mile radius are required to live on campus.

Campus living at Christian Brothers University is an important aspect of a student’s experience. It affords the opportunity for growth and development outside the classroom environment. It is the expressed purpose of Christian Brothers University to provide an atmosphere in which each resident may realize his/her potential—intellectually, socially, and culturally.

Contracts for residence hall living may be obtained from the Office of Student Life. Contracts will be considered complete only with the proper down payment on file with the Director of Residence Life and the Business Office. During the summer, requests for an assignment to a particular room or with a particular roommate will be honored whenever possible. Housing contracts filed by returning students during their published registration times will be given priority over new residents. Housing assignments are prioritized by class rank, years of residency, and date of completed contract. Housing assignments are made without regard to race, creed, color, or national origin. Contracts with the appropriate deposit should be submitted to the Director of Residence Life by May 1.

The Director of Residence Life makes every effort to assign each resident to his/her preference in the residence halls. However, if a resident is currently being billed for a double room assignment and does not have a roommate, consolidation begins. It is the position of the Residence Life Office to offer you the option for single rooms wherever possible. If the resident wishes to remain in double occupancy, then the resident will move to another double room assignment. Consolidation begins during the 3rd week of classes in a semester.

The residence halls are operated primarily for use by CBU full-time students. Fall assignments/contracts are for the full academic year (both fall and spring semesters). The academic year begins on the first day of the Day Program Orientation and ends 24 hours after the resident’s last exam during the spring semester. The contract does not include housing for fall, Christmas, and spring breaks. All residence halls will be locked and bladed during fall, Christmas and spring break. Special living arrangements during these periods are possible. Please contact the Director of Residence Life for availability and pricing.

Each resident is under the supervision of the Director of Residence Life, Resident Directors, and Resident Assistants. The residence hall staff’s duties include hall management, policy enforcement, and programming. For additional information about Residence Life, go to the Web site at www2. cbu.edu/cbu/StudentLife/ResidentLife/index.htm

Students residing off campus must keep a current local address on file with the Registrar’s Office.

ATHLETICS
Christian Brothers University has a long history of athletic competition and is a member of NCAA Division II and the Gulf South Conference. The University sponsors six sports for men and seven sports for women. Men’s sports are soccer, basketball, cross country, baseball, golf, and tennis. Sports for women are volleyball, cross country, soccer, softball, basketball, golf, and tennis. Information regarding Equity in Athletics is available in the office of the Director of Athletics.

VETERANS SERVICES
Most programs and courses are approved for veterans’ training. Registration is verified after the Add/Drop period. Veterans who wish to attend Christian Brothers University should contact their local U.S. Department of Veteran Affairs Office for information on earned benefits. Veterans wishing to apply to Christian Brothers University should contact the Veterans Services Coordinator at (901) 321-4455 for information pertaining to particular courses of study. All veteran students are required to submit a DD214, military transcript, VA certificate of eligibility or notice of
basic eligibility. Veterans must notify Veterans’ Services every semester that they are enrolled by completing the enrollment certification form as well as when they withdraw from classes. No VA certification can be sent in unless the VA student fills out the Request for Verification Form in the Veteran’s Services Office each semester that the VA student is enrolled.

POLICY ON CHILDREN ON CAMPUS
CBU recognizes that children under 18 years of age often accompany adults during visits to campus. To ensure the safety and security of children and to safeguard the educational and work environment of the University, no employee, student, or visitor may leave a child unattended. This policy includes all CBU facilities, grounds, and vehicles located in the CBU parking lots. Children are not permitted in classrooms except in emergency situations with permission of a faculty member.

CAMPUS FACILITIES (see map on Page 229)
- **Assisi Hall:** Includes offices, laboratories, and classrooms for Biology, Chemistry, and Physics.
- **Avery Apartments:** Designated Residence Hall for Graduate Students only.
- **Barry Hall:** The first floor (entrance level) houses the Executive Offices of the President, the Administrative Vice President, the Vice President of Mission and Identity, and the Vice President for Advancement; it also includes the Office for Advancement, Alumni Office, and St. Joseph Chapel. The lower level houses the Registrar’s Office, Retention and Advising Office, Student Financial Assistance Office, Events Management, and Business Office. The upper level houses the Career Center and offices for the School of Arts faculty.
- **Battersby Hall:** Physical Plant Storage.
- **Buckman Hall:** The first floor (lower level) houses the Admissions Office, Graduate and Professional Studies offices, classrooms, and Spain Auditorium. The second floor includes the Office of the Vice President for Academics, the Montesi Executive Center, classrooms, and information technology laboratories. The third floor houses the administrative offices of the School of Business, M.B.A. Program Director, the School of Business faculty offices, classrooms, and the Paul W. Barret, Jr. School of Banking.
- **Capstone Apartments:** Residence hall apartments for men and women (three buildings, including O’Hara Hall, Pender and 170).
- **CBU Theatre:** Provides facilities for assemblies, lectures, plays, movies, etc.
- **Cooper-Wilson Center for Life Sciences:** Laboratories for Biology, Chemistry, and Computer Science with classrooms, Science faculty offices, and science student group rooms.
- **De La Salle Hall & Canale Arena:** Provides arena and practice space for intercollegiate basketball and volleyball, with seating capacity of 1,000, along with training and fitness facilities. Also includes offices for the Athletic Department, the Canale Cafe, and a conference room.
- **Kennick Hall:** The ground level houses offices and Curriculum Lab for the Education Department, as well as classrooms for the School of Arts. The upper floor houses School of Arts classrooms and laboratories for Language and Psychology. The lower level includes Music and Art studios, Print Shop Services, and offices for the Student Government Association. The lower level also provides offices for Facing History and Ourselves.
- **Lambert Hall:** Campus residence of the Christian Brothers who are members of the faculty and staff at CBU and at Christian Brothers High School.
- **Living Learning Center:** Known as the LLC, this residence hall for men and women provides opportunities for a living-learning environment in a variety of disciplines- complete with a full size lounge and classroom.
- **Maurelian Hall:** Residence hall for men and women.
- **Nolan Engineering Center:** Houses the offices of the faculty of the undergraduate and master’s programs of the School of Engineering, plus the engineering computation facility and classrooms.
- **Plough Memorial Library:** Located in the center of campus, the library provides reference service and access to print, multimedia, and online resources. There are comfortable study areas and seating throughout the building in addition to the InfoLab, the Curriculum Library, the Writing Center, and the Beverly and Sam Ross Gallery.
- **Rozier Hall:** Residence hall for men and women. Rozier also houses the newly-renovated Student Life Offices including the Senior Director, the Dean of Students, the Office of Student Activities, the Office of Residence Life and the Student Government Association.
- **St. Benilde Hall:** Includes laboratory and shop facilities for the School of Engineering.
- **St. Joseph Hall:** Houses the Rosanne Beringer Center for Computer Studies (ITS offices and student computer labs) plus offices for Campus Safety, Communications & Marketing, and Human Resources.
- **Stritch Hall:** Provides limited student housing (for men and women) during the Fall and Spring semesters. Also houses the O’Donnell Archives and includes De La Salle Chapel, a separate structure for religious services.
- **Thomas Center:** Houses the Career Center, Campus Ministry, the Counseling Center, and Health Resources. Also includes the Alfonso Dining Hall, recreational facilities, Buccaneer Snack Bar, Bookstore, and the fitness center.

REGISTRATION STATISTICS 2011-12

<table>
<thead>
<tr>
<th>Class</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>345</td>
</tr>
<tr>
<td>Sophomores</td>
<td>296</td>
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<tr>
<td>Juniors</td>
<td>229</td>
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<tr>
<td>Seniors</td>
<td>239</td>
</tr>
<tr>
<td>Total Day Program</td>
<td>1,109</td>
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</tbody>
</table>

**TOTAL STUDENTS** 1,731
PERSONNEL

BOARD OF TRUSTEES
Mr. Robert G. McEniry, Chairman
Dr. John Smarrelli Jr., President of the University

Dr. James W. Adams II
Mr. Joseph F. Birch, Jr.
Mr. H. Wayne Brafford
Mr. Albert T. Cantu
Mrs. Bena Cates
Brother Konrad Diebold, FSC
Mr. Gregory M. Duckett, JD
Mr. Charles B. Dudley III
Mr. Stephen T. Dunavant
Brother Chris Englert, FSC
Mr. H. Lance Forsdick, Sr., AFSC
Mr. Richard T. Gadomski, AFSC
Mr. Mark R. Giannini
Mr. John Mitchell Graves
Mr. William W. Graves
Mrs. Emily S. Greer
Monsignor Valentine Handwerker
Mr. Matthew Johnson
Brother Bernard LoCoco, FSC
Mr. Douglas J. Marchant
Mrs. Joyce A. Mollerup
Ms. Lori M. Patron
Br. Michael Quirk, FSC
Mr. James L. Reber
Brother Larry Schatz, FSC
Dr. Stephany S. Schlachter
Mr. Joshua Shipley
Mr. Pravin Thakkar
Margaret H. West, MD
Laurel C. Williams, J.D.
Mr. H. McCall Wilson

UNIVERSITY VICE PRESIDENTS

Dr. Frank Buscher
Daniel Wortham
Elisa C. Marus
Dr. Evelyn McDonald
ACADEMICS
ADMINISTRATION & FINANCE
COMMUNICATIONS & MARKETING
MISSION & IDENTITY

UNIVERSITY ACADEMIC DEANS

Dr. Paul A. Haught
Dr. John M. Hargett
Dr. Eric B. Welch
Dr. Johnny B. Holmes
SCHOOL OF ARTS
SCHOOL OF BUSINESS
SCHOOL OF ENGINEERING
SCHOOL OF SCIENCES
UNIVERSITY ADMINISTRATION

President .................................................................................................................................................. John Smarrelli Jr., Ph.D.
Executive Assistant to the President ......................................................................................................................... Bro. Louis Althaus, FSC, Ph.D.
Special Assistant to the President ................................................................................................................................. Bro. Dominic F. Ehrmantraut, FSC, Ed.D.
Executive Assistant to the President ....................................................................................................................... Donna Freeman

ATHLETICS

Director of Athletics ................................................................................................................................................. Joe Nadicksbernd, M.Ed.

COMMUNICATIONS & MARKETING

Vice President for Communications & Marketing ....................................................................................................... Elisa C. Marus, M.S.S.W.
Director of Creative Services .............................................................................................................................................. Cory Dugan, B.F.A.

ACADEMICS

Vice President for Academics ............................................................................................................................................. Frank M. Buscher, Ph.D.
Director of Institutional Research & Effectiveness ............................................................................................................... Melissa S. Hanson, M.B.A.
Dean of the School of Arts ................................................................................................................................................. Paul A. Haught, Ph.D.
Dean of the School of Business ........................................................................................................................................... John M. Hargett, Ph.D.
Dean of the School of Engineering ..................................................................................................................................... Eric B. Welch, Ph.D.
Dean of the School of Sciences ............................................................................................................................................. Johnny B. Holmes, Ph.D.
Director of Graduate & Professional Studies .................................................................................................................... Julie Yancey, M.B.A.
Dean of Academic Services .................................................................................................................................................. Kelli Hefner, Ph.D.
Director of Undergraduate Education and M.A.T. ............................................................................................................ Samantha M. Alperin, Ed.D.
Director of Graduate Engineering Programs ......................................................................................................................... Gregory Sedrick, Ph.D.
Director of M.A. Catholic Studies Program ......................................................................................................................... J. Burton Fulmer, Ph.D.
Director of MBA Program ................................................................................................................................................... S. Michael Lawyer, J.D.
Registrar ............................................................................................................................................................................. Melody Nabors, M.Ed.
Associate Registrar .............................................................................................................................................................. Anne Ballam, M.S., M.B.A.
Director of the Plough Library ........................................................................................................................................... Kay Cunningham, M.L.S.
Director of Honors Program ................................................................................................................................................... Tracie L. Burke, Ed.D.
Director of International Initiatives ........................................................................................................................................ Emily Forsdick, Ed.D.
Director of Dual Enrollment .................................................................................................................................................. Shelby N. Roberts, M.A.T.
Veteran Services Coordinator ................................................................................................................................................ Anthony McClyde, B.A.

INFORMATION TECHNOLOGY

Dean of Information Technology Services ......................................................................................................................... David Palmer, S.S.E.E.
Associate Dean of Information Technology Services ........................................................................................................... Brother Kenneth Arnold, FSC, M.S.

ADMINISTRATIVE AFFAIRS

Vice President for Administration & Finance ...................................................................................................................... Daniel Wortham, M.Ed.
Director of Business Services .................................................................................................................................................... Ray Karasek, M.B.A.
Director of Events Management ............................................................................................................................................. Joseph Martin Brock, B.S.
Controller ................................................................................................................................................................................ Thomas Cochran, B.S.B.A.
Director of Food Service .......................................................................................................................................................... Steve Ritter
Director of Human Resources ....................................................................................................................................................... Greg Eller, B.A.
Director of Physical Plant ......................................................................................................................................................... Phil Velvington
Bookstore Manager ............................................................................................................................................................... Diane Dudenhefer

ADVANCEMENT

Vice President for Advancement ................................................................................................................................................... TBA
Director of Alumni & Annual Giving ........................................................................................................................................ Karen Viotti, B.S.
Director of Development ....................................................................................................................................................... Stephen Kirkpatrick, B.A.
Director of Grants & Research .................................................................................................................................................. Robert Arnold, B.A.
Director of Advancement Services ........................................................................................................................................ Linda Dunlap
Assistant Director of Advancement Services ................................................................................................................................... Michele Jenner

ENROLLMENT MANAGEMENT

Dean of Admissions ................................................................................................................................................................. Anne Kenworthy, Ed.D.
Dean of Student Financial Assistance ........................................................................................................................................ Jim Shannon, B.B.A.
Director of Career Center ......................................................................................................................................................... TBA

MISSION AND IDENTITY

Vice President for Mission and Identity ................................................................................................................................. Evelyn A. Shannon, Ed.D.

STUDENT LIFE

Dean of Students and Director of Student Disability Services ................................................................................................. Karen Conway-Barnett, M.S.
Director of Campus Safety ............................................................................................................................................................ John Lotrionte
Director of Counseling ................................................................................................................................................................. Sadie Lisenby, M.A., L.P.C.
Director of Health Services .......................................................................................................................................................... Heather Harrington B.S.N., R.N.
Director of Living Learning Center ................................................................................................................................................... Bro. Michael Schmelzer, FSC, Ph.D.
Director of Student Services ......................................................................................................................................................... Mario E. Brown, Ed.D.
ADMISSIONS & REGISTRATION

REQUIREMENTS FOR UNDERGRADUATE ADMISSION

Christian Brothers University admits students of any race, age, color, sex, religion, and national or ethnic origin.

Freshman Standing: The following qualifications are required of those seeking admission with regular freshman standing:

1. Graduation from an approved secondary school.
2. A scholastic average of at least “C” and rank in the upper 2/3 of the graduating class.
3. Satisfactory scores on the American College Testing Program (ACT) or on the Scholastic Assessment Test (SAT) of the College Entrance Examination Board.

Statistics for the 2010 freshman class were the following:
71% ranked in the upper 30% of their class; 90% attained a grade point average of 3.0 or higher; 54% had an ACT score of 24 or higher for those who reported this data.

Homeschool Students: The following qualifications are required for homeschooled students seeking admission to CBU.

1. Graduation from secondary school.
2. A scholastic average of a least a “C”.
3. Satisfactory scores on the American College Testing Program (ACT) or the Scholastic Assessment Test (SAT) of the College Entrance Examination.
4. Course descriptions and listing of curriculum strongly preferred.

Transfer Students: Students who wish to transfer from other colleges will be considered if they are in good standing at the college of last attendance. (see page 27 regarding transfer of credit from other institutions.)

International Students: International Students who intend to enter the university must have the equivalent of a high school education and have sufficient command of English to enable them to do the prescribed work. Proof of English proficiency may be shown by means of the TOEFL exams, IELTS, CAE or CPE. Minimum TOEFL scores are 500 for the paper version, 173 for the computer based test, 61 for the Internet-based test, IELTS (score 5), CAE (grade C) or CPE (grade C). Students may use the SAT Critical Reading test with a score of at least 450 or the ACT English sub score of 21. Students graduating from a U.S. high school or students who have earned a 2.5 or greater in at least 30 semester hours of a U.S. regionally accredited college will also show proof of English proficiency.

Mature Students: Students who do not meet regular admissions requirements and who are age 25 or more may be considered for admission if they have completed high school or have obtained an average score of 500 or above on the General Education Development (GED) high school level test. Mature students who have not completed at least twelve semester hours of non-remedial course work at any other college or university will also be asked to submit one or more of the following:

1. Satisfactory scores on the American College Testing Program (ACT) or on the Scholastic Assessment Test (SAT) of the College Entrance Examination Board
2. Resume showing work history and professional growth, with a letter of recommendation from current and/or previous supervisor.

Special Students (non-degree seeking): Qualified applicants who desire to take one or more courses but in general do not intend to earn a degree at Christian Brothers University may be accepted as Special students. Application for admission should be made to the Office of Admissions or the Director of Graduate and Professional Studies. Special students may accumulate no more than 36 semester hours of credit at Christian Brothers University. Special students will not be able to have any transfer credit, including challenge exams, granted while classified as special students. Special and Transient students are not eligible for financial aid.

In exceptional circumstances, the Admissions Committee may invite a candidate who does not qualify for degree status to enter the University as a Special or Conditional student (non-degree seeking) for a limited period of time. In this time, the student must demonstrate adequate preparation and motivation to pursue the degree program of studies for which he/she has applied.

To seek a change of status to that of a degree-seeking student, a Special student must have completed at least 12 hours of credit at the University, be in good academic standing, and have completed a Change of Program form in the Registrar’s Office.

Qualified Special students who wish to pursue a degree must reapply to the Day or Professional Studies programs for a change of status after they have demonstrated their qualifications. Students who are enrolled at another institution and wish to take a course or courses for credit at Christian Brothers University should present official correspondence from that institution to the Office of Admissions or the Graduate and Professional Studies Office noting good standing and authorization to enroll in specific courses.

Dual Enrollment Students: Christian Brothers University participates in the Tennessee Dual Enrollment program. This program partially funds high school students’ study at eligible postsecondary institutions. Participating students receive college credit and can receive credit toward high school graduation. Students remain enrolled at their current high school and are also enrolled at CBU as a special part time student.

To be eligible to participate in Dual Enrollment you must:
1. Be a rising Junior or Senior.
2. Have satisfactory scores on the American College Testing Program (ACT) or the PLAN test if the ACT has not been taken.
3. Meet the minimum GPA standard.
4. Enroll in 100 and 200 level courses.
5. Maintain the minimum grade point requirement of 2.75 in the college coursework (which means the student must achieve a grade of A or B in the course(s) attempted). If the minimum grade point is not achieved, the student will no longer be able to participate in the dual enrollment program.

Admissions Committee: A limited number of entering freshman and transfer students who do not meet the minimum requirements for regular admission may be considered by the Admissions Committee for entrance into the University. If a student is accepted by the Admissions Committee, he/she will be admitted under one of the following conditions:
1. Accepted with a limitation on the number of hours and/or specific courses that may be attempted during the first semester or two evening terms or
2. Accepted as a regular student.

The decision of the Admissions Committee may be appealed to the Academic Vice President upon the initiation of the Dean of Admissions or the Director of Graduate and Professional Studies.

ADMISSIONS PROCEDURES

Freshmen:
The applicant should send the following items to the Office of Admissions:
1. Completed application form and $25.00 fee.
2. Official high school transcript; then final official high school transcript with graduation date.
3. Official ACT or SAT scores.
4. Student Essay or Personal Statement.
5. Completed Health Form.

Transfer Students:
The applicant should send the following items to the Office of Admissions:
1. Completed application form and $25.00 fee.
2. Complete official transcripts from all colleges attended.
3. Official ACT or SAT scores.
4. Official high school transcript.
5. Completed Health Form.

Returnee/Transfer Returnees:
The applicant should send the following items to the Office of Admissions:
1. Completed application form.
2. Complete official transcripts from all colleges attended since last attendance at CBU.
3. Completed Health Form, if one is not already on file.

International Students:
The applicant should send the following items to the Office of Admissions:
1. Completed application form and $25.00 fee.
2. Official transcripts of all work done at the secondary level or above (official transcripts submitted that are not in English will require an official translation).
3. Official TOEFL exam scores.
4. Declaration of Finances.
5. Completed Health Form.

Deans and Department Chairs establish equivalency between transfer courses and courses taught at Christian Brothers University. Credit for both traditional and non-traditional college level work is evaluated for acceptance by the Dean of Academic Services. Only courses with a grade of “C” or better will be accepted for transfer credit. (See Page 27).

Special Students:
The applicant should send the following to the Office of Admissions:
1. Completed application form and $25.00 fee.
2. College Graduate or Previous College Student—official transcript(s) from previous institution(s).
3. New Freshman—proof of high school graduation or concurrent enrollment or acceptable GED.
4. Student in a Special Course/Program—official high school transcript or complete official transcripts of other institutions attended; acceptance by the director of that program.
5. Non-matriculated Students—proof of high school graduation or GED, as requested. If student did college work, the most recent transcript showing good standing and appropriate prerequisites.

Special/Transient students—no financial aid available.

Mature Students:
The applicant should send the following to the Office of Admissions (Day or Evening):
1. Completed application form and $25.00 fee.
2. Complete official transcripts from all colleges attended; official high school transcript.
3. Personal letter of request for admission, including relevant details for consideration.
4. Completed Health Form.

RN to BSN Students:
1. An active/unrestricted multistate license as a Registered Nurse (RN) allowing practice in the state of TN.
2. A minimum of 2.0 grade point average.
3. Official transcripts of all previous academic credits from each of the schools, colleges or universities previously attended.
4. Two letters of recommendation preferably from former college faculty or immediate supervisors qualified to attest to the applicant’s preparation for and ability to perform higher education study.
5. A completed Application Form with application fee.
6. An electronically submitted personal statement indicating interest in the program, academic and job-related experience as well as career goals.
7. A completed a current background check and drug screen.
8. A successful interview with the Nursing Admissions Committee.
9. Proof of immunizations from vaccine preventable diseases, including proof of current TB surveillance.
11. High School Transcript or General Education Diploma (GED).
12. Any other requirements as set by the Director and the Academic Vice President.

* It is strongly recommended the student have a personal computer and high-speed Internet access.

**Disciplinary Admissions:**
1. No student shall be admitted to Christian Brothers University who is under the disciplinary sanction of suspension or expulsion from another institution.
2. Once a student is again in good standing at the institution of previous enrollment, she/he may be admitted through the regular Christian Brothers University admission policy, providing the admission is endorsed by the Vice President of Academics.

**ACCEPTANCE PROCEDURE**
Admission is selective and students are encouraged to apply as early as possible. The preferred application date is May 1 for the Fall semester and January 1 for the Spring semester. Students who apply after this date will be considered for admission on a space available basis. Applications will be reviewed on a rolling admissions basis. When a student has filed a completed application (official high school transcript, official college transcripts when applicable, letters of recommendation, and official ACT or SAT scores) with the Office of Admissions, the Admissions Committee will act upon it. Students will be notified of the decision by the committee shortly thereafter. When accepted, students must submit a completed health form and are required to confirm a place within the entering class with a deposit of $450.00 for those who plan to reside on campus and $300.00 for commuter students. This deposit is non-refundable after May 1 for students entering in the Fall semester or January 1 for those entering in the Spring. Freshmen and others wishing to live on campus will also be sent a housing application.

No acceptance will be considered final until the above fee and forms are returned, and final transcripts of work in progress at the time of application are received by the Admissions Office.

Applications for the Graduate and Professional Studies programs are accepted throughout the year. Applications are reviewed when they are complete, and students are notified of the decision by mail.

**CREDIT FOR MILITARY SERVICE AND SCHOOLING**
All post secondary education/training including military will be evaluated, and credit granted appropriately.

**ADVANCED PLACEMENT, INTERNATIONAL BACCALAUREATE, AND COLLEGE LEVEL EXAMINATION PROGRAM**
Students who have successfully passed one or more of the Advanced Placement Tests of the College Entrance Examination Board or the College Level Examination Program (CLEP) of the CEEB may ask for advanced standing and/or credit when they submit their applications for admission to Christian Brothers University. Credit will be allowed for college courses satisfactorily completed through the Defense Activity for Non-Traditional Education Support (Dantes-Military CLEP), subject to the usual rules involving credit of this nature. Christian Brothers will evaluate higher level International Baccalaureate courses for college credit for students scoring between a 4 and 7. An official transcript from the IB school must be sent to CBU before credit can be evaluated. The maximum number of credit hours that can be granted through any combination of the above is 30.

Credit is usually granted for AP scores of 4 and 5. AP scores of 3 are evaluated by the Chair of the Department where the course resides. That Department Chair will decide on the type of credit to be granted and the college course or courses that will be omitted in place of AP credit.

The actual decision to grant advanced college standing and/or credit is based on such factors as the content of courses in the University's curriculum and the applicability of the submitted area of advanced study to the prescribed or elective requirements of the program in which the student is enrolled. The student's overall high school record, other test scores available, and the recommendation of the high school official concerned are also given careful consideration.

Christian Brothers University participates in the College Level Examination Program (CLEP) of the College Entrance Examination Board (CEEB). Students who, by virtue of study or travel abroad, work experience, independent study, advanced work in high school, or study in nonaccredited institutions, believe that they might already possess knowledge comparable to that expected in certain courses may receive credit and placement based on acceptable scores of selected Subject Examinations administered by CLEP. Acceptable CLEP scores on specified exams are determined by individual departments. A student may not receive CLEP credit for any course which was previously failed either at Christian Brothers University or elsewhere.

Only official scores from Advanced Placement and CLEP are acceptable and must be sent to the Office of the Registrar. A final, official copy of the IB transcript from the high school involved in the International Baccalaureate Program must be sent to the Office of the Registrar after graduation from the high school. Accepted scores for AP, CLEP, and IB are posted on the CBU Web site, http://www2.cbu.edu/cbu/resources/RegistrarsOffice/AcademicRecords/index.htm.

**EXPERIENTIAL ASSESSMENT**
Students may apply for and be granted college-level credit for knowledge and understanding related to the student's degree program and gained from work-site or other experiences. Documentation is evaluated for credit by the department chair who teaches in the area in which credit is sought. The student must submit all appropriate documentation to the Dean of Academic Services or the Director of Graduate and Professional Studies along with the “Experiential and Non-Credit Learning Assessment” application and the application fee. The department chair will complete the evaluation form detailing what, if any, credit should be awarded and then forward the material back to the Dean of Academic Services or the Director of Graduate and Professional Studies. Upon payment of appropriate fees the Registrar's Office will be notified to post the credit. The credit awarded will not be posted to the student's transcript until the student has earned 12 hours of academic credit at Christian Brothers University.
COURSE CREDIT FOR EMPLOYER-BASED OR OTHER NON-ACADEMIC ORGANIZATION INSTRUCTION

Credit for professional or technical courses, licenses, certifications, workshops, or similar instruction may be awarded if completion, clock hours, contact, and validation of successful completion are documented thoroughly. The student must submit the "Experiential Learning and Non-Credit Instruction Assessment" application and follow the procedures stated under Experiential Assessment. In some instances the course of study may have been evaluated previously as part of an evaluation. In these instances, the Dean of Academic Services or the Director of Graduate and Professional Studies is authorized to grant approval and notify the Office of the Registrar for posting once all applicable fees have been paid and the student has earned 12 hours of academic credit at Christian Brothers University.

REGISTRATION

During an announced advisement period, a student meets with his/her advisor to plan a schedule of courses for the upcoming semester. Students register themselves via Banner Web. The Business Office will bill the student at the beginning of each term or semester for the courses chosen. Registration is finalized or completed only after making payment or arrangements for payment in the Business Office.

Students who have not completed advisement and registration may do so on campus during the week before classes begin. If a student cannot register during this period, registration may be done during the first week of classes. Such late registration requires the payment of a fee of $250.00. An academic advisor is assigned to help counsel the student in course selection.

It is the student who is ultimately responsible for knowing and following the courses and graduation requirements published in the catalog.
## UNDERGRADUATE EXPENSES PER SEMESTER 2012-13

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$13,350.00</td>
</tr>
<tr>
<td>Tuition for part-time students (i.e., taking fewer than 12 hours)</td>
<td></td>
</tr>
<tr>
<td>or for each additional credit-hour above 18 (per credit hour)</td>
<td>$955.00</td>
</tr>
<tr>
<td>Tuition for course audit is half the price of regular credit courses on a per credit hour basis.</td>
<td></td>
</tr>
<tr>
<td>Summer School Tuition (per credit hour, 2011 session)</td>
<td>$380.00</td>
</tr>
<tr>
<td>Single Occupancy Room and Board (per semester)</td>
<td></td>
</tr>
<tr>
<td>Maurelian Hall Single and All Access</td>
<td>$4,450.00</td>
</tr>
<tr>
<td>Rozier Hall Single and All Access</td>
<td>$4,325.00</td>
</tr>
<tr>
<td>Rozier Hall Single (Traditional) and All Access</td>
<td>$3,680.00</td>
</tr>
<tr>
<td>Stritch Hall Single and All Access</td>
<td>$3,480.00</td>
</tr>
<tr>
<td>Living Learning Center Single and All Access</td>
<td>$5,040.00</td>
</tr>
<tr>
<td>Avery Single (no meal plan included, available at extra cost) - Graduate Housing Only</td>
<td>$4,125.00</td>
</tr>
<tr>
<td>Capstone Apartments and All Access</td>
<td>$5060.00</td>
</tr>
<tr>
<td>Capstone Apartments and 100 Block Plan</td>
<td>$4,485.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Double Occupancy Room and Board (per semester)</strong></td>
<td></td>
</tr>
<tr>
<td>Maurelian Hall Double and All Access</td>
<td>$3,275.00</td>
</tr>
<tr>
<td>Rozier Hall Double and All Access</td>
<td>$3,170.00</td>
</tr>
<tr>
<td>Rozier Hall Double (Traditional) and All Access</td>
<td>$2,990.00</td>
</tr>
<tr>
<td>Stritch Hall Double and All Access</td>
<td>$2,845.00</td>
</tr>
<tr>
<td>Living Learning Center Double and All Access</td>
<td>$4,145.00</td>
</tr>
<tr>
<td>Avery Single Bedroom w/Roommate (no meal plan included, available at extra cost) - Graduate housing only</td>
<td>$2,625.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Fees</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee (Payable once only, non-refundable)</td>
<td>$25.00</td>
</tr>
<tr>
<td>Application Fee, International Students (Payable once only, non-refundable)</td>
<td>$50.00</td>
</tr>
<tr>
<td>Activity &amp; Services Fee, Full-Time Day Students, per semester</td>
<td>$120.00</td>
</tr>
<tr>
<td>Activity &amp; Services Fee, Part-Time Day Students, per semester</td>
<td>$50.00</td>
</tr>
<tr>
<td>Enrollment Fee (Tuition Deposit, Refundable through 5/1)</td>
<td>$300.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$250.00</td>
</tr>
<tr>
<td>Returning Student Room Deposit</td>
<td>$300.00</td>
</tr>
<tr>
<td>Challenge Examination and Posting Charges</td>
<td>$100.00</td>
</tr>
<tr>
<td>Student Teaching Fee (Education Majors)</td>
<td>$150.00</td>
</tr>
<tr>
<td>Alternative Licensure/Administrative Practicum Mentoring Fee</td>
<td>$625.00</td>
</tr>
<tr>
<td>Administrative Internship Fee</td>
<td>$100.00</td>
</tr>
<tr>
<td>Technology Fee, Full-Time Day Student, per semester</td>
<td>$175.00</td>
</tr>
<tr>
<td>Technology Fee, Part-Time Day Student, per semester</td>
<td>$65.00</td>
</tr>
<tr>
<td>Graphing calculator for MATH courses, approximately</td>
<td>$100.00</td>
</tr>
<tr>
<td>Experiential Credit Assessment Fee</td>
<td>$50.00</td>
</tr>
<tr>
<td>Experiential Credit Posting Fee</td>
<td>$100.00</td>
</tr>
<tr>
<td>Experiential Credit Undergraduate, per credit hour fee</td>
<td>$100.00</td>
</tr>
<tr>
<td>Returned Check Charge</td>
<td>$30.00</td>
</tr>
<tr>
<td>Graduation Fee (payable once per degree, non-refundable)</td>
<td>$75.00</td>
</tr>
</tbody>
</table>

## UNDERGRADUATE EXPENSES PER SEMESTER 2011-12

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
<td>$380.00</td>
</tr>
</tbody>
</table>

## OTHER FEES

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee (Payable once only, non-refundable)</td>
<td>$25.00</td>
</tr>
<tr>
<td>Activity &amp; Services Fee, per semester</td>
<td>$25.00</td>
</tr>
<tr>
<td>Technology Fee, per semester</td>
<td>$25.00</td>
</tr>
<tr>
<td>Student Teaching Fee (Education Majors)</td>
<td>$150.00</td>
</tr>
<tr>
<td>Returned Check Charge</td>
<td>$30.00</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>$250.00</td>
</tr>
</tbody>
</table>

All tuition and fees are subject to change at any time when circumstances so warrant. Information on indirect costs (books, transportation, etc.) is available in the Student Financial Assistance Office.
SETTLING OF FINANCIAL ACCOUNTS
The Administration of Business and Financial Affairs is under the supervision of the Controller of the University.

Payment of full tuition and fees for boarders, non-boarders, and GPS students will be required before classes begin each term or semester unless the student is enrolled in a CBU payment plan and has made the appropriate initial payment. All students must accept the Business Office “Terms and Conditions Agreement” to complete their registration. Billing is done online through Banner Web and CashNet. SETTLING of accounts should be done online through Banner Web and CashNet. Instructions are on the CBU Website.

Any student who has not settled their financial account by the announced drop date will have their schedules dropped from the University. If a Student re-registers after their classes have been dropped, there is an addition $250 LATE FEE that will be added to their account and that account must be settled at the time the Student re-registers.

A non-refundable APPLICATION FEE of $25.00 must accompany the application for admission. Upon notification of acceptance, day applicants must submit an ENROLLMENT FEE of $300.00. This will ensure a place in the University.

Returning residence hall students are required to make a $300.00 room reservation deposit in the spring to reserve a residence hall room for the following academic year.

Students who enter at the second semester are subject to the same financial requirements listed herein.

A SECURITY DEPOSIT of $150.00 is required of all first time resident students. This must be paid regardless of the scholarship or student aid arrangements with the University. The security deposit will be refunded at the end of the senior year or at the time of withdrawal from the University.

CONTRACT CANCELLATION FEE: Fall housing contracts are for the full academic year (exception: students graduating in the Fall semester or students withdrawing from the University). A $500.00 breach of contract fee will be assessed for students who do not return to the residence halls for the spring semester. Prior to August 1, any continuing student who wishes to cancel his/her residence hall contract must submit a letter in writing to the Office of Student Life and receive approval from the Director of Residence Life. All continuing students cancelling prior to the August 1st deadline will be responsible for a $300.00 cancellation fee. After the August 1 date, any resident student who enrolls in classes at the University will be responsible for room and board charges for the semester. Exceptions to this policy may be made only by the Vice President for Academics.

Any incoming freshman or transfer student who wishes to cancel his/her residence hall contract must submit a letter in writing to the Office of Student Life and receive approval from the Director of Residence Life. After May 1, deposits are non-refundable. After August 1, any freshman or transfer student will be responsible for room and board charges if he/she remains enrolled in classes. Exceptions to this policy may be made only by the Vice President for Academics.

No diploma, transcript of credit, or information concerning academic or disciplinary record is given until the student’s account has been settled.

Students with accounts in arrears may be excluded from final examinations, graduation ceremonies, issuance of academic documents and records, and readmission to future academic programs until the accounts in arrears are paid in full. There is a one percent monthly interest charge on all delinquent accounts.

All Students will be required to accept the “Terms and Conditions Agreement” in order to complete their registration for any term or semester. This should be done online in Banner Web.

POLICY FOR WITHDRAWAL FROM CLASS
All requests for course withdrawals, both complete and partial, must be submitted to the Office of the Registrar by the student. These requests are made by completing the online “Withdrawal” form located on the Registrar’s Web page. Anyone requesting a “complete withdrawal” will be required to come to the Registrar’s Office to secure the necessary signatures to complete the withdrawal process.

The necessary information needed is Name, Student ID. Phone Number during the day, whether receiving Financial Assistance, whether the student receives or has ever received the HOPE Lottery Scholarship, Name of Class(es), Name of Instructor(s), Date of Last Attendance, Name of Advisor, whether an athlete or not, whether an international student or not, and whether receiving VA benefits or not. The date of the online form will count as the official date of notification for processing the withdrawal. The instructor will be contacted for the date of last attendance, but the official notification date for processing the withdrawal will be the date of notification. This is the date that will be used by all offices for processing the withdrawal and and tuition adjustments. There is no tuition adjustment on a withdrawal from any Dual Enrollment class or classes.

TUITION ADJUSTMENT POLICY FOR WITHDRAWAL FROM CLASS
NO TUITION ADJUSTMENT CALCULATION WILL BE APPLICABLE UNLESS A STUDENT COMPLETELY WITHDRAWS FROM ALL REGISTERED CLASSES IN A SEMESTER.

The Institutional Tuition Adjustment Policy percentage for complete withdrawal from CBU is calculated by dividing the number of days completed in the semester (or applicable term), as of the date of official withdrawal (the date the student submits the withdrawal form to the Registrar), by the number of days in the semester (or applicable term) exclusive of breaks of five or more days.

No adjustment will be made if a student has completed more than sixty percent (60%) of a semester or an 8-week term. Advance deposits (including Application Fees and Tuition Deposits) are non-refundable.
The following schedules apply to Fall & Spring Terms ONLY. Summer sessions and special workshops will be on a TBA basis.

A. Day Undergraduate or MEM, MSEM, MACS and PA Graduate Students. The following schedule will be used when calculating tuition adjustments for all students classified as Day undergraduate or MEM graduate students regardless of when their classes begin*:

<table>
<thead>
<tr>
<th>Official Notification Date During the Semester:</th>
<th>Percentage of Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop/Add Period of Semester</td>
<td>100%</td>
</tr>
<tr>
<td>First 25% of Semester</td>
<td>50%</td>
</tr>
<tr>
<td>26-60% of Semester</td>
<td>25%</td>
</tr>
<tr>
<td>Over 60% of Semester</td>
<td>No Adjustment</td>
</tr>
</tbody>
</table>

B. Evening Undergraduate or MBA, MEd, MAT, or MSEL Graduate Students (First 8-Week Term Only). The following schedule will be used when calculating tuition adjustments for all students classified as Evening undergraduate or MBA, MEd, MAT, MSEL graduate students and who are ONLY enrolled in the first 8-week term of a semester*:

<table>
<thead>
<tr>
<th>Official Notification Date During First 8-Week Term:</th>
<th>Percentage of Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop/Add Period of 1st 8-Week Term</td>
<td>100%</td>
</tr>
<tr>
<td>First 25% of 1st 8-Week Term</td>
<td>50%</td>
</tr>
<tr>
<td>26-60% of 1st 8-Week Term</td>
<td>25%</td>
</tr>
<tr>
<td>Over 60% of 1st 8-Week Term</td>
<td>No Adjustment</td>
</tr>
</tbody>
</table>

C. Evening Undergraduate or MBA, MEd, MAT, or MSEL Graduate Students (Second 8-Week Term Only). The following schedule will be used when calculating tuition adjustments for all students classified as Evening undergraduate or MBA, MEd, MAT, MSEL graduate students and who are ONLY enrolled in the second 8-week term of a semester*:

<table>
<thead>
<tr>
<th>Official Notification Date During Second 8-Week Term:</th>
<th>Percentage of Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop/Add Period of 2nd 8-Week Term</td>
<td>100%</td>
</tr>
<tr>
<td>First 25% of 2nd 8-Week Term</td>
<td>50%</td>
</tr>
<tr>
<td>26-60% of 2nd 8-Week Term</td>
<td>25%</td>
</tr>
<tr>
<td>Over 60% of 2nd 8-Week Term</td>
<td>No Adjustment</td>
</tr>
</tbody>
</table>

D. Evening Undergraduate or MBA, MEd, MAT, or MSEL Graduate Students (Both First & Second 8-Week Terms). The following schedule will be used when calculating tuition adjustments for all students classified as Evening undergraduate or MBA, MEd, MAT, MSEL graduate students and who are enrolled in BOTH 8-week terms (first 8 week and second 8 week term) of a semester*:

<table>
<thead>
<tr>
<th>OfficialNotification Date During First or Second 8-Week Terms:</th>
<th>Percentage of Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop/Add Period of 1st 8-Week Term</td>
<td>100%</td>
</tr>
<tr>
<td>First 25% of 1st 8-Week Term</td>
<td>50% 50% of 1st 8-Week Term Classes</td>
</tr>
<tr>
<td>26-60% of 1st 8-Week Term</td>
<td>25% 25% of 1st 8-Week Term Classes</td>
</tr>
<tr>
<td>Over 60% of the 1st 8-Week Term and Prior to the Beginning of the 2nd 8-Week Term</td>
<td>No Adjustment for 1st 8-Week Term Classes</td>
</tr>
<tr>
<td>Drop/Add Period of 2nd 8-Week Term</td>
<td>No Adjustment for 2nd 8-Week Term Classes</td>
</tr>
<tr>
<td>First 25% of 2nd 8-week Term</td>
<td>No Adjustment for 2nd 8-Week Term Classes</td>
</tr>
<tr>
<td>After 25% of 2nd 8-Week Term</td>
<td>No Adjustment for 2nd 8-Week Term Classes</td>
</tr>
</tbody>
</table>

Adjustments will be applied in the following order:
- Institutional Scholarships and Grants
- CBU Loans
- Student Payments
- Outside Scholarships
- Alternative Loans
- State Grants
- Lottery Scholarships

* There is an administrative fee retained by CBU for all complete withdrawals. It is the lesser of a) $100.00 or b) 5% of Institutional Charges.
RETURN OF FEDERAL TITLE IV FUNDS
If a student completely withdraws from CBU, the unearned amount of Federal Financial funds must be returned to the appropriate Federal Financial Assistance programs. The unearned amount of the Federal Financial Assistance is calculated by dividing the number of days completed in the term, as of the date of official withdrawal, by the number of days in the term, exclusive of breaks of five or more days. No refund is required if the student has completed more than sixty percent (60%) of the term. All unofficial withdrawals will be calculated at fifty percent (50%).

An unofficial withdrawal happens when a student stops attending classes and receives a zero GPA for that term/semester. CBU is required to calculate a return of Title IV funds (Stafford, PLUS loans, Pell grants). This may create a tuition liability for the student resulting in their owing CBU money unless they can prove that they attended at least one class past the sixty percent point of the term/semester.

The United States Department of Education requires the following order to the Federal Assistance programs:

- Unsubsidized Direct Loans
- Subsidized Direct Loans
- Federal Perkins Loans
- Federal Plus Loans
- Federal Pell Grants
- Federal SEOG
- Other Federal Financial Assistance programs

Examples of the refund calculations for the Federal Financial Assistance are available in the Business Office during normal working hours.

DEFERRED PAYMENT OF EDUCATION COSTS

- For students and parents who find it necessary to pay educational expenses in installments, a payment plan is offered for each semester. Summer classes are handled differently. The semester payment plan is available online through Banner Web and CashNet and the installments should be made through Cashnet. Instructions and details are emailed to the students several weeks before the start of each semester. The payment plan charges 1% monthly interest on any unpaid balance.
- All Federal Student Loan checks and institutional loan checks must be deposited into the student's account. If the posting of any check(s) creates a credit balance on the student's account, the student may request a refund following the Add/Drop period, after all charges and financial aid have been posted. Students are encouraged to sign up online for ERefunds through CashNet to receive any excess funds.

ACADEMIC SCHOLARSHIPS AND OTHER AWARDS

Academic scholarships are awarded by the Admissions Office based on performance in high school or in the case of transfers at a prior institution. Other scholarships are awarded on the basis of published criteria. Please contact the Admissions Office or the Student Financial Assistance Office or visit www.cbu.edu for more information.

RETENTION OF SCHOLARSHIPS AND OTHER AWARDS

The Buckman, Trustee, Presidential and Dean's Scholarships require a 2.75 cumulative GPA by the end of the sophomore year for renewal. The University, Rozier, and Lasallian Achievement Awards require Satisfactory Academic Progress to be retained. These awards are renewable until graduation as long as the renewal criteria are met and the student is full-time in the same program (i.e., Day, Evening). Awards may be prorated during the last term for graduating seniors if they do not need a full-time course load to graduate. Students must notify the Student Financial Assistance Office. Scholarships and awards cannot be used during the summer term. Performance and athletic scholarships are renewable at the discretion of the person giving that award (i.e., performing arts directors and coaches).

NAMED SCHOLARSHIPS AND AWARDS

In many cases students will find that their CBU awarded scholarship has been given a particular name. This is done to honor those friends of the University who have donated some or all of the funding for a scholarship. These names come from two sources: established endowments or annual gifts. If a student's scholarship or academic award is given a name, this does not change the student's award but acknowledges the source of the resources making the scholarship possible. In most cases, the student will be encouraged to either write to or meet with the donor.

FINANCIAL ASSISTANCE

Christian Brothers University is committed to being a partner along with the student and family in financing a CBU education. Resources may also be supplied by the state or federal government or private donors. After acceptance to the University, students are encouraged to fill out the Free Application for Federal Student Aid (FAFSA) form and to submit this at www.fafsa.gov.

Components of the financial aid package may include scholarships, academic awards, federal or state grants, University and privately funded grants, federal, University or private loans, and student employment. The University will work with each student and family to find those packages best suited to individual needs and circumstances.

To continue federal and state awards once the student is enrolled, he/she must meet the requirements of the Financial Aid Satisfactory Progress Policy established in compliance with Federal regulations and available to students in the Student Handbook.

Federal regulations require that at least 30% of those students applying for Title IV aid go through a process of verification. This will be indicated on the Student Aid Report the student receives from the central processor. Documents needed to complete the verification process (such as tax returns) will be requested from the student. Policies concerning the verification process are available in the Student Financial Assistance Office.
UNDERGRADUATE DEGREES OFFERED
Christian Brothers University offers Bachelor of Arts (B.A.), Bachelor of Fine Arts (B.F.A.), and Bachelor of Science (B.S.) degrees in the following fields:

Accounting (B.S.)

Applied Psychology (B.A.)
- Areas of Concentration:
  - Consumer Behavior
  - Criminal Justice
  - Organizational Psychology

Biochemistry (B.S.)

Biology (B.S.)
- Areas of Concentration:
  - Biology (Health Related Programs)
  - Environmental Studies

Biomedical Science (B.S.)

Business (B.A.)

Business Administration (B.S.)
- Areas of Concentration:
  - Finance
  - Hospitality & Tourism Management
  - Human Resources Management
  - International Business
  - Management
  - Management Information Systems
  - Marketing
  - Sports Management

Chemical Engineering (B.S.)
- Areas of Concentration:
  - Biochemical Engineering

Chemistry (B.S.)

Civil Engineering (B.S.)

Computer Science (B.S.)

Creative Writing (B.A.)

Cybersecurity (B.S.)

Cultural Studies (B.A.)
- Grades 4-8
  - Early Childhood Education (B.A.)
    - Grades PreK-3
  - Electrical Engineering (B.S.)
    - Areas of Concentration:
      - Computer Engineering
      - Electronics and Systems Engineering
  - Electrical Engineering & Computer Science (B.S., dual degree)
    - Areas of Concentration:
      - Information Systems
      - Packaging
  - Engineering Physics (B.S.)
  - Engineering Management (B.S.)
    - Areas of Concentration:
      - Information Systems
      - Packaging
  - English (B.A.)
  - English for Corporate Communications (B.A.)
  - History (B.A.)

A student may be awarded a degree in two of the fields listed above provided that all the requirements for both majors are fulfilled. Courses from one major may serve as electives for the other. Completion of a double major normally requires additional attendance at the University following the completion of requirements for the first degree. For purposes of record-keeping, applicants are asked to indicate a “first” and “second” major.

Individuals seeking professional licensure as teachers have several options available at Christian Brothers University. Teacher licensure in Tennessee requires that a student have an academic major. For students who wish to become licensed as secondary teachers (grades 7-12) the available majors include: biology, chemistry, English, history, mathematics, or physics. Those who desire a license for elementary school (grades K-6) may choose the liberal studies major, and those desiring middle school licensure (4-8) may choose cultural studies. Individuals who already possess a bachelor’s degree may acquire a teaching license through the post-baccalaureate teacher licensure program. Students must meet the requirements of one of the academic majors listed above and complete the professional studies component offered by the Department of Education. See page 46 for more details.

OPTIONAL MINORS are offered in the following academic areas (some restrictions apply based on major):

American Studies
Behavioral Science
Biology
Business Administration
Chemistry
Chinese
Computer Science
Criminal Justice
Economics
Electrical Engineering
Engineering Psychology
English
Finance
Foreign Language
French
Gerontology
Global Studies
Graphic Design
History
International Business
Mathematics
Packaging
Peace Studies
Philosophy
Physics
Political Science
Psychology
Public Health (Science Option)
Religious Studies
Sociology
Spanish
Sustainability Studies
Theatre Arts
Visual Art
Women’s and Gender Studies

THE DAY PROGRAM
The DAY PROGRAM presents curricula leading to degrees in fields listed above except the B.S. in Business and B.S. in Nursing. The day program calendar is 16-weeks per semester as well as two 5-week sessions in the summer.
GRADUATE AND PROFESSIONAL STUDIES PROGRAM
The Graduate and Professional Studies Program presents a curriculum through which a student may earn a Bachelor's degree by attending classes at times compatible with full employment. Bachelor of Arts degrees offered are a Bachelor of Arts in Applied Psychology, Business, Early Childhood Education, and Special Education and a Bachelor of Science in Nursing. Available concentrations in Applied Psychology are Organizational Psychology, Consumer Behavior and Criminal Justice. Thirty semester hours of credit may be earned in each academic year (six hours in each eight-week term), making it possible for a student to complete all degree requirements in fewer than five years. Academic work transferred from other colleges will shorten this time proportionally.

The evening academic year is divided into four eight-week accelerated terms, which are bridged into two semesters. Students must enroll for both eight week terms at the beginning of the semester. In addition, there is one eight-week session and two five-week terms in the summer. Most classes meet for one night per week usually beginning at 5:45 P.M. Exams for the Monday or Tuesday classes are Friday of the last week of class and for the Wednesday or Thursday classes Saturday afternoon of the last week of class along with Saturday classes having its exam on the last Saturday of the last week of classes. To be considered full time in the Professional Studies program, a student must enroll for 12 hours at the beginning of the semester.

Although the Professional Studies program is designed for degree-seeking students, it makes provisions for students wanting to take prerequisites for a MBA degree, the CPA exam, or courses of special interest.

OFF-CAMPUS COURSES
After a student matriculates at Christian Brothers University, all courses must be taken at the University. The Dean of the School in which the student is majoring must approve any exception to this policy. Under extenuating circumstances, a Christian Brothers University student may request to take courses at another four-year, fully accredited college or university, provided that the student is not repeating a course previously attempted.

A CBU student who wishes to enroll in a course at another institution must:
1. Complete a "Request for Off Campus Course" form available on the Registrar's Office Web page, prior to taking the course, which includes written authorization of the student's Department Chair, the Dean of the School in which the student is majoring, and the Associate Registrar.
2. Request that an official transcript of credits be sent to the Registrar's Office at Christian Brothers University at the end of the session.

LIVING LEARNING COMMUNITIES
The Living Learning Communities (LLCs) at CBU witness to the values of the university and its Lasallian heritage—holistic personal development, community-building, and service. Each of five LLCs represents these values through an intentional focus, engaged learning environment, and program of activities. The Living Learning Center, completed in July 2011, serves as a residence and meeting facility for each LLC.

Living Learning Communities at CBU:
- Freshman Experience
- Honors Program
- Hospitality & Tourism
- Science & Engineering
- Sport Management
- Sustainability

For more information, please refer to http://www.cbu.edu/cbu/AboutCBU/Administration/Advancement/livinglearning/index.htm

PRE-PROFESSIONAL PROGRAMS
In addition to the various degree programs offered by Christian Brothers University, there are also a number of curricula that are pre-professional in scope and that may be tailored for acceptance by professional schools. In general, a bachelor's degree in any field will be accepted as a prerequisite for admission to a professional school. Certain additional courses may be required by the various schools and programs. Interested students should, very early in their University career, consult the catalog of the school to which they will seek admission in order to determine these special requirements. Pre-professional counselors are available on campus in addition to the student's major advisor.

PRE-HEALTH (DENTISTRY, MEDICINE, PHARMACY, ETC.)
While a major in Biology, Biomedical Science, Biochemistry, or Chemistry will probably be most advantageous for students preparing for these health-related professions, majors in other fields are often equally acceptable. Students interested in preparing for one of these fields should acquaint themselves with the requirements of the school to which they will seek admission. Each student should, in consultation with an appropriate pre-professional advisor, arrange a program which will fulfill the professional school admission requirements while working for a degree. Generally, such requirements include courses in Principles of Biology, Embryology, Anatomy, Physiology, Microbiology, Principles of Chemistry, Organic Chemistry, and Calculus. For further information, please visit our Web page at www.cbu.edu/~seisen/.

PRE-LAW
A Pre-Law major does not exist at the undergraduate level; however, Christian Brothers University offers personal counseling by the Pre-Law advisor through the School of Arts. This program is recommended for all students who intend to pursue a career in law. In addition, the advisor keeps appropriate Law School Admissions Test materials and stores a variety of law school catalogs in the Career Center. Students also are encouraged to participate in law school visitation days, recruitment interviews, and the Pre-Law Club.

PRE-MINISTRY
A student enrolled at Christian Brothers University may prepare for professional seminary work within any of the Liberal Arts majors. The Department of Religion & Philosophy provides a degree especially tailored for such specialization. Those students desiring to prepare for a career in religious education, professional Church work, or Protestant or Catholic graduate seminary programs will be assigned to an advisor who will direct their studies.
GENERAL EDUCATION REQUIREMENTS

In addition to meeting degree requirements for a particular major, a student at Christian Brothers University will be required to have a broad understanding of self, others, and the contemporary world. Furthermore, the graduate of Christian Brothers shall have cultivated, through the arts and sciences, the necessary skills of reasoning and communication, and shall have developed an awareness of the religious dimension of human existence. In the tradition of the Christian Brothers, all students take a broad range of courses, thus providing the opportunity to experience the full breadth of the curriculum.

STUDENT OUTCOMES

Within each of the four major learning goals listed above are several student learning outcomes:

A. Critical thinking, quantitative reasoning, and effective communication
   1. Quantitative Problem Solving. Students will demonstrate the appropriate use of mathematical, quantitative, and logical methods to solve problems.
   2. Statistics. Students will demonstrate the appropriate use of statistical methods to analyze data, solve problems, and make decisions.
   3. Effective Written Communication. Students will demonstrate their ability to write effectively, employing appropriate use of language, sentence structure, and grammar.
   4. Effective Oral Communication. Students will demonstrate their ability to speak effectively.
   5. Critical Reading. Students will demonstrate their ability to read critically.
   6. Research Skills. Students will demonstrate their ability to access scholarly communication effectively, and locate, evaluate, and properly cite information resources both on line and in print.

B. Knowledge of religion, culture, society, and self
   1. Knowledge of World Religions. Students will demonstrate an understanding of the beliefs, principles, and practices of Christianity as well as those of other religions and cultures.
   2. Impacts of World Religions. Students will demonstrate an understanding of the influence of religion on individuals, cultures, and societies from both historical and contemporary perspectives.
   3. Knowledge of Cultural and Global Issues. Students will demonstrate an understanding of personal, cultural, social, and global issues from the perspectives of diverse academic disciplines.*

C. Knowledge of the natural world, the scientific method, and its application
   1. Scientific Method. Students will demonstrate an understanding of the relationship between experimentation and theory, and will be able to draw inferences from experimental data.
   2. Limitations and Impacts of Science. Students will demonstrate an understanding of the nature and limits of the scientific method and the impact of science and technology on society.

MATRIX OF G.E.R. OUTCOMES

<table>
<thead>
<tr>
<th>OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY</td>
</tr>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>Statistics</td>
</tr>
<tr>
<td>English</td>
</tr>
<tr>
<td>Religious Studies</td>
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<tr>
<td>Social Sciences/History</td>
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<tr>
<td>Natural/Physical Science</td>
</tr>
<tr>
<td>Moral Values</td>
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<tr>
<td>Aesthetics</td>
</tr>
</tbody>
</table>

The Matrix (Table) indicates in general terms which Student Learning Outcomes are met by each category. A more detailed list of course requirements in each category follows the Table.
D. Moral, ethical, and aesthetic principles
1. Ethics and Judgments. Students will demonstrate an understanding of accepted ethical principles and their applicability in making ethical and moral judgments.
2. Aesthetic Principles. Students will demonstrate an understanding of aesthetic principles from the perspective of diverse academic disciplines.**

** Outcome will be assessed in multiple courses in order to achieve the perspectives of diverse disciplines.

GENERAL EDUCATION COURSE REQUIREMENTS

MATHEMATICS (3 hours)
MATH 105, 117, 129, 131 or 162. Not permitted: ALG 110, 115, 120 or MATH 103.

STATISTICS (0-3 hours)
BUS 205, CH E 112, HIST 498, MATH 201, 308, STAT 221, PHIL 201, PSYC 354; this outcome can be challenged by the independent study course MATH 121.

ENGLISH (8-9 hours)
(a) Composition: ENG 111 & 112 (or equivalency examination).
(b) Literature: One of ENG 211, 212, 221, 222, 231 or 232.
Honors program students may fulfill the above English requirements by completing ENG 231 & 232 which is 8 hours.

RELIGIOUS STUDIES (6 hours)

SOCIAL SCIENCE / HISTORY (6 hours)
ANTH 160; HIST 107, 108, 151, 152; HUM 210; POLS 111, 113, 115; PSYC 105; SOC 101, 160; ECON 214; MGMT 320.

NATURAL AND PHYSICAL SCIENCES (4 hours)
Any of the following courses and the accompanying lab BIOL 103, 107, 109, 111; CHEM 113, 115; NSCI 111, 115, 118, 122, 126, 128; PHYS 150, 201.

MORAL VALUES (3 hours)
PHIL 219, 220, 223, 224, 234, 322, 324, 325, & 340.

AESTHETICS (3 hours)
ART 101, 102, 111, 203, 210, 211, 212, 302; ENG 211, 212, 221, 222, 231, 232.

The above courses have been approved to meet the outcomes as of printing. Courses may meet more than one outcome. However, each student must take a minimum of 30 hours of General Education Courses. Special Topics courses (courses without a permanent course number or description) may be used to satisfy general education requirements, but must be approved on an annual basis by the Faculty Assembly Curriculum Committee. Students should consult their advisor before assuming a Special Topics course will meet a requirement.

INSTITUTIONAL EFFECTIVENESS AND ASSESSMENT

Institutional Effectiveness is a key assessment strategy for Christian Brothers University. It is a cyclical process in which continuous improvements and refinements of goals and objectives are undertaken. Furthermore, institutional effectiveness is not static, but rather a dynamic and evolving process. Therefore, it needs to be revisited continuously to ensure that the needs, purpose, and mission of the University are being achieved. Together, planning and evaluation should result in a continual effort within each unit of the University to examine the degree to which the unit is fulfilling its purpose and to make improvements and reallocation of resources whenever necessary.

The Southern Association of Colleges and Schools (SACS) Commission on Colleges indicates that institutional effectiveness is central to the philosophy of accreditation, and it is a core component of its Criteria for Accreditation. “The institution identifies expected outcomes for its educational programs and its administrative and educational support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results” (Principles of Accreditation: Foundations for Quality Enhancement, 2004, p. 22). Furthermore, on page 5, the Commission on Colleges states, “Although evaluation of educational quality and its effectiveness in achieving its mission is a difficult task requiring careful analysis and professional judgment, an institution is expected to document quality and effectiveness in all its major aspects.” The Commission on Colleges “expects institutions to dedicate themselves to enhancing the quality of their programs and services within the context of their missions, resources, and capacities, and to create an environment in which teaching, public service, research, and learning occur.”

Assessment at Christian Brothers University is a process for educational improvement, benefiting both the institution and the student. Assessment results help determine how well the institution is meeting its mission and goals, what is successful and where improvements need to be made. Assessments also provide students with feedback that assists them in monitoring progress toward their own educational goals.

The Office of Institutional Research & Effectiveness administers four major surveys – ACT’s College Outcomes Survey and Student Opinion Survey, an annual alumni follow-up survey of the most recent year’s graduates, and an alumni survey targeting graduates from the past twenty years. Educational Testing Service’s Major Field Assessment Test is used by certain majors for outcomes assessment. The National Survey of Student Engagement (NSSE) and ACT’s Collegiate Assessment of Academic Proficiency (CAAP) are administered every three years. NSSE results yield important information about the quality of undergraduate learning and contribute to national benchmarks of effective educational practice. CAAP results assess students’ achievements in core educational skills including reading, writing, mathematics, scientific reasoning, and critical thinking. Additional surveys are also administered by individual departments, often with the assistance of the Office of Institutional Research & Effectiveness. Many
of the University's assessment activities are tied to courses and majors utilizing embedded assessments, capstone projects, and standardized exams.

To qualify for a bachelor's degree from Christian Brothers University, students must successfully meet all conditions of the University's outcomes assessment requirements.

**REQUIREMENTS FOR GRADUATION**

All new Freshmen or transfer students who have earned fewer than 12 hours are required to successfully complete Orientation. To qualify for a bachelor's degree from Christian Brothers University, a student must complete all degree requirements as outlined while maintaining an overall Grade Point Average of at least 2.0 as well as a minimum average of 2.0 in satisfaction of major requirements. The 2.0 minimum Grade Point Average is also required in each of the optional minors.

Specific course requirements in major and minor fields are listed under Degree Requirements for each school. Continuously enrolled students may graduate under the catalog in effect when they enter Christian Brothers University or any subsequent catalog. Students must notify the Registrar's Office, the Dean of Academic Services, or the Director of Academics for Graduate & Professional Studies when they want to upgrade to a subsequent catalog.

All students planning to receive a diploma in May or August must file the online “Intent-to-Graduate” application for a degree with the Office of the Registrar no later than December 1st. Students planning to receive a diploma in December must file a graduation application by September 15th. Those filing after the deadline will be assessed a non-refundable late fee of $50.00.

Students must fill out an official online “Intent-to-Graduate” form with the Registrar’s office before they can graduate. If a student has completed his/her degree requirements but failed to complete the Intent to Graduate, the degree will be conferred at the end of the next semester once the intent is completed.

**STUDENT RESPONSIBILITY**

It is the student who is ultimately responsible for knowing and following the courses and graduation requirements published in this catalog. The student is also responsible for becoming familiar with the academic policies, curriculum requirements, and associated deadlines as outlined in the catalog, whether it is in hard copy or posted to the University Web site. Although the academic advisor is there to aid the student with matters related to their program of study, it is ultimately the student's responsibility for meeting all stated requirements for the degree and the policies associated with the degree. All CBU students must have a CBU email address. The student is also responsible for any changes that might occur that are posted in the CBU Connection, sent through the official CBU email address, or posted to the University Web site, as these are the primary forms of communication with all students.

**FRESH START**

Fresh Start is a system enabling former CBU students who encountered academic difficulty to return to the University and petition for a zero GPA. The petitioner must (1) have been absent from Christian Brothers University at least five years and (2) have a minimum of 35 hours remaining to complete a degree at the University. A “Fresh Start” is available only once and is irrevocable.

No quality points from course work completed prior to the awarding of Fresh Start are computed in the GPA. The new GPA is computed on course work completed after the awarding of Fresh Start. Credits from courses in the prior periods of enrollment will count toward the degree if the grade was “C” or above. Previous credit earned with a grade less than “C” is not carried over, and some courses may need to be repeated to fulfill degree or University requirements in effect at the time of the student's re-enrollment. A student on financial aid must still meet the requirement for satisfactory progress in order to be eligible for financial assistance.

Students considering a Fresh Start should consult with their admission counselor or academic advisor to prepare the petition. The petition is submitted and considered in the first term of re-enrollment.

**COURSE LOAD**

**Fall and Spring Semesters:** Under normal conditions each student is expected to register for not fewer than 15 semester hours of credit per semester and not more than 18 hours per semester. Any student who registers for fewer than 12 hours of credit will be classified as a part-time student. Written permission of the School Dean is required to register for more than 18 credit hours per semester. There will be an additional tuition charge for each additional credit hour above 18.

**Summer Sessions:** A student may enroll in a total of four courses and accompanying labs in the June, July, and Evening sessions combined. Over the ten week period, to be considered a full-time student, the student must be enrolled in at least 12 semester hours. In any one term, a student cannot enroll for more than 7 hours. A student may register for no more than a total of 14 hours without the written permission of the Dean of the School in which the student is majoring. If a student takes a school-sponsored trip immediately after the May graduation date and needs the course for graduation, he or she will be an August graduate. If the course is not needed for graduation, he or she may be a May graduate. Tuition for summer session courses is charged by the credit hour.

**Professional Studies Terms:** A Professional Studies student may register for 7 semester hours of credit in a single term if he or she is registered for a science class with its accompanying lab. A Professional Studies student must register for 12 hours per semester to be full-time, which means that a Professional Studies student may register for no more than 14 hours without the written permission of the Director of Graduate and Professional Studies. Tuition for Professional Studies term courses is charged by the credit hour.

**CLASS ATTENDANCE**

Every student is expected to attend classroom and laboratory periods regularly. All students are expected to attend class beginning with the first class meeting. CBU has no official Leave of Absence policy. A student who has been absent, even for a legitimate cause, is under obligation to make up
the work by special assignment to the satisfaction of the instructor. Any student who has missed a total of eight (8) hours or approximately 20% of class time may be given a mark of “F” after the last day to withdraw from classes has passed. No faculty member is allowed to have an attendance policy which penalizes a student for absences due solely to participation in an official University sponsored activity including athletic competition which requires limited or occasional absences; however, the student must satisfy all academic work required for the course.

CODE OF CONDUCT
The scholarly studies in an institution of higher learning are best achieved when students strive to meet the challenges provided by the institution with maturity and honesty. This is especially applicable at Christian Brothers University, which stresses the maxim “Virtue and Knowledge.” It is expected that all students conduct themselves in such a way as to model the mission of the institution. This conduct is required in the classroom, all parts of the campus, and all locales where students are identified as students of Christian Brothers University. Students should refer to The Compass (student handbook) for specific conduct policies as well as disciplinary procedures located on the Student Life webpage at www.cbu.edu.

CLASSIFICATION OF STUDENTS
A student who has earned 24 semester hours of credit will be classified as a sophomore, 60 semester hours as a junior, and 90 semester hours as a senior. This classification is determined automatically as credits are earned.

TRANSFER OF CREDITS FROM OTHER INSTITUTIONS
1. To fulfill residency requirements, 35 of the last 70 hours and at least 25% of total hours applied toward a degree must be earned at Christian Brothers University. See school or department requirements for any further restriction on courses in the major area.
2. For optional minor, 50% of required courses must be taken at Christian Brothers University.
3. Only courses with grades of “C” or better (2.0 on a 4.0 scale) will be accepted for transfer from other accredited institutions.
4. Only the hours of credit in accepted courses will be posted on the student’s permanent record with no grade point average transferring from other institutions.
5. Permission to take any courses off-campus must receive the prior approval of the student’s department chair, Dean of the School, and the Associate Registrar.
6. Waivers to any of these requirements must be made through the Vice President for Academics.

CHALLENGE EXAMINATIONS
Courses for which Challenge Exams are permitted are determined by the Department Chair after consultation with the department faculty. The form for a Challenge Exam must be obtained from the Web page of the Registrar’s Office. Challenge Exams must be completed before the end of the drop/add period at the beginning of a semester.

Students who feel that they have mastery of the material of a particular course may take a departmentally-administered examination for credit in that course. A student wishing to take such a test should consult with the chair of the department in which the course is offered. The fee for taking the examination is $100.00, which is not refundable. There is no additional fee for posting, if credit is awarded.

No Challenge Exam is allowed for any course which was previously failed either at Christian Brothers University or elsewhere. A student may not retake a Challenge Exam after failure of a previous Challenge Exam in that course.

GRADUES
Grades are listed at the mid-semester for day students and at the end of the semester for all students and programs. Grades are made available through Banner Web. Only semester grades are kept on permanent records. For the purpose of computing averages, grades are converted to quality points.

The grades with their significance and the corresponding points are:

<table>
<thead>
<tr>
<th>GRADE</th>
<th>SIGNIFICANCE</th>
<th>QUALITY POINTS/CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Barely Passed</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failed</td>
<td>0</td>
</tr>
<tr>
<td>FA</td>
<td>Failed - Excess Absences</td>
<td>0</td>
</tr>
<tr>
<td>FN</td>
<td>Failed - Never Attended</td>
<td>0</td>
</tr>
</tbody>
</table>

Some programs require a grade of “C” or higher as a pre-requisite to the next course. The Grade Point Average is obtained by dividing total quality points by total hours attempted, with the exception of hours attempted in which the grades of “P” or “W” are given. The mark “P” is used to indicate passing, and the mark “F” to indicate failing or unsatisfactory work in certain specific courses. The hours in these courses are counted in the total load, but the mark of “P” is not used in the calculation of the Quality Point Ratio, whereas the mark of “F” is. These marks are also used in some non-credit courses.

“W” indicates a student withdrew from a course without penalty. “NR” grade is given when an instructor fails to turn in a grade report.

Instructors will penalize a student for failing to submit required work. Alternatively, an instructor may agree to give a student a temporary grade of “I” if asked by the student in a timely fashion. Instructors are under no obligation to agree to give a grade of “I.” The grade of “I” can only be given after the student, the instructor and the dean of the particular school in which the incomplete grade is being given sign an “Incomplete Contract” specifying the work to be completed and return it to the Registrar’s Office for the posting of the incomplete grade. Incompletes can only be given if the paperwork is completed at least one week prior to the deadline for entering grades. Exceptions to this deadline may only be made by the Dean of Academic Services (day students) or the Associate Registrar (GPS students). These will only be granted for a documented illness, a serious family...
emergency, or another issue of comparable magnitude. Requests made by students for an exception to this deadline must be received by the Dean of Academic Services or Associate Registrar by the last day of exams. The “I” grade will not be computed in the GPA. When the “I” is changed to a grade, that grade will be calculated into the GPA, and the “I” will show next to the new grade. The “I” grade does not satisfy the prerequisite if the course is needed to continue to the next course. The grade is changed to “I/F” if all the work is not completed by the midterm of the following semester for day courses or the end of the following term for evening courses. The “Incomplete Contract” form is available online at cbu.edu through the registrar’s office.

Failure to attend a class or ceasing to attend a class does not constitute a drop, and a grade of “F” will be recorded.

GRADE CHANGES
Grade changes for prior semesters submitted after the mid-point of the following semester will require the faculty member’s signature as well as the signature of the Department Chair or Dean of the school before the grade change can be processed by the Registrar’s Office.

Students who are graduating may not have a grade changed once the graduation is finalized and the graduating GPA is locked in. Graduating students only have three business days after the official graduation date to remove an incomplete grade and graduate. If this is not done, the student’s graduation date is postponed, and the student must refile for graduation.

GRADE APPEALS
A student who has evidence that he or she has been assigned a final grade in a capricious, prejudicial, or arbitrary manner may appeal the assigned grade within two weeks after the beginning of the subsequent academic semester (or term). The student should file for a grade appeal formally in the Academic Affairs Office. Then, the student should discuss the grade in question with the instructor involved. If not satisfied, the undergraduate student should discuss the situation with his advisor, the graduate student with his graduate director. The student should discuss the matter with the Department Chair if he still not satisfied. If no resolution is reached, the student should refer the matter to the Dean of the appropriate school.

If the matter remains unresolved, the student may then appeal the case to the Grade Appeals Committee. The judgment of the Committee is final.

REPEATING COURSES
Courses may be repeated in an attempt to improve a grade in any course taken at Christian Brothers University. Computation of the student’s grade point average will be based upon the most recent grade earned in the course, although the record will reflect all grades earned in a course. If a student earns a failing grade in a repeated course, he will lose any previously earned credit in that course. No course may be repeated more than two times (a total of three enrollments). A semester or term in which the student withdraws from the course with a grade of “W” will be counted as an attempt. A student may not repeat any course off-campus that has been previously attempted at Christian Brothers University. A total of two nursing courses may be repeated. Any student who receives financial aid should consult the Student Financial Assistance Office regarding the effect repeating a course has on their financial aid. RN to BSN students may only repeat a total of two nursing courses. They may not repeat more than two nursing courses.

COURSE AUDIT
Students may register to audit courses, only during the first week of school, with the approval of their advisor (special students are assigned to the department chair) and the teacher. Auditors are not required to prepare assignments, take examinations, or take part in class discussion.

Students auditing courses will receive the “AU” grade if in the judgment of the instructor, they have attended a sufficient number of classes to deserve that grade. Faculty members will base their decisions for awarding the “AU” only on attendance.

If the student does not have an adequate attendance record, the “UA” (unsatisfactory audit) grade will be given.

Tuition for audited courses will be one-half of that charged for the regular credit courses on a per credit hour basis. For detailed policies regarding course audit, contact the Registrar’s Office.

DEAN’S LIST
Superior scholarship is recognized by the publication of the Dean’s List after each announcement of semester grades. Students awarded Dean’s List honors have carried a minimum of 12 hours and have earned a minimum Grade Point Average of 3.4. Any grade of “D,” “F,” “I,” or “U” automatically eliminates a student from this recognition, regardless of other grades. Courses in which the grade given is “P” (pass) are not included in any calculations for the Dean’s List.

GRADUATING STUDENTS
Christian Brothers University has only one Graduation Ceremony a year in May, although there are three official graduation dates. Students may graduate in May, August, or December. Only those students who can complete their course work by the end of the summer term can walk in the ceremony. Graduating students also have three business days after the official graduation date to remove any Incomplete grades, send in transcripts from other universities, or have a grade changed in order to be graduated for a particular graduation date. Once a student is graduated, his or her cumulative graduating GPA is locked in and no grade changes can be made. Once a student graduates and wants to come back to take courses at Christian Brothers University, he or she must go back through the appropriate admissions office and apply for re-admission.

GRADUATION HONORS
A graduating senior who has attained a Grade Point Average of 3.70 to 4.00 will be awarded honors of SUMMA CUM LAUDE. A graduating senior who has attained a Grade Point Average of 3.50 to 3.69 will be awarded honors of MAGNA CUM LAUDE. A graduating senior who has attained a Grade Point Average of 3.20 to 3.49 will be awarded honors of CUM LAUDE.
ACADEMIC CONTINUATION
To be eligible to continue at Christian Brothers University, a student must maintain a cumulative Grade Point Average (GPA) at or above the minimum acceptable level shown in the following chart.

<table>
<thead>
<tr>
<th>TOTAL CREDITS</th>
<th>MINIMUM ACCEPTABLE GPA</th>
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<tbody>
<tr>
<td>1-23</td>
<td>1.50</td>
</tr>
<tr>
<td>24-59</td>
<td>1.70</td>
</tr>
<tr>
<td>60 or more</td>
<td>2.00</td>
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</tbody>
</table>

RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students may repeat up to two courses in an attempt to earn the grade of C.

ACADEMIC PROBATION
A student whose cumulative GPA falls below this minimum acceptable level in any semester will be placed on Academic Probation for the subsequent semester. If the student attains at least the minimum acceptable cumulative GPA during the probationary semester, Academic Probation will be removed. A student who is returning on probation is limited to 15 hours per semester unless written permission to carry more has been obtained from the Vice President for Academics.

If the student does not attain the minimum acceptable cumulative GPA during the probationary semester but does attain a semester GPA of at least 2.00, the student will remain on Academic Probation and may continue at the University.

PROBATION FAILURE
If the student does not attain the minimum acceptable cumulative GPA during the probationary semester and does not attain a semester GPA of 2.00, the student has failed probation and will be suspended from the University for one semester (Fall or Spring).

Any student who has been suspended because of a failing average will not be eligible to reenter the University until he or she has stayed out at least one semester (Fall or Spring). Credits earned during the semester of suspension because of academic probation are not transferable for re-entry into the University. After the suspension semester, the student may reapply to the University; however, readmission is not guaranteed.

READMISSION
To be readmitted, a student who has been suspended or has been absent for a semester other than the Summer Session must make application for readmission to Admissions (Day or Professional Studies) at least six weeks before registration. Any student applying for readmission who does not have a minimum acceptable GPA must have his or her records reviewed by the Vice President for Academics or an administrator delegated by the Vice President for this purpose. Readmission is not automatic; the Vice President for Academics or his or her delegate may approve or refuse the application.

A student who has been previously suspended and readmitted will be placed on Academic Probation during the first semester back at the University. Any student who has not attended CBU for one academic year or longer will be placed under the degree requirements and academic regulations listed in the catalog of the year of re-entry. Any prior work, whether transfer or CBU credits, may be re-evaluated.

Students in the RN to BSN program must complete a new Personal Statement, update the TB skin test, CPR, RN License, background test and drug screen.

CHANGE OF PROGRAM
Any currently enrolled student who wishes to change programs at the end of a semester (i.e., Day to Professional Studies or Professional Studies to Day) must complete a Change of Program request form with the Office of the Registrar. The form is located on the Registrar’s Office Web page. A student may not change programs in the middle of a semester unless the student is just beginning or returning to the University.

DROPPING, ADDING, WITHDRAWING
Students are allowed a certain number of days at the beginning of each semester to try out their courses and alter them without penalty. The last day for adding and dropping classes is listed in the University Calendar. After this trial period, a student may withdraw from a course but may add no new courses. Such courses will be entered on the permanent record with the mark of “W”. The last day for withdrawing from a course is also listed in the University Calendar posted on the CBU Web site.

All withdrawals, both partial and complete, must be made by the student through the Office of the Registrar. A student must notify the Office of the Registrar of the withdrawal by completing the online “Withdrawal” form on the Registrar’s Web page at https://luna.cbu.edu/registrar/withdrawal. Any student requesting a “complete withdrawal” from all classes will be required to come to the Registrar’s office to secure the necessary signatures to complete the withdrawal process. The date on the official form will count as the official date of notification for processing the withdrawal. The instructor will be contacted for the date of last attendance, but the official notification date for processing the withdrawal will be the date of notification. This is the date that will be used by all offices for processing the withdrawal and for any possible refunds. See Withdrawal Policies on the CBU Business Office web page.

TRANSCRIPT OF CREDITS
Students who transfer from Christian Brothers University to another institution are entitled to a transcript of their record. Transcripts will not be issued to another institution unless a student’s financial account is settled in full. Before a transcript can be released, the student must provide a written request with his/her signature. For the first transcript, no charge is made; additional transcripts should be accompanied by a fee of two dollars. Such requests should be addressed to the Registrar, Christian Brothers University, 650 East Parkway South, Memphis, Tennessee, 38104-5581.

HONORABLE DISMISSAL
To receive an honorable academic dismissal a student must either remain until the end of the semester or obtain written permission from the Dean of Academic Services (for Day students) or the Director of Academics (for Professional Studies students) to withdraw.
CONFIDENTIALITY OF STUDENT RECORDS
In accordance with the Family Educational Rights and Privacy Act of 1974, Christian Brothers University students have the right to review, inspect and challenge the accuracy of information kept in a cumulative file by the institution. It also ensures that records cannot be released without written consent of the student except in the following situations:

1. To school officials and faculty who have a legitimate educational interest, such as a faculty advisor;
2. Where the information is classified as "directory information." The following categories of information have been designated by Christian Brothers University as directory information: name, address, telephone listing, email address, date and place of birth, major field of study, enrollment status, classification (level), photo, electronic images, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received, the most recent previous educational institution attended by the student, and information needed for honors and awards. Students who do not wish such information released without their consent should notify the Registrar's Office in writing prior to the end of the first week of classes.

A complete statement of the University’s policy on the confidentiality of student records may be found in the student handbook, The Compass, located at http://www2.cbu.edu/cbu/StudentLife/index.htm.

SPECIAL PROGRAMS
HONORS PROGRAM: The Honors Program at Christian Brothers University is designed to serve the capacities and needs of students with proven academic abilities who seek a more intensive and challenging educational experience. Students accepted into the Honors Program will be allowed to take special topics courses offered to only a limited number of Honors students by a teacher carefully chosen for his or her teaching expertise. These Honors courses will explore important topics in depth, often through a multi-disciplinary approach, and while the pace and workload will demand self-motivated, self-reliant students, the small size of each Honors class will ensure ample group discussion and individual interaction with the instructor. Honors students earn an Honors Program Diploma by completing seven honors courses with a grade of “C” or better, including HUM 498, Honors Capstone, achieving an Honors GPA each semester, and graduating with a 3.2 GPA and participating in the required number of Honors Program activities each semester. Besides taking Honors classes, members of the program will participate in various extracurricular activities, including outings to cultural events and regional Honors conferences. Members of the Honors Program will have the option of living with other Honors Program students in the Honors Living Learning Community (LLC). For further information about the Honors Program, please consult the Honors Program Web page on the university website or contact the Honors Program Director at (901) 321-3357.

ENGINEERING INTERNSHIP PROGRAM: At the conclusion of their sophomore year, engineering students may be eligible to apply for an internship appointment with participating Mid-South industries. Eligibility requirements for each appointment are available in the Engineering School Office.

DUAL DEGREE (Undergraduate/Graduate) OPPORTUNITIES IN SCIENCE: Christian Brothers University has agreements with the Southern College of Optometry, Union University School of Pharmacy, and CBUs Master of Science in Physician Assistant Studies through which students majoring in Natural Science at CBU have the possibility of admission into the Professional School or Masters program after completing 3 to 3 ½ years of undergraduate study. Students are not guaranteed admission and must meet all admission requirements for the Professional School or Masters program. Upon completion of the Professional School or Masters program, two degrees may be awarded – one from the Professional School or Masters program and the BS in Natural Science from Christian Brothers University.

INTER-COLLEGE COOPERATIVE PROGRAM: (Greater Memphis Consortium): Christian Brothers University is a charter member of the Greater Memphis Consortium. The other colleges involved are LeMoyne-Owen College, Memphis College of Art, and Memphis Theological Seminary. The courses offered by each member school are open to enrolled full-time students in good standing at one of the consortium institutions on a space available basis for one course per semester (lecture and corresponding lab are considered “one course”) provided they meet the prerequisite requirements. Students may register at a “host” school with the approval of the appropriate academic counselor, a letter of good standing from the registrar of the student’s “home” school, and a copy of the student’s transcript. The limitation imposed by the American Association of Theological Schools on undergraduates in seminary class is recognized. There is no additional charge to full time students for courses taken at another consortium school except for course/laboratory/supplies required specifically for the registered course. Courses taken during summer sessions are not covered by the consortium agreement. To be eligible to take courses at other Memphis colleges under the Consortium, students taking undergraduate courses must have at least twelve (12) hours per semester at CBU to be considered full time; students taking graduate courses must have at least nine (9) hours per semester at CBU to be considered full time. While in some cases students categorized as graduate students may be taking undergraduate courses as prerequisites or for other reasons, at least twelve (12) of these undergraduate hours are required to be taken at CBU in order to be considered full time for Consortium purposes. If a student is taking a mix of undergraduate and graduate courses, at least twelve (12) hours are required in order to be considered full time for Consortium purposes.

RHODES COLLEGE LANGUAGE COURSES: Through an agreement with Rhodes College, full-time students at Christian Brothers University have the opportunity (on a space-available basis) to enroll in specific language courses taught at Rhodes provided they meet the prerequisite requirements. There is no additional charge to full time (12-18 hours) students for courses taken at Rhodes covered under this agreement. Students must contact the Dean of the School of Arts, and appropriate forms must be completed prior to the beginning of the semester.

RESERVE OFFICERS TRAINING CORPS: Through an agreement with the Department of Aerospace Studies, The Department of Military Science, and the Department of Naval Science at the University of Memphis, students at Christian Brothers University may enroll in their Air Force Reserve Officers’ Training Corps (AFROTC), the Army Reserve Officers’ Training Corps (AROTC), or the Naval Reserve Officers’ Training Corps (NROTC) programs. Under the terms of these agreements, freshmen and sophomores may register for AFROTC, AROTC, or NROTC courses at the same time they register for their other courses. Enrollment in either of these two years does not entail any commitment to the Army, Air Force, or Navy, and all uniform items are provided by the University of Memphis where the courses are held. Credit for these courses counts toward the degree being earned at Christian Brothers University. In addition, students are eligible to apply for AFROTC, AROTC, and NROTC scholarships.
STUDY ABROAD PROGRAM: Christian Brothers University views study abroad as a challenging educational and cross-cultural experience. The purpose of the program is to expose students to the people and cultures of other nations, to provide on-site observation of historical, scientific, and cultural phenomena, and to provide opportunities for foreign language study within the cultural context of the target languages. Christian Brothers University maintains affiliation with a select group of study abroad programs in several countries. Students select a study abroad experience in consultation with their Academic Advisor and the Director of International Initiatives. Final approval for study abroad comes from the student’s advisor, the Department Chair of the student’s major, and the Director of International Initiatives. Requirements for study abroad include:

1. Sophomore year standing.
2. 2.5 minimum grade point average as a cumulative GPA and in the major.
3. Brief essay outlining the student’s goals for study abroad.
4. Any additional requirements of the specific program.

Information may be obtained from the Director of International Initiatives at (901) 321-3461.
SCHOOL OF ARTS

APPLIED PSYCHOLOGY • EDUCATION • ENGLISH • ENGLISH FOR CORPORATE COMMUNICATIONS • STUDIO ART • HISTORY • PSYCHOLOGY • RELIGION & PHILOSOPHY

ADMINISTRATION

DR. PAUL HAUGHT, Dean

DR. NEAL A. PALMER, Chair of History & Political Science

DR. CLAYANN GILLIAM PANETTA, Chair of Literature & Languages

DR. RODNEY J. VOGL, Chair of Behavioral Sciences

DR. RICHARD POTTS, Chair of Education

DR. SCOTT GEIS, Chair of Religion & Philosophy

MS. JANA TRAVIS, Chair of Visual & Performing Arts

DR. SAMANTHA M. ALPERIN, Director of Undergraduate Education and Graduate Education

DR. J. BURTON FULMER, Director of Catholic Studies Program

FACULTY

BEHAVIORAL SCIENCES

CONRAD J. Brombach, Professor
B.A., St. Mary's College (Winona); M.Ed., Loyola University (Chicago)
M.A., St. Louis University; Ed.D., University of New Orleans

TRACIE L. BURKE, Professor
B.S., University of Montana; M.S., M.A., Ed.D., University of Memphis

MARY FRANCES CAMPBELL, Assistant Professor
B.S., M.A., University of Memphis, Ph.D., University of Alabama

MARGARET A. MILLER, Professor
B.A., Carlow College; M.Ed., Ph.D., University of Pittsburgh

ELIZABETH M. NELSON, Professor
B.A., M.A., M.S., Kansas State University

MAUREEN E. O'BRIEN, Associate Professor
B.A., Christian Brothers University; M.S. The University of Memphis;
Ph.D., University of North Carolina Greensboro

JERRY J. SABLE, Assistant Professor
B.A., Drury College; M.S., Kansas State University; Ph.D., University of Missouri-Columbia

RODNEY J. VOGL, Professor
B.S., University of Iowa; M.S., Ph.D., Kansas State University

EDUCATION

SAMANTHA M. ALPERIN, Associate Professor
B.S.B.A., University of Tennessee; M.A.T., Ed.D., University of Memphis

WENDY ASHCROFT, Associate Professor
B.A., Rhodes College; M.Ed., Memphis State University; Ed.D, Memphis State University

CORT CASEY, Assistant Professor
B.B.A., University of Mississippi, M.A.T.; University of West Arkansas; Ph.D., University of Memphis

ELLEN S. FAITH, Professor
B.A., Regents College; M.A., Vermont College; Ed.M., Ed.D., Harvard University

RICHARD POTTS, Associate Professor

BROTHER MICHAEL A. SCHMELZER, Assistant Professor
B.A., Christian Brothers College; M.A.T., St. Mary's College;
Ph.D., The Ohio State University

NANCY WILDER, Visiting Assistant Professor
B.S., M.Ed., The University of Memphis
SCHOOL OF ARTS

VISUAL & PERFORMING ARTS
MATTHEW HAMNER, Assistant Professor
B.S.A., Auburn University; M.F.A., University of Central Florida
NICHOLAS PEÑA, Assistant Professor
B.A. Southern Illinois University; M.F.A. University of Missouri
JANA B. TRAVIS, Associate Professor
B.F.A., M.F.A., The University of Memphis

HISTORY & POLITICAL SCIENCE
MARIUS M. CARRIERE, JR., Professor
B.A. University of Louisiana-Lafayette; M.A., Stephen F. Austin State University; Ph.D., Louisiana State University
BENJAMIN JORDAN, Visiting Assistant Professor
B.A. Bard College, M.A., Ph.D. University of California San Diego
KARL LEIB, Associate Professor
B.A., SUNY Albany; M.A., SUNY Albany, Ph.D., Syracuse University
NEAL A. PALMER, Associate Professor
B.A., Vanderbilt University; M.A., The University of Memphis; Ph.D., University of Rochester

LITERATURE & LANGUAGES
ELIZABETH P. BROADWELL, Professor
B.A., Guilford College; M.A., Ph.D., University of North Carolina at Chapel Hill
ROGER R. EASSON, Professor
B.A., M.A., Pittsburg State University; Ph.D., University of Tulsa
KAREN B. GOLIGHTLY, Associate Professor
B.A., Rhodes College; M.F.A., University of Memphis; Ph.D., Southern Illinois University
FREDERICO C. GOMEZ UROZ, Assistant Professor
B.S., M.S., University of Granada, Spain; M.A., The University of Memphis
JEFFREY GROSS, Assistant Professor
B.A., Canisius College; M.A., Indiana State University; Ph.D., University of Kentucky
BROTHER ALLEN JOHNSON, FSC, Assistant Professor
B.A., LaSalle University; M.L.A., Johns Hopkins University; M.A., University of Pennsylvania
VINCENT O’NEILL, Visiting Professor
B.A., M.A., University of Windsor, Ontario; Ph.D., University College of the University of London, England
CLAYANN G. PANETTA, Associate Professor
B.A., Blue Mountain College; M.A., Ph.D., Old Dominion University
BRENDAN M. PRAWDZIK, Assistant Professor
B.A., Rutgers University; Ph.D., University of California, Berkeley
ANN MARIE WRANOVIX, Professor
B.A., Vanderbilt University; M.A., Ph.D., Yale University

RELIGION & PHILOSOPHY
DAVID DAULT, Assistant Professor
B.A., The University of the South; M.A.(T.S.), Columbia Theological Seminary; M.A., Ph.D., Vanderbilt University
J. BURTON FULMER, Associate Professor
B.A., Georgetown University; M.A., George Mason University; Ph.D., Vanderbilt University
SCOTT D. GEIS, Associate Professor
B.A., Bethel College; M. Div. Bethel Theological Seminary; M.Th. Duke University; Ph.D., Marquette University
PAUL A. HAUGHT, Associate Professor
B.A., Georgetown University; M.A., University of North Texas; Ph.D., Tulane University
MISSION
Our educational mission in the School of Arts is to prepare students not only to work but also to live with integrity and meaning. Through the arts, humanities, social sciences, and education, students are encouraged to develop a zest for intellectual challenges, a love of beauty, an awareness of their own culture and moral convictions, an understanding of self, empathy and compassion for others, an appreciation of cultural diversity, and a sense of their relationship with and responsibility to a larger community. These goals are sought within an atmosphere of free inquiry, dialogue, and interfaith concern.

The School of Arts is the heart of the educational experience at Christian Brothers University. Through courses taken in the School of Arts, majors from all four Schools develop broad general knowledge in the arts, humanities, and social sciences. They develop skills in different forms of inquiry, abstract logical thinking, and critical analysis. Studies in the School of Arts provide an array of opportunities for students to enhance their abilities to think, read, write, and speak while cultivating historical, ethical, religious, literary, and social scientific consciousness.

In choosing a major within the School of Arts, students join a particular intellectual community of learners and take part in its special way of exploring the world and the self, thereby preparing for a wide variety of educational and professional choices. All School of Arts majors take a variety of courses from across departmental disciplines selected for the purpose of providing breadth, depth, and richness to their educational experience.

All of the courses needed to obtain a degree in each major are specified within the course requirement presentations that follow.

THE SIX DEPARTMENTS WHICH COMPOSE THE SCHOOL OF ARTS ARE:

**BEHAVIORAL SCIENCES** which includes study in Psychology and Sociology as well as Anthropology and Criminal Justice. The department offers a B.A. degree in both Applied Psychology and Psychology and minors in Behavioral Sciences, Criminal Justice, Engineering Psychology, Gerontology, Psychology, and Sociology;

**EDUCATION** which includes undergraduate, post-baccalaureate, and graduate programs leading to licensure by the Tennessee Department of Education at both elementary and secondary levels. In conjunction with academic departments in the School of Arts and in the School of Sciences, the Department of Education prepares undergraduate students earning BS or BA degrees in a number of areas to meet teacher licensure requirements (see page 46 for details);

**VISUAL & PERFORMING ARTS** which includes study in Art, Speech, and Theatre. The department offers a B.F.A. in Visual Art with concentrations in Graphic Design, Studio Arts, and Art Therapy and minors in Art and Theatre Arts. Courses are offered under the following headings: Art, Speech, and Theater;

**HISTORY & POLITICAL SCIENCE** which offers a major in History and minors in History, Political Science, and American Studies;

**LITERATURE & LANGUAGES** which offers majors and minors in English, a major in English for Corporate Communications, and minors in French and Spanish;

**RELIGION & PHILOSOPHY** which offers courses under the headings of Humanities, Philosophy, and Religious Studies, a program in Peace Studies, and Women's Studies. The Religion & Philosophy major offers concentrations in Philosophy and Religion;
The course of studies for each of the degrees offered within the School is designed to provide the student with opportunities to choose courses outside of his or her major either from among the many courses provided by the School of Arts or from among those provided by the other Schools. A faculty advisor is assigned to each student to assist in selecting courses and in shaping the total academic experience.

**DEGREE REQUIREMENTS**

All students majoring in disciplines within the School of Arts are required to complete courses in the Liberal Arts Core. The purpose of the Liberal Arts Core is to provide a common background of knowledge in the humanities and social sciences which serves as a context for more specialized study in the individual major. The core is intended to provide exposure to the differing methods and modes of inquiry appropriate to various disciplines as well as to the assumptions upon which the disciplines are grounded, their knowledge claims, and their limitations. It seeks to provide opportunities for students to make conscious connections between specialized learning and basic human concerns and to build a durable foundation for lifelong learning.

Core courses seek the development of skills in different forms of inquiry, abstract logical thinking, critical analysis and informed judgment. Particular emphasis is placed on the development of the ability to bring what one has learned in one context to another, from one discipline to another, and from one community to another. These goals are sought within an atmosphere of free inquiry, dialogue, and interfaith concern.

Some majors may require specific courses (see following pages) to fulfill the Liberal Arts Core or the University General Education requirements (see page 24). Students seeking Teacher Licensure must meet special requirements (see page 46). The Liberal Arts Core requirements are as follows:

**Foreign Language Cluster**
- FOREIGN LANGUAGE (12 hours)

**Humanities Cluster**
- VISUAL & PERFORMING ARTS (6 hours)
- PHILOSOPHY OR HUMANITIES (3 hours)
- LITERATURE (3 hours)
- HISTORY (6 hours)

**Social Science Cluster**
- POLITICAL SCIENCE (3 hours)
- BEHAVIORAL SCIENCE (PSYC, ANTH, SOC) (3 hours)

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1. Must be in a single language. Students must pass a foreign language course at the 202 level. If this requires less than 12 hours credit of course work, the remaining hours are free electives.
2. One course from Humanities or Social Science clusters must have a “global perspective.” Students should be advised as to which course meets this requirement.
3. Can be any combination of Art, Music, or Theatre courses.
COURSE REQUIREMENTS FOR APPLIED PSYCHOLOGY
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

GENERAL EDUCATION REQUIREMENTS (see page 24) ................................................................. 31 hours
  English Composition (ENG 111 & 112) ......................................................................................... 6 hours
  Mathematics (MATH 105, 117, 129, or 131) ................................................................................. 3 hours
  Science (recommended BIOL 103, 107, 109, or 111) ................................................................. 4 hours
  Literature (ENG 211, 212, 221, or 222) ......................................................................................... 3 hours
  Religious Studies ................................. 6 hours
  Moral Values ........................................ 3 hours
  Social Science/History (PSYC 105 & SOC 101) ......................................................................... 6 hours
  Orientation (required for new freshmen) .................................................................................... 0 hours

SCHOOL OF ARTS REQUIREMENTS ......................................................................................... 36 hours
  Philosophy or Humanities ........................................ 3 hours
  Fine Arts (any course(s) in Art, Music, or Theatre) ................................................................. 6 hours
  Foreign language (all hours in the same language) ................................................................. 12 hours
  History (107 and 108 or 151 and 152 suggested) ......................................................................... 6 hours
  Literature (ENG 221 or 222) ......................................................................................................... 3 hours
  Behavioral Science (SOC/ANTH 160 or CJ 150) ................................................................. 3 hours
  Political Science Elective ................................. 3 hours

BEHAVIORAL SCIENCES REQUIREMENTS .............................................................................. 21 hours
  Lower division Psychology (PSYC 106, 219, 230) ................................................................. 6 hours
  Upper division Psychology (PSYC 353, 440) ................................................................................. 6 hours
  APA Writing (PSYC 235) ........................................................................................................... 3 hours
  Psychology Comprehensive (PSYC 497) ......................................................................................... 0 hours
  Research & Statistics, Practicum (PSYC 354, 460) ................................................................. 6 hours

OPTION COURSES ....................................................... 27-30 hours
  ELECTIVES ................................. 3-6 hours

TOTAL FOR GRADUATION ........................................................................................................ 121 hours

Transfer students must take 15 hours of Behavioral Sciences courses at Christian Brothers University.

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1 Three hours of religious studies at the 200 level and three hours of religious studies at the 300 level are required.
2 All Applied Psychology majors must earn a grade of “C” or better in PSYC 105.
3 At least three hours must meet GER “aesthetics” learning outcome.
4 Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
5 One course from the Social Science or Humanities classes must have a global perspective (see page 35).
6 All Applied Psychology majors are required to select one of the following options:
   Option I - Organizational Psychology: BLAW 301, ECON 214, 215; MGMT 320, 352, 412; MKTG 311; PSYC 350; STAT 222 and 3 hours School of Business elective.
   Option II - Criminal Justice: CJ 150, 200, 205, 210, 215, or 220, 225, and 9 additional hours in CJ (usually offered in the evening). Students must successfully complete training at the Police Academy and apply for Experiential Learning Credit or take the specified CJ courses to complete the CJ option.
7 Elective hours cannot be in PSYC, SOC, ANTH, or CJ.
### COURSE REQUIREMENTS FOR B.A. IN CREATIVE WRITING

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>0</td>
<td>ENG 112 Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 Composition I</td>
<td>3</td>
<td>ENG 215 Gateway</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201 (statistics GER)</td>
<td>3</td>
<td>PHIL (Moral Values)</td>
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<td>MATH 105, 117, 129, or 131</td>
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<td>Fine Arts (Art, Music or Theatre)</td>
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<tr>
<td>Religious Studies (200 level)</td>
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<td>Foreign Language</td>
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<tr>
<td>Foreign Language</td>
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<tr>
<th>SOPHOMORE YEAR Semester I</th>
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<tbody>
<tr>
<td>ENG 221 British Survey I</td>
<td>ENG 222 British Survey II</td>
</tr>
<tr>
<td>History (School of Arts requirement)</td>
<td>ENG Upper Level</td>
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<tr>
<td>History (School of Arts requirement)</td>
<td>History Upper-Level</td>
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<tr>
<td>PHIL/HUM</td>
<td>Eng 376 Creative Writing</td>
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<th>JUNIOR YEAR Semester I</th>
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<tbody>
<tr>
<td>ENG Upper Level</td>
<td>ENG Upper Level</td>
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<tr>
<td>Creative Writing Elective</td>
<td>Creative Writing Elective</td>
</tr>
<tr>
<td>Political Science</td>
<td>Religious Studies (300 level)</td>
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<tr>
<td>Science with Lab</td>
<td>Behavioral Science (SOA requirement)</td>
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<tr>
<td>Elective</td>
<td>Philosophy (PHIL 317, 318, or 320)</td>
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<tr>
<th>SENIOR YEAR Semester I</th>
<th>Semester II</th>
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<tbody>
<tr>
<td>ENG 481 Senior Project</td>
<td>ENG Upper Level</td>
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<tr>
<td>ENG Upper Level</td>
<td>Creative Writing Elective</td>
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<tr>
<td>Fine Arts (Art, Music, or Theatre)</td>
<td>Creative Writing Elective</td>
</tr>
<tr>
<td>Social Sciences GER</td>
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<tr>
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</tbody>
</table>

Total credits required for the degree 122.

NOTE: Elective hours must be outside the student’s major. Only 3 hours of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hours in English at CBU. G.P.A. requirements: 2.0 in major and overall.

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1 Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.

2 ENG 211/212 may be substituted for ENG 221/222 with permission of the Chair of Literature & Languages.

3 Of the 18 hours of English upper-level courses required, at least 15 must be literature courses.

4 Creative Writing Electives are chosen from the following courses: ENG 373 Advanced Composition, ENG 377 Intro to Dramatic Writing, ENG 378 Introduction to Literary Nonfiction, ENG 379 Introduction to Screenwriting, ENG 401 Writing Poetry Workshop, ENG 464 Writing Fiction Workshop, ENG 486 Castings Internship.

5 One course used to fulfill Liberal Arts Requirements must have ‘global perspective.’
## COURSE REQUIREMENTS FOR ENGLISH

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

### FRESHMAN YEAR Semester I

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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<tr>
<td>Orientation</td>
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<td>ENG 111 English Composition I</td>
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<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Math 105, 117, 129, or 131</td>
<td>3</td>
</tr>
<tr>
<td>Religious Studies (200 level)</td>
<td>3</td>
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<tr>
<td>Foreign Language^{1}</td>
<td>3</td>
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### Sophomore Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENG 221 Survey of British Literature^{1}</td>
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<tr>
<td>ENG upper level^{1}</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201 Intro to Logic</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy/Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language^{1}</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</table>

### Junior Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>Political Science</td>
<td>3</td>
</tr>
<tr>
<td>Science with Lab</td>
<td>4</td>
</tr>
<tr>
<td>Behavioral Science^{1}</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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</table>

### Senior Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 480</td>
<td>3</td>
</tr>
<tr>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 317, 318, or 320</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
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<td>Elective</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### Total credits required for the degree 122.

---

**NOTE:** Elective hours must be outside the student’s major. Only 3 hours of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hours in English at CBU. G.P.A. requirements: 2.0 in major and overall.

^{1} Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.

^{2} Eng 211/212 may be substituted for Eng 221/222 with permission of the Chair of Lit & Lang.

^{3} Of the 27 hours of English upper-level courses required, at least 9 hours must come from Group I (Eng 331, 339, 432, 440, 441, 442, 443, 444, 445, and 447) and at least 9 hours from Group II (Eng 332, 340, 341, 342, 343, 351, 352, 354, 361, 446, and 450).

^{4} One course from Humanities or Social Science clusters must have a “global perspective.”
## COURSE REQUIREMENTS FOR ENGLISH FOR CORPORATE COMMUNICATIONS
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>0</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
<td>ENG 215 Gateway</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105, 117, 129, or 131</td>
<td>3</td>
<td>Religious Studies (200 level)</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts elective</td>
<td>3</td>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language(^1)</td>
<td>3</td>
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<td>15</td>
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<tr>
<td>Total</td>
<td>15</td>
<td>Total</td>
<td>15</td>
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<table>
<thead>
<tr>
<th>SOPHOMORE YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 221 Survey of British Literature (^1)</td>
<td>3</td>
<td>ENG 222 Survey of British Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG upper level</td>
<td>3</td>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy (Moral Values)</td>
<td>3</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>ECON 214 Principles of Microeconomics</td>
<td>3</td>
<td>ECON 215 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
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<tr>
<td>Total</td>
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<td>Total</td>
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<table>
<thead>
<tr>
<th>JUNIOR YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 314 &amp; 314L Beginning Digital Imaging</td>
<td>3</td>
<td>ENG 375 Scientific and Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG 371 Business Writing</td>
<td>3</td>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>Political Science</td>
<td>3</td>
<td>Religious Studies (300 level)</td>
<td>3</td>
</tr>
<tr>
<td>Science with Lab</td>
<td>4</td>
<td>Behavioral Science(^1)</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy or Humanities</td>
<td>3</td>
<td>Fine Arts (Art, Music or Theatre)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>Total</td>
<td>15</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SENIOR YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 489 Internship</td>
<td>3</td>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>ENG upper level</td>
<td>3</td>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>STAT 221 Elementary Business Statistics</td>
<td>3</td>
<td>ENG upper level</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td>Business elective(^4)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

Total credits required for the degree 121.

**NOTE:** Elective hours must be outside the student’s major. Only 3 hours of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hours in English at CBU. G.P.A. requirements: 2.0 in major and overall.

---

\(^1\) Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.

\(^2\) Eng 211/212 may be substituted for Eng 221/222 with permission of the Chair of Lit & Lang.

\(^3\) One course from Humanities or Social Science clusters must have a “global perspective.”

\(^4\) The Business elective must be chosen from the following courses: Acct 260 and 260L, Blaw 301, Blaw 302, Econ 303, Econ 343, and Econ 344.
## COURSE REQUIREMENTS FOR A B.F.A. IN VISUAL ARTS

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111</td>
<td>3</td>
<td>ENG 112</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
<td>MATH (105, 117, 120, or 131)</td>
<td>3</td>
</tr>
<tr>
<td>ART 102 2-D Design</td>
<td>3</td>
<td>ART 201 CCVA</td>
<td>3</td>
</tr>
<tr>
<td>ART 111 Drawing I</td>
<td>3</td>
<td>ART 231 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>History/Social Science GER</td>
<td>3</td>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Orientation</td>
<td>0</td>
<td>Orientation</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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<table>
<thead>
<tr>
<th>SOPHOMORE YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language¹</td>
<td>3</td>
<td>Foreign Language¹</td>
<td>3</td>
</tr>
<tr>
<td>ART 314, ART 314L Digital Design</td>
<td>3</td>
<td>Art Concentration</td>
<td>3</td>
</tr>
<tr>
<td>POLS</td>
<td>3</td>
<td>Art 204 3D Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 211 World Art</td>
<td>3</td>
<td>ART 212 World Art II</td>
<td>3</td>
</tr>
<tr>
<td>ART 310 Intro to Printmaking</td>
<td>3</td>
<td>English Lit (211, 212, 221, or 222)</td>
<td>3</td>
</tr>
<tr>
<td>Math 121²</td>
<td>0</td>
<td>Math 121²</td>
<td>0</td>
</tr>
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<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</table>

<table>
<thead>
<tr>
<th>JUNIOR YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 310 Printmaking</td>
<td>3</td>
<td>NSCI &amp; Lab GER</td>
<td>4</td>
</tr>
<tr>
<td>Foreign Language¹</td>
<td>3</td>
<td>Foreign Language¹</td>
<td>3</td>
</tr>
<tr>
<td>ENG 376 (or upper level)</td>
<td>3</td>
<td>Art Concentration</td>
<td>3</td>
</tr>
<tr>
<td>Art History Elective</td>
<td>3</td>
<td>Art Concentration</td>
<td>3</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>3</td>
<td>Religious Studies</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</table>

<table>
<thead>
<tr>
<th>SENIOR YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy/Humanities Elective¹</td>
<td>3</td>
<td>ART 475 Senior Seminar (Art Therapy Concentrations) OR</td>
<td>3</td>
</tr>
<tr>
<td>History/Social Science GER</td>
<td>3</td>
<td>ART 476 Senior Seminar (Graphic Design Concentrations)</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Science</td>
<td>3</td>
<td>Art Concentration</td>
<td>3</td>
</tr>
<tr>
<td>Moral Values GER</td>
<td>3</td>
<td>Art Concentration</td>
<td>3</td>
</tr>
<tr>
<td>Art Concentration</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Total credits required for the degree 121.**

All Visual Arts majors will select one of the following concentrations which consist of 21 hours.

Foundations in Art Therapy must take the following courses in place of the Art Concentration courses; PSYC 105, 218, 219, 230, and 340, ART 210, and 6 hours of Art Electives.

Graphic Design must take the following courses in place of the Art Concentration courses; ART 315, 315L, 415, 415L, 416, 416L, 418, 418L, 419, 419L, 420, 420L, 232.

Studio Art concentrations can choose 21 hours from any art courses outside the major requirements.

One course must meet the “Global Perspectives” requirement. All Art History courses will meet this requirement. ART HISTORY 211, ART HISTORY 212 and one 3 hour ART HISTORY ELECTIVE satisfies one SOA History requirement.

---

¹ Foreign language must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 hours credit of course work, the remaining hours are free electives.

² BUS 205, HIST 498, MATH 201, 308, STAT 221, PHIL 201 and PSYC 354 also satisfy the Statistics GER. All are 3 credit hour courses.

³ PHIL 201 satisfies the Statistics GER.

⁴ At least one elective must be outside of Fine Arts Major.
## COURSE REQUIREMENTS FOR A B.A. IN HISTORY

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>ENG 112 English Comp II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105, 117, 129, or 131</td>
<td>3</td>
<td>Science (with lab)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 107 World Civilizations to 1500</td>
<td>3</td>
<td>HIST 108 World Civilizations since 1500</td>
<td>4</td>
</tr>
<tr>
<td>Foreign Language$^1$</td>
<td>3</td>
<td>HIST 152 American Society since 1877</td>
<td>3</td>
</tr>
<tr>
<td>HIST 151 American Society to 1877</td>
<td>3</td>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Orientation</td>
<td>0</td>
<td>Orientation</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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<table>
<thead>
<tr>
<th>SOPHOMORE YEAR Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Studies (200 level)</td>
<td>Philosophy (moral values)</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>ENG 211, 212, 221 or 222</td>
<td>Upper division American History</td>
</tr>
<tr>
<td>Upper division non-American History</td>
<td>Upper division non-American History</td>
</tr>
<tr>
<td>Free Elective (any non-history course)</td>
<td>POLS 112 American Government$^1$</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>JUNIOR YEAR Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free elective</td>
<td>Free elective$^1$</td>
</tr>
<tr>
<td>Religious Studies (300 level)</td>
<td>Upper division American History</td>
</tr>
<tr>
<td>Upper division non-American History</td>
<td>Upper division American History</td>
</tr>
<tr>
<td>Upper division American History</td>
<td>Political Science (200/300 level)</td>
</tr>
<tr>
<td>POLS 115 Nations and States or POLS 113 World Politics$^2$</td>
<td>Free elective</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>SENIOR YEAR Semester I</th>
<th>Semester II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division History (free)</td>
<td>HIST 498 or 499 Research Seminar</td>
</tr>
<tr>
<td>Philosophy or Humanities</td>
<td>Free elective</td>
</tr>
<tr>
<td>POLS (200/300 level)</td>
<td>Free elective</td>
</tr>
<tr>
<td>Free elective</td>
<td>Fine Arts (Art, Music, Theatre)</td>
</tr>
<tr>
<td>Fine Arts (Art, Music, Theatre)$^2$</td>
<td>Behavioral Science$^2$</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Total credits required for the degree 121.

---

1. Students must pass a foreign language course at the 202 level. If this requires less than 12 hours credit of course work, the remaining hours are free electives.
2. One course from Humanities or Social Science clusters must have a "global perspective." Students should be advised as to which course meets this requirement.
## COURSE REQUIREMENTS FOR PSYCHOLOGY

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>0</td>
</tr>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 105 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Math (105, 117, 129 or 131)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### SOPHOMORE YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Literature</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 218 Human Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 219 Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 354 Correlational Research</td>
<td>3</td>
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<td><strong>Total</strong></td>
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### JUNIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 225 Biological Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 353 Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Natural or Physical Science (w/ lab)</td>
<td>4</td>
</tr>
<tr>
<td>Elective Course</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### SENIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 460 Practicum</td>
<td>3</td>
</tr>
<tr>
<td>Elective Course</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy/Humanities</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Total credits required for the degree 121.**

One course from the Social Sciences or Humanities cluster must meet the "global perspective" requirement.

---

1. Psychology Majors must earn a grade of "C" or better in Psyc 105 and Psyc 354.
2. Foreign Language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
3. Maximum of 6 hours in Psyc to be taken as Behavioral Science electives.
4. A Biology Course with lab is recommended.
5. Elective Course hours cannot be in PSYC. One 3 hour elective course must be outside of Behavioral Sciences (i.e., cannot be in Psyc, SOC, ANTH or CJ).
**COURSE REQUIREMENTS FOR B.A. IN RELIGION & PHILOSOPHY (PHILOSOPHY CONCENTRATION)**

(The following curriculum is a sample only. Actual course schedules may vary. Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts¹, and major requirements).

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>0</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
<td>PHIL (Moral Values)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language®</td>
<td>3</td>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Math (105, 117, 129 or 131)</td>
<td>3</td>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Religious Studies 200 Level</td>
<td>3</td>
<td>Free Elective²</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective with Lab</td>
<td>4</td>
<td>Total</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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<tr>
<td>ENG 221 Survey of British Literature I</td>
<td>3</td>
<td>Literature Elective (Normally ENG 222)</td>
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<tr>
<td>Foreign Language</td>
<td>3</td>
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<td>Fine Arts Elective</td>
<td>3</td>
<td>History (American)</td>
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</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
<td>PHIL (Required or Elective)</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201 Logic³</td>
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<td>Religious Studies Elective</td>
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<th>Semester II</th>
<th>Credits</th>
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<tr>
<td>History (Non-American)</td>
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<td>3</td>
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<td>PHIL (Required or Elective)</td>
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<tbody>
<tr>
<td>PHIL 497 Senior Seminar</td>
<td>1</td>
<td>PHIL 498 Senior Project</td>
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<td>3</td>
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<td>PHIL (Required or Elective)</td>
<td>3</td>
<td>PHIL (Required or Elective)</td>
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<tr>
<td>Political Science Elective</td>
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<td>PHIL (Required or Elective)</td>
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Total credits required for the degree 121.

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¹ All majors in the School of Arts are required to take a humanities/social science course identified as containing a “global perspective.” Please consult with your advisor to determine which courses satisfy this requirement.

² Students must pass a foreign language course at the 202 level. If this requires fewer than 12 hours credit hours of course work, remaining hours are free electives.

³ 15 hours of free electives must be outside the department.

⁴ PHIL 201 satisfies the SOA “Humanities” requirement (HUM 150 or PHIL elective) and it satisfies the GER in statistics.

⁵ At least one RS course must be taken at the 300 level or higher.
## COURSE REQUIREMENTS FOR B.A. IN RELIGION & PHILOSOPHY (RELIGIOUS STUDIES CONCENTRATION)

(The following curriculum is a sample only. Actual course schedules may vary. Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts\(^1\), and major requirements).

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
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<td>Orientation</td>
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<tr>
<td>ENGL 111 English Composition I</td>
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<td>PHIL (Moral Values)</td>
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<td>Foreign Language(^1)</td>
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<tr>
<td>Math (105, 117, 129 or 131)</td>
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<tr>
<td>Religious Studies 200 Level</td>
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<td>Free Elective(^3)</td>
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<th>SOPHOMORE YEAR Semester I</th>
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<tr>
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<td>History (American)</td>
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<td>Social Science Elective</td>
<td>3</td>
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<tr>
<td>PHIL 201 Logic(^4)</td>
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<tr>
<td>Religious Studies (Required or Elective)</td>
<td>3</td>
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</thead>
<tbody>
<tr>
<td>RS 497 Senior Seminar</td>
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<td>RS 498 Senior Project</td>
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<tr>
<td>Religious Studies (Required or Elective)</td>
<td>3</td>
<td>History Elective</td>
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</tr>
</tbody>
</table>

**Total credits required for the degree 121.**

---

\(^1\) All majors in the School of Arts are required to take a humanities/social science course identified as containing a “global perspective.” Please consult with your advisor to determine which courses satisfy this requirement.

\(^2\) Students must pass a foreign language course at the 202 level. If this requires fewer than 12 hours credit hours of course work, remaining hours are free electives.

\(^3\) 15 hours of free electives must be outside the department.

\(^4\) PHIL 201 satisfies the SOA “Humanities” requirement (HUM 150 or PHIL elective) and it satisfies the GER in statistics.
MINORS WITHIN THE SCHOOL OF ARTS

MINOR IN AMERICAN STUDIES: A minor in American Studies consists of 18 hours including POLS 112, 6 hours required from ENG 331, 332, 341, 342, 361; 3 hours from RS 340, 341, or 320; and 6 hours from HIST 342, 343, 345, 346, 347, 348, 349, 351, 375, or 490-497 (special topics American History courses).

MINOR IN VISUAL ART: A minor in Art requires 21 hours of courses, which must include 3 hours in Art History and 3 hours in Drawing and ART 102. Twelve (12) hours will be chosen in consultation with the fine Arts Chair. At least 50% of courses must be taken at CBU.

MINOR IN BEHAVIORAL SCIENCE: A minor in Behavioral Science requires 18 credit hours including PSYC 105, SOC 101 and any four additional Psychology, Criminal Justice, Anthropology, or Sociology courses. This minor is not available to Psychology majors. A student may not minor in both Behavioral Science and Psychology, Criminal Justice, Sociology, or Engineering Psychology.

MINOR IN CREATIVE WRITING: A minor in Creative Writing consists of 18 hours of courses including ENG 215, ENG 376, and 12 hours selected from the following list: ENG 373, 377, 378, 379, 401, 402, 486, and English Special Topic courses approved by the Chair of the Department.

MINOR IN CRIMINAL JUSTICE: A minor in Criminal Justice requires 18 credit hours. Any six courses in Criminal Justice may be selected, with at least three courses at the 300 level or higher. A student may not minor in both Criminal Justice and Behavioral Science.

MINOR IN ENGINEERING PSYCHOLOGY: A minor in Engineering Psychology requires 30 credit hours including PSYC 105, 225, 301, 350, 440 and 15 hours of Engineering courses. A student may not minor in both Engineering Psychology and Behavioral Science.

MINOR IN ENGLISH: A minor in English consists of 18 hours of courses including ENG 221, ENG 222, and 12 hours of upper-level English courses.

MINOR IN FOREIGN LANGUAGE: A minor in Foreign Language requires 12 credit hours above the 202 level in one language. A student whose mother tongue is a foreign language may obtain a minor in his/her own language by earning 18 semester hours in courses above the 302 level. Completion of a minor in foreign languages may depend upon sufficient student demand.

MINOR IN GRAPHIC DESIGN: A minor in Graphic Design requires 21 hours of courses, which must include 3 hours in Art History and 3 hours in Drawing, Art 102. Twelve (12) hours will be in Graphic Design.

MINOR IN HISTORY: A minor in History consists of 18 credit hours including, six to nine hours from HIST 107, 108, 151, 152 and nine to twelve hours from any 300/400 level history courses (excluding HIST 401 and 402).

MINOR IN PEACE STUDIES: A minor in Peace Studies requires 18 credit hours. Please note the following requirements: (1) at least 6 of the 18 hours must be at the 300 level or above; (2) no more than 6 hours may be taken at the 100 level; (3) courses must be taken in at least two different disciplines; (4) no more than 12 of the 18 hours may be taken in any one department; (5) at least six hours must be taken in Religious Studies; and (6) these hours must be chosen from among the following courses: ANTH 160; GEOG 280, 340; GS 200; HIST 311, 336, 339, 340, 346, 377; PHIL 219; POLS 112, 113, 210, 320, 370; PSYC 353; RS 254, 270, 326, 330; SOC 101. (Note: the Religion & Philosophy Department has oversight of the Minor in Peace Studies).

MINOR IN PHILOSOPHY: A minor in Philosophy requires 18 credit hours, including at least three courses at the 300 level.

MINOR IN POLITICAL SCIENCE: A minor in Political Science consists of 18 hours distributed as follows: 9 hours in Political Science (POLS 112 and POLS 113 required); 3 hours required from either PHIL 219 or PHIL 220; 6 hours chosen from Political Science and/or the following: ECON 215, GS/HUM 200, PHIL 219, PHIL 220, RS 326, SPCH 125. A maximum of 3 hours POLS internship credit can apply to a minor. Students are encouraged to take at least one 300 level Political Science course.

MINOR IN PSYCHOLOGY: A minor in Psychology requires 18 credit hours. PSYC 105 is required and any five additional Psychology courses may be selected. This minor is not available to Applied Psychology majors.

MINOR IN RELIGIOUS STUDIES: A minor in Religious Studies requires 18 credit hours, including at least three courses at the 300 level or higher.

MINOR IN SOCIOLOGY: A minor in Sociology requires 18 credit hours. SOC 101 is required and any five additional Sociology or Anthropology courses may be selected. A student may not minor in both Sociology and Behavioral Science.

MINOR IN THEATRE ARTS: A minor in Theatre Arts requires eighteen (18) credit hours, including THEA 221, 475; 6 hours chosen from THEA 315 (same as ENG 315), 317; 3 hours of Theatre Production Workshop; and 3 hours of electives to be selected in consultation with the Visual & Performing Arts Department Chair.

PROFESSIONAL WRITING CERTIFICATE: To earn a Professional Writing Certificate, students must take any four of the following classes: ENG 371 Business Writing, ENG 373 Advanced Composition, ENG 375 Scientific and Technical Writing, ENG 376 Creative Writing, ART 314 with ART 314L, or ENG 389 Creative Nonfiction. At least three of these courses must be taken at CBU.
REQUIREMENTS FOR TEACHER LICENSURE
Christian Brothers University provides approved teacher licensure programs in the following areas: Early Childhood (Pre-K - 3), Cultural Studies (4-8), Special Education (K-12), Elementary Education in conjunction with a major in Liberal Studies (K-6); secondary licenses in Biology (7-12), Chemistry (7-12), English (7-12), History (7-12), Mathematics (7-12), and Physics (7-12) in conjunction with majors in the School of Arts and in the School of Sciences. Licensure in French or Spanish (Pre-K - 12 or 7-12) is also available as an accompanying second endorsement completed with any of the initial licensure programs. Please see the Director of Education in the Department of Education to learn about the degree and major requirements for your program.

An undergraduate student who wishes to receive Early Childhood (Pre-K - 3) or Special Education (K-12) teaching licensure in the State of Tennessee should take the following steps:

For admission to the Early Childhood (Pre-K - 3) or Special Education (K-12) teacher licensure program:
(For those NOT choosing licensure in combination with the 5th year pre-licensure program.)
1. Have a 2.5 grade point average or seek alternative admission.
2. Complete EDUC 211 or equivalent.
3. Pass all sections of the Pre-Professional Skills Test or present acceptable evidence of a minimum enhanced score of 22 on the ACT Test.
4. File an application for admission to the Teacher Education Program with the Director of the Undergraduate Education Program.
5. Submit a well-written philosophy of education essay and an autobiographical essay.
6. Successfully complete spontaneous writing samples and other communication assessments.
7. Submit background check application.
8. Verify liability insurance.
9. Complete a successful interview with the Undergraduate Teacher Education Admissions Committee.

Those interested in the 5th year Master’s track should contact the Director of Teacher Education for application to this program.

For remaining in the Early Childhood (Pre-K - 3) or Special Education (K-12) program and being recommended for teacher licensure:
1. Maintain a 2.5 grade point average overall in professional education courses, and in each endorsement area. Grades in all areas must be a “C” or better. GPA of 3.0 required if on 5th year Master’s track for licensure under Liberal Studies Pre-licensure program.
2. Pass an English proficiency test administered by the Department of Education as needed.
3. Complete, unconditional admission to the Undergraduate Education Program.
4. Successful completion and evaluation of early field experiences and other assessments.
5. Successful completion of required content knowledge and Principles of Learning and Teaching Praxis II tests when advised to do so by the Director of the Undergraduate Teacher Education Program.
6. Pass the appropriate Praxis II tests for the licensure sought and have the results sent to the Department of Education.
7. Present a portfolio of accumulated work in all professional education courses as assigned.
8. Before admission to enhanced student teaching, a student must:
   a. Complete any required departmental assessments or evaluations.
   b. Complete all required courses, unless approved by the Director of Education.
   c. Complete a background check.
   d. File an application for teacher licensure with the Department of Education.
   e. Have completed a background check.
   f. Have appropriate insurance coverage.

For being recommended for teacher licensure:
1. Complete all licensure requirements for the State of Tennessee
2. Complete all University requirements for a baccalaureate degree.
3. Complete enhanced student teaching.
4. Pass the remaining Praxis II tests for licensure sought and have the results sent to the Department of Education.
5. Present a portfolio of accumulated work in all professional education courses as assigned.
6. Complete any required departmental assessments or evaluations.
7. File an application for teacher licensure with the Director of Assessment and Records, who is also the state licensing officer for Christian Brothers University, in the Department of Education.

Transfer Students: Title II teacher education report card requirements rely on Praxis II test scores on undergraduate studies in general education, the major, and professional studies. Transfer students who seek initial teaching licensure through CBU and who wish to have courses in general education, the major, and/or professional education studies transferred in for credit will be asked to take appropriate Praxis II tests to verify and confirm the courses according to the following guidelines:
1. The student must complete all the requirements for entrance to the Teacher Education Program.
2. In order for the transfer student to be recommended by CBU’s Department of Education for an initial teaching license, a minimum of 12 credit hours of course work in professional education must be taken at CBU. In addition, the professional semester (enhanced student teaching plus seminar) must be completed at CBU.
3. All policies concerning admission to the Teacher Education Program, retention in Teacher Education, admission to enhanced student teaching, and recommendation for teacher license apply.

Pre - K-3 and Special Education: Undergraduate students seeking licensure for pre - K-3 and special education must also meet the requirements outlined for the B.A. in Early Childhood and Special Education.
Pre-K-3, Elementary, Middle School, Secondary Education, and Special Education: Undergraduate students seeking licensure at the M.A.T. level will complete a 5th year program by meeting the requirements for an academic major and degree as outlined on pages 48-63 and also completing the Master of Arts in Teaching (M.A.T.) degree as outlined on page 192. Students interested should obtain special advising materials about early admissions into the M.A.T. program during their senior undergraduate year. Early admission to the M.A.T. program consists of an application with sufficient test scores and other items as outlined on page 192.

Students should check with the Department of Education about the approval status of any program or licensure area of interest to them.

Post-baccalaureate licensure programs and graduate degree with licensure programs are also available at Christian Brothers University and are not described in detail in the catalog. More information for these programs is available in the Department of Education. If you already hold a bachelor’s degree, please see the Director of Graduate Education in the Department of Education to have your transcript evaluated and to develop an appropriate program of study.
### COURSE REQUIREMENTS FOR B.A. IN CULTURAL STUDIES

With teaching licensure 4-8 at the Master of Arts in Teaching level

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts elective (music, art, theater)</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Comp I</td>
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<td>Religious Studies elective (200 level)</td>
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<tr>
<td>MATH 105 Finite Math</td>
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<td>HIST 151 American History to 1877</td>
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<td>PSYC 105 Intro to Psych</td>
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<td>NSCI 115 Survey of Science</td>
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<td>NSCI 115 Lab</td>
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<td>Orientation</td>
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<tr>
<td>ENG 211 Literature</td>
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<td>Foreign Language II</td>
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<td>Religious Studies elective (300 level)</td>
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<td>ENG 212 Literature</td>
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<td>Foreign Language I</td>
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<td>PSYC 218 Human Development</td>
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<td>PHIL 201</td>
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<td>HIST 108 World Civilizations since 1500</td>
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<td>POLS 112 American Government</td>
<td>3</td>
<td>SPCH 125 Speech Communication</td>
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<td>HIST 107 World Civilizations to 1500</td>
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<tbody>
<tr>
<td>BIOL 107 Environmental Biology</td>
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<td>ENG 222 Survey of British Literature II</td>
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<tr>
<td>BIOL 107L Environmental Biology Lab</td>
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<td>SOC 351 Sociology of the Family</td>
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<td>Foreign Language III</td>
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<td>ENG 221 Survey of British Literature I</td>
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<td>GEOG 280 Geography Survey</td>
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<td>SOC 101 Intro to Sociology</td>
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<td>EDUC 211 Introduction to Education</td>
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<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 300/400 level elective</td>
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<td>HIST 300/400 level elective</td>
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<td>HIST 152 American History since 1877</td>
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<td>HIST 300/400 level elective</td>
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<td>EDUC 402 Practicum</td>
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<td>POLS Elective</td>
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<td>HIST 300/400 level elective</td>
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<td>ENG 300/400 level elective</td>
<td>3</td>
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<td>PSYC 315 Educational Psychology</td>
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<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</tr>
</tbody>
</table>

Total credits required for the degree 122.

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1 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
### COURSE REQUIREMENTS FOR EARLY CHILDHOOD EDUCATION

With teaching licensure Pre-K - 3 at the undergraduate level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

<table>
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<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHIL 201 Intro to Logic</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>HIST 151 American History to 1877</td>
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<td>PSYC 105 Intro to Psych</td>
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<td>HIST 108 World Civilizations since 1500</td>
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<td>POLS 112 American Government</td>
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<td>MATH 151 Numerical Concepts</td>
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<td>PE 201 Rhythmic Games</td>
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<tbody>
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<td>EDUC 303 Foundations I</td>
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<td>EDUC 407 Classroom Management</td>
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<td>EDUC 411 Science Methods K-6</td>
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Total credits required for the degree 121.

---

1 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.

2 Candidates MUST be admitted to TEP after EDUC 303 Foundations I PRIOR to taking ANY further EDUC courses.
COURSE REQUIREMENTS FOR B.A. IN ENGLISH

With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

### FRESHMAN YEAR Semester I

<table>
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<th>Credits</th>
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<tbody>
<tr>
<td>PHIL 201 Intro to Logic</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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<td>ENG 111 English Comp I</td>
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<td>MATH 105, 117, or 131</td>
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<td>HIST 107 World Civilizations</td>
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<td>PSYC 105 Intro to Psych</td>
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<td>NSCI 115 Lab</td>
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<th>Credits</th>
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<tr>
<td>ENG 221 Literature</td>
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<td>Foreign Language II</td>
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<td>Religious Studies elective (300 level)</td>
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<td>ENG 222 Literature</td>
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<td>Foreign Language I</td>
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<td>SOC 101 Introduction to Sociology</td>
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<tr>
<td>Arts elective (music, art, theater)</td>
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<td>HIST 152 American History since 1877</td>
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<td>HIST 151 American History to 1877</td>
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<td>SPCH 125 Speech Communication</td>
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<td>POLS 112</td>
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### SENIOR YEAR Semester I

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<td>HIST 108 World Civilizations since 1500</td>
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<td>Upper division ENG elective</td>
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<td>ENG 480 Senior Seminar</td>
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<td>Upper division ENG elective</td>
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<td>Upper division ENG elective</td>
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<td>EDUC 428 Adolescent Literature</td>
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<td>Upper division ENG elective</td>
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Total credits required for the degree 122.

---

1. Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
## COURSE REQUIREMENTS FOR B.A. IN ENGLISH WITH A MINOR IN FRENCH

With teaching licensure 7-12 at the Master of Arts in Teaching level

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

### FRESHMAN YEAR Semester I

<table>
<thead>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Comp I</td>
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<td>MATH 105 Finite Math</td>
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<td>HIST 107 World Civilizations to 1500</td>
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<td>PSYC 105 Intro to Psych</td>
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### SOPHOMORE YEAR Semester I

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<td>French I</td>
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<td>SOC 101 Introduction to Sociology</td>
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<td>Arts elective (music, art, theater)</td>
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<td>HIST 152 American History since 1877</td>
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<td>HIST 151 American History to 1877</td>
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<td>SPCH 125 Speech Communication</td>
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### JUNIOR YEAR Semester I

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<td>ENG 480 Senior Seminar</td>
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Total credits required for the degree 128-134.

Total credits required depends on whether students needs FREN 101 & 102. For a minor in French, 12 credits must be above 200 level.
COURSE REQUIREMENTS FOR B.A. IN ENGLISH WITH A MINOR IN HISTORY

With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

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<td>Religious Studies elective (300 level)</td>
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<td>Foreign Language I</td>
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Total credits required for the degree 128.

1 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
COURSE REQUIREMENTS FOR B.A. IN ENGLISH WITH A MINOR IN SPANISH

With teaching licensure 7-12 at the Master of Arts in Teaching level

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<tr>
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<tr>
<td>MATH 105 Finite Math</td>
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<td>HIST 107 World Civilizations to 1500</td>
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<td>PSYC 105 Intro to Psych</td>
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<td>PHIL elective</td>
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<td>NSCI 115 Lab</td>
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<tr>
<td>Orientation</td>
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<td>ENG 215 Gateway Course</td>
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<td>HIST 108 World Civilizations since 1500</td>
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<td>HIST 151 American History to 1877</td>
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<tr>
<th>SENIOR YEAR Semester I</th>
<th>Semester II</th>
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</thead>
<tbody>
<tr>
<td>Upper division ENG elective</td>
<td>3</td>
</tr>
<tr>
<td>HIST 108 World Civilizations since 1500</td>
<td>3</td>
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<td>HIST 107 World Civilizations since 1500</td>
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<tr>
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Total credits required for the degree 128-134.

Total credits required depends on whether students needs SPAN 101 & 102. For a minor in Spanish, 12 credits must be above 200 level.
### COURSE REQUIREMENTS FOR B.A. IN HISTORY
With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

#### FRESHMAN YEAR Semester I
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<th>Course</th>
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<tbody>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>Religious Studies elective (200 level)</td>
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</tr>
<tr>
<td>PSYC 105 Intro to Psych</td>
<td>3</td>
<td>HIST 151 American History to 1877</td>
<td>3</td>
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<tr>
<td>PHIL 201</td>
<td>3</td>
<td>Science elective &amp; Lab</td>
<td>4</td>
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<tr>
<td>PHIL elective</td>
<td>3</td>
<td>HUM or PHIL elective</td>
<td>3</td>
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<td>Orientation</td>
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#### SOPHOMORE YEAR Semester I
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<td>Foreign Language I</td>
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<td>Religious Studies elective (300 level)</td>
<td>3</td>
<td>ENG 300/400 Level Literature elective</td>
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<tr>
<td>Foreign Language I</td>
<td>3</td>
<td>PSYC 315 Educational Psychology</td>
<td>3</td>
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<tr>
<td>POLS 112 American Government</td>
<td>3</td>
<td>HIST 108 World Civilizations since 1500</td>
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<tr>
<td>HIST 107 World Civilizations to 1500</td>
<td>3</td>
<td>SPCH 125 Speech Communication</td>
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#### JUNIOR YEAR Semester I
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<td>POLS 200/300 level</td>
<td>3</td>
<td>GEOG 280 Geography Survey</td>
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<td>ENG 300/400 Level Literature elective</td>
<td>3</td>
<td>Upper division U.S. History</td>
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<tr>
<td>HIST 152 American History since 1877</td>
<td>3</td>
<td>POLS 115 or 113</td>
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#### SENIOR YEAR Semester I
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<tr>
<td>EDUC 402 Practicum</td>
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<td>Upper division Non-U.S. History</td>
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<tr>
<td>Upper division U.S. History</td>
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<td>Upper division U.S. History</td>
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<td>Upper division History (free)</td>
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<tr>
<td>Upper division Non-U.S. History</td>
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<td>Upper Division History (free)</td>
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<tr>
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<td>HIST 498 or 499 Research Seminar</td>
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</table>

Total credits required for the degree 121.

---

1 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
### COURSE REQUIREMENTS FOR B.A. IN LIBERAL STUDIES

With teaching licensure K-6 at the Master of Arts in Teaching level  
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

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<td>Arts elective (music, art, theater)</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies elective (200 level)</td>
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<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>HIST 151 American History to 1877</td>
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<td>PSYC 105 Intro to Psych</td>
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<td>NSCI 115 Survey of Science</td>
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<tbody>
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<tr>
<td>Religious Studies elective (300 level)</td>
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</tr>
<tr>
<td>Foreign Language I</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201</td>
<td>3</td>
</tr>
<tr>
<td>POLS 112 American Government</td>
<td>3</td>
</tr>
<tr>
<td>HIST 107 World Civilizations to 1500</td>
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<tbody>
<tr>
<td>Foreign Language III</td>
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<tr>
<td>PSYC 353 Social Psychology</td>
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<tr>
<td>Hist/Lit/Language elective</td>
<td>3</td>
</tr>
<tr>
<td>HIST 152 American History since 1877</td>
<td>3</td>
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<tr>
<th>SENIOR YEAR Semester I</th>
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<tbody>
<tr>
<td>BIO 109 Human Biology</td>
<td>3</td>
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<td>BIO 109 Lab</td>
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<td>EDUC 402 Practicum</td>
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<tr>
<td>ENG 300/400 level elective</td>
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<tr>
<td>MATH 151 Numerical Concepts</td>
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Total credits required for the degree 123.

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1 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
COURSE REQUIREMENTS FOR B.A. IN MATHEMATICS
With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements).

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<thead>
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<th>Semester II</th>
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<tbody>
<tr>
<td>Elective¹</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Math 132 Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
<td>HIST Elective</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 105 Intro to Psych</td>
<td>3</td>
<td>Natural/Physical Science(Phys150/150L; Or</td>
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</tr>
<tr>
<td>PHIL elective</td>
<td>3</td>
<td>Bio111/111L; or Chem113/113L</td>
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</tr>
<tr>
<td>Orientation</td>
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<td>HUM or PHIL elective</td>
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<tr>
<td>Total</td>
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<table>
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<th>SOPHOMORE YEAR Semester I</th>
<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 211 Literature</td>
<td>3</td>
<td>Foreign Language II¹</td>
</tr>
<tr>
<td>Religious Studies elective (200 level)</td>
<td>3</td>
<td>ENG 212 Literature</td>
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<tr>
<td>Foreign Language I</td>
<td>3</td>
<td>MATH 141 Discrete Math</td>
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<tr>
<td>PSYC 315 Educational Psychology</td>
<td>3</td>
<td>MATH 232 Calculus III</td>
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<td>MATH 231 Differential Equations</td>
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<td>SPCH 125 Speech Communication</td>
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<table>
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<tr>
<th>JUNIOR YEAR Semester I</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>Foreign Language III³</td>
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<td>Foreign Language IV³</td>
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<tr>
<td>MATH 401 Linear Algebra</td>
<td>3</td>
<td>MATH 308 Statistics</td>
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<tr>
<td>ECE 101 Intro to Engineering Problem Solving</td>
<td>3</td>
<td>MATH 402 Abstract Algebra</td>
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<tr>
<td>MATH 301 Geometry &amp; History of Math</td>
<td>3</td>
<td>MATH elective (309,329,405, Or 470-479)</td>
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<tr>
<td>CHEM114/114L; BIOL112/112L; or PHYS251/251L</td>
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<td>EDUC 211 Introduction to Education</td>
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<th>SENIOR YEAR Semester I</th>
<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Religious Studies elective (300 level),</td>
<td>3</td>
<td>MATH 414 Real Analysis</td>
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<tr>
<td>MATH 413 Complex Analysis</td>
<td>3</td>
<td>MATH 482 Senior Seminar II</td>
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<td>MATH 481 Senior Seminar I</td>
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<tr>
<td>EDUC 402 Practicum</td>
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<tr>
<td>History Elective</td>
<td>3</td>
<td>Free Art elective</td>
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<td>Total</td>
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<td>Total</td>
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</table>

Total credits required for the degree 122.

¹ Elective must not be in Education.
² Those choosing BIOL 111 and BIOL 111L must take CHEM 101 or higher unless it was previously taken.
³ Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
### COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH TEACHING LICENSURE IN BIOLOGY

With teaching licensure 7-12 at the Master of Arts in Teaching level

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Elective</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies elective (200 level).</td>
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<tr>
<td>MATH 117 or 131</td>
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<td>HIST elective.</td>
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</tr>
<tr>
<td>PSYC 105 Intro to Psych</td>
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<td>PHIL elective.</td>
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</tr>
<tr>
<td>PHIL elective</td>
<td>3</td>
<td>Orientation</td>
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<tr>
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<th>Semester II</th>
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</thead>
<tbody>
<tr>
<td>ENG 211 Literature</td>
<td>3</td>
<td>BIO 112 &amp; 112L Principles of Biology II</td>
<td>4</td>
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<tr>
<td>Religious Studies elective (300 level)</td>
<td>3</td>
<td>MATH 106 or 131</td>
<td>3</td>
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<tr>
<td>BIO 107 &amp; 107L Environmental Biology</td>
<td>4</td>
<td>GEOG 280 Geography Survey</td>
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<tr>
<td>PSYC 315 Educational Psychology</td>
<td>3</td>
<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 111 &amp; 111L Principles of Biology I</td>
<td>4</td>
<td>SPCH 125 Speech Communication</td>
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<th>Semester II</th>
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<tbody>
<tr>
<td>BIO 217 &amp; 217L Human Anatomy and Physiology I</td>
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<td>BIO 218 &amp; 218L Human Anatomy and Physiology II</td>
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<tr>
<td>PHYS 201 &amp; 201L Physics I</td>
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<td>PHYS 202 &amp; 202L Physics II</td>
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</tr>
<tr>
<td>Science elective</td>
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<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
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</tr>
<tr>
<td>Free elective</td>
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<td>EDUC 211 Introduction to Education</td>
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<td>Science elective 200 or above</td>
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<tbody>
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<td>EDUC 402 Practicum</td>
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<td>BIO elective 300 or above</td>
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<td>NSCI 410 Senior Thesis I</td>
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Total credits required for the degree 122.

---

1 Elective must not be in Education.
### COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH TEACHING LICENSURE IN BIOLOGY AND CHEMISTRY

With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
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<th>Semester II</th>
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<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies elective (200 level)</td>
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<tr>
<td>MATH 117 Precalculus</td>
<td>3</td>
<td>HIST or POLS Elective</td>
<td>3</td>
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<tr>
<td>PSYC 105 Intro to Psych</td>
<td>3</td>
<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
<td>4</td>
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<td>PHIL elective</td>
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</thead>
<tbody>
<tr>
<td>ENG 211 Literature</td>
<td>3</td>
<td>BIO 112 &amp; 112L Principles of Biology II</td>
<td>4</td>
</tr>
<tr>
<td>Religious Studies elective (300 level)</td>
<td>3</td>
<td>MATH 105, 117, 129 or 131</td>
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<tr>
<td>BIO 107 &amp; 107L Environmental Biology</td>
<td>4</td>
<td>GEOG 280 Geography Survey</td>
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<tr>
<td>PSYC 315 Educational Psychology</td>
<td>3</td>
<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BIO 111 &amp; 111L Principles of Biology I</td>
<td>4</td>
<td>SPCH 125 Speech Communication</td>
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<td>Total</td>
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<thead>
<tr>
<th>JUNIOR YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 217 &amp; 217L Human Anatomy and Physiology I</td>
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<td>BIO 218 &amp; 218L Human Anatomy and Physiology II</td>
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<tr>
<td>PHYS 201 &amp; 201L Physics I</td>
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<td>PHYS 202 &amp; 202L Physics II</td>
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<tr>
<td>EDUC 211 Introduction to Education</td>
<td>3</td>
<td>CHEM 212 &amp; 212L Organic Chemistry II</td>
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<tr>
<td>CHEM 211 &amp; 211L Organic Chemistry I</td>
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<th>Semester II</th>
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<tbody>
<tr>
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<td>CHEM 214 &amp; 214L Quantitative Analysis</td>
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<td>Free elective</td>
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<tr>
<td>NSCI 410 Senior Thesis I</td>
<td>1</td>
<td>BIO elective 300 or above</td>
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<tr>
<td>Free Elective</td>
<td>1</td>
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Total credits required for the degree 122.

---

1 Elective must not be in Education.
COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH TEACHING LICENSURE IN CHEMISTRY

With teaching licensure 7-12 at the Master of Arts in Teaching level (Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies elective (200 level)</td>
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<tr>
<td>MATH 117 Precalculus</td>
<td>3</td>
<td>HIST or POLS elective</td>
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<tr>
<td>PSYC 105 Intro to Psychology</td>
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<td>PHIL elective</td>
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<td>Free elective</td>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 211 Literature</td>
<td>3</td>
<td>BIO 112 &amp; 112L Principles of Biology II</td>
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</tr>
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<td>MATH 105, 117, 129 or 131</td>
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<tr>
<td>BIO 107 &amp; 107L Environmental Biology</td>
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<td>GEOG 280 Geography Survey</td>
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<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
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<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
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<td>BIO 111 &amp; 111L Principles of Biology I</td>
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<th>Credits</th>
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<td>CHEM 211 &amp; 211L Organic Chemistry I</td>
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<td>PSYC 315 Educational Psychology</td>
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<th>Credits</th>
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<tbody>
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<td>NSCI 410 Senior Thesis I</td>
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Total credits required for the degree 122.

1 Elective must not be in Education.
COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH TEACHING LICENSURE IN PHYSICS

With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
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<tr>
<th>FRESHMAN YEAR Semester I</th>
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<th>Semester II</th>
<th>Credits</th>
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<td>Elective¹</td>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Comp I</td>
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<td>Religious Studies elective (200 level)</td>
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<td>MATH 131 Calculus I</td>
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<td>HIST or POLS elective</td>
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<tr>
<td>PSYC 105 Intro to Psychology</td>
<td>3</td>
<td>BIO 109 &amp; 109L Human Biology</td>
<td>4</td>
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<tr>
<td>PHIL elective</td>
<td>3</td>
<td>HUM elective</td>
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<tr>
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| Total                      | 15      | Total                                           | 16      |

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<tr>
<th>SOPHOMORE YEAR Semester I</th>
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<tr>
<td>ENG 211 Literature</td>
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<td>Religious Studies elective (300 level)</td>
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<tr>
<td>BIO 107 &amp; 107L Environmental Biology</td>
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<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
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<td>NSCI 111 &amp; 111L Intro to Astronomy</td>
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<td>PHYS 251 &amp; 251L Physics II</td>
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<td>MATH 132 Calculus II</td>
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<tr>
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<tbody>
<tr>
<td>MATH 232 Calculus III</td>
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<td>Free elective</td>
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<tr>
<td>EDUC 402 Practicum</td>
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<tr>
<td>NSCI 410 Senior Thesis I</td>
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Total credits required for the degree 122.

¹ Elective must not be in Education.
COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH TEACHING LICENSURE IN PHYSICS AND MATHEMATICS
With teaching licensure 7-12 at the Master of Arts in Teaching level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

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<th>Credits</th>
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<tr>
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<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
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<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies elective (200 level)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
<td>HIST or POLS Elective</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 105 Intro to Psychology</td>
<td>3</td>
<td>BIO 109 &amp; 109L Human Biology</td>
<td>4</td>
</tr>
<tr>
<td>PHIL elective</td>
<td>3</td>
<td>MATH 132 Calculus II</td>
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<td>Orientation</td>
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<td><strong>Total</strong></td>
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<thead>
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<th>Sophomore Year Semester I</th>
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<tbody>
<tr>
<td>ENG 211 Literature</td>
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<td>Religious Studies elective (300 level)</td>
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<tr>
<td>Religious Studies elective (300 level)</td>
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<td>MATH 231 Differential Equations</td>
<td>3</td>
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<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
<td>4</td>
<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
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<tr>
<td>NSCI 111 &amp; 111L Intro to Astronomy</td>
<td>4</td>
<td>MATH 232 Calculus III</td>
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<th>Junior Year Semester I</th>
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<tbody>
<tr>
<td>MATH 141 or 405</td>
<td>3</td>
<td>MATH 308 Statistics</td>
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<tr>
<td>PHYS 251 &amp; 251L Physics II</td>
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<td>PHYS 252 &amp; 252L Physics III</td>
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<td>MATH 301 Geometry &amp; History of Math</td>
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<td>PHYS elective 300 or above</td>
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<tr>
<td>PHYS elective 300 or above</td>
<td>3</td>
<td>EDUC 211 Introduction to Education</td>
<td>3</td>
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<tr>
<td>PSYC 315 Educational Psychology</td>
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<th>Senior Year Semester I</th>
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<tbody>
<tr>
<td>MATH 401 Linear Algebra</td>
<td>3</td>
<td>SPCH 125 Speech Communication</td>
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<td>Free elective</td>
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<td>Free elective</td>
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<td>Free elective</td>
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<tr>
<td>EDUC 402 Practicum</td>
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<td>NSCI 411 Senior Thesis II</td>
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<tr>
<td>NSCI 410 Senior Thesis I</td>
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<td>HUM elective</td>
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<td><strong>Total</strong></td>
<td>13</td>
<td><strong>Total</strong></td>
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Total credits required for the degree 122.

*1 Elective must not be in Education.*
COURSE REQUIREMENTS FOR B.A. IN SPECIAL EDUCATION MODIFIED K-12

With K-12 modified licensure at the undergraduate level
(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
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<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Arts elective (music, art, theater)</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
<td>Religious Studies (200 Level)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>HIST 151 American History</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 105 Introduction to Psychology</td>
<td>3</td>
<td>NSCI 115 Survey of Science</td>
<td>3</td>
</tr>
<tr>
<td>PHIL elective</td>
<td>3</td>
<td>NSCI 115 Lab</td>
<td>1</td>
</tr>
<tr>
<td>SOC 101 Introduction to Sociology</td>
<td>3</td>
<td>HUM or PHIL elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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</table>

| SOPHOMORE YEAR Semester I | | Semester II | |
|---------------------------| |-----------------------------| |
| Religious Studies (300 level) | 3 | Foreign Language II | 3 |
| Foreign Language I | 3 | ENG 212 Literature | 3 |
| STATS 221, MATH 201 or 308, PHIL 201 or PSYC 354 | 3 | SDC 351 Sociology of the Family | 3 |
| POLS 112 American Government | 3 | HIST 108 World Civilization II | 3 |
| HIST 107 World Civilization I | 3 | SPCH 125 Speech Communication | 3 |
| **Total** | **18** | **Total** | **18** |

| JUNIOR YEAR Semester I | | Semester II | |
|------------------------| |-----------------------------| |
| Foreign Language III | 3 |Foreign Language IV | 3 |
| EDUC 350 Portfolio & Practicum I | 1 | EXCE 451 Family Consultation | 3 |
| EDUC 303 Prof Foundations I | 3 | EDUC 304 Prof Foundations II | 3 |
| EDUC 331 Survey of Exceptional Learners | 3 | PSYC 218 Human Development | 3 |
| MATH 151 Numerical Concepts | 3 | PSYC 353 Social Psychology | 3 |
| Fine Arts elective (music, art, theater) | 3 | EDUC 420 Portfolio & Practicum II | 1 |
| PE 201 Rhythmic Games & Activities | 1 | **Total** | **16** |
| **Total** | **17** | **Total** | **16** |

| SENIOR YEAR Semester I | | Semester II | |
|------------------------| |-----------------------------| |
| EXCE 434 Special Instruction II | 3 | EDUC 473 Teaching Practicum III | 4 |
| EXCE 440 Special Ed Assessment | 3 | EDUC 474 Prof Seminar & Portfolio III | 1 |
| EXCE 433 Special Instruction I | 3 | **Total** | **5** |
| EXCE 431 Inclusion & Gen Ed Setting | 3 | |
| EDUC 307 Classroom Management/Methods | 3 | |
| **Total** | **15** | | |

Total credits required for the degree 123.

---

1. Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
2. Candidates MUST be admitted to TEP after EDUC 303 Foundations I PRIOR to taking ANY further EDUC Courses.
## COURSE REQUIREMENTS FOR B.F.A. IN VISUAL ARTS

With teaching licensure K-12 Visual Arts at the Master of Arts in Teaching level

(Students are to work closely with their faculty advisors to ensure satisfaction of all General Education, School of Arts, and major requirements)

<table>
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<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Elective</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Comp I</td>
<td>3</td>
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<td>3</td>
</tr>
<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>HIST 107 World Civilizations</td>
<td>3</td>
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<tr>
<td>PSYC 105 Intro to Psych</td>
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<td>NSCI 115 Survey of Science</td>
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<tr>
<td>Art 111 Drawing I</td>
<td>3</td>
<td>NSCI 115 Lab</td>
<td>1</td>
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<tr>
<td>Orientation</td>
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<td>Art 102 2D Design</td>
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<tr>
<td>ENG 211 Literature</td>
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<td>Religious Studies elective (300 level)</td>
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</tr>
<tr>
<td>Foreign Language I</td>
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</tr>
<tr>
<td>PHIL Elective</td>
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<tr>
<td>Art History elective</td>
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<tbody>
<tr>
<td>Foreign Language III</td>
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<td>ART 233 Figure Drawing</td>
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</tr>
<tr>
<td>POLS 112 American Government</td>
<td>3</td>
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<td>PHIL or HUM Elective</td>
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<th>Semester II</th>
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<tbody>
<tr>
<td>ART 212 World Art History II</td>
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<td>ART History Elective</td>
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<td>HIST 108 World Civilizations</td>
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<td>Free Art elective</td>
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Total credits required for the degree 121.

---

1 Elective must not be in Education.

2 Foreign language courses must be in the same language. Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, the remaining hours are free electives.
SCHOOL OF BUSINESS

Accounting, Business Law, Finance, Management Information Systems, and Statistics
Management, Marketing, & Economics

ADMINISTRATION

DR. JOHN HARGETT, Dean

DR. SARAH PITTS, Chair, Accounting, Business Law, Finance, Management Information Systems, Statistics

DR. KRISTIN PRIEN, Chair, Management, Marketing, & Economics

DR. M. SCOTT LAWYER, Director of Master of Business Administration Program

FACULTY

ACCOUNTING, BUSINESS LAW, FINANCE, MANAGEMENT INFORMATION SYSTEMS, STATISTICS

DANIEL M. BRANDON, JR., Professor
B.S., Case Western Reserve University; M.S., Ph.D., University of Connecticut; PMP

BJOERN CLAASSEN, Associate Professor
B.B.A., University of Georgia; M.B.A. in Finance, Kennesaw State University; Ph.D., University of Mississippi

RONALD H. EATON, Associate Professor
B.B.A., M.B.A., Memphis State University; Ph.D., University of Arkansas, C.P.A.

JUDY RAMAGE LAWRENCE, Professor
B.B.A., Memphis State University; M.S., University of Arkansas;
D.B.A., Nova Southeastern University; C.P.A.

M. SCOTT LAWYER, Associate Professor
B.P.A., J.D., The University of Mississippi

ANDREW J. MORGRET, Assistant Professor
B.S.Ed., M.Ed., M.B.A., Memphis State University, C.P.A.

JAMES PARKER, Professor
B.B.A., M.A., J.D., Memphis State University; M.L.T., Emory University

SARAH T. PITTS, Professor
B.S., Lenoir Rhyne College; M.B.A., J.D., University of Houston

LAWRENCE J. SCHMITT, Professor
B.B.A., M.B.A., Ph.D., University of Memphis; MSCE

JEFFREY A. SCHULTZ, Professor
B.S., M.S., University of Illinois; M.S., Ph.D., Case Institute of Technology

JENNIFER WESKE, Visiting Assistant Professor
B.B.A., Stephen F. Austin State University; M.B.A., The University of Memphis

MANAGEMENT, MARKETING, & ECONOMICS

JAMES ALLEN, Assistant Professor
B.S., University of Florida; M.S., Florida State University; Ph.D., University of Southern Mississippi

ROBERT L. BRITTINGHAM, Professor
B.A., St. Mary’s College; M.S. in C., Ph.D., St. Louis University

JENNY COWELL, Instructor
B.A., University of Tennessee; M.B.A., Union University

R. CAYCE LAWRENCE, Associate Professor
B.A., St. Meinrad College; M.B.A., Memphis State University; Ph.D., University of Arkansas

PATRICIA T. PAPACHRIStOU, Professor
B.A., Trinity College; M.A., Duke University; M.A., M.B.A., Memphis State University

REGINALD PEYTON, Professor
B.S., Christian Brothers College; D.B.A., Memphis State University

KRISTIN O. PRIEN, Professor
A.B., Mount Holyoke College; M.B.A., Ph.D., University of Memphis
JAMES T. RHODES, Associate Professor  
B.S., Morningside College; M.B.A., Memphis State University; C.P.I.M.

BEVALEE B. VITALI, Associate Professor  
B.B.A., M.B.A., University of Central Arkansas; Ph.D., University of Memphis, C.F.A.

FATHER PAUL WATKINS, O.P., Visiting Assistant Professor  
B.A., Tulane University; M.A., Graduate Theological Union;  
M. Div., Dominican School of Philosophy and Theology; M.B.A., University of Virginia

PART-TIME FACULTY

ANNE H. KENWORTHY, Adjunct Assistant Professor  
B.S., M.S., Ed.D., The University of Memphis; M.B.A., Christian Brothers University

KELLI E. HEFNER, Adjunct Assistant Professor  
B.A., M.A., Ph.D., Louisiana State University

PROFESSORS EMERITI

HOWARD J. LAWRENCE, Accounting  
B.S., Christian Brothers College; M.B.A., Memphis State University; Ph.D.,  
The University of Mississippi; C.P.A.; C.M.A.

FRANK M. MARION, Marketing  
B.S.Ch.E., South Dakota School of Mines & Technology;  
M.B.A., Baldwin Wallace College; D.B.A., Memphis State University; PMP

DEAN EMERITUS

RAY S. HOUSE  
B.S., Union University; M.B.A., Ph.D., University of Mississippi

MISSION

The School of Business at Christian Brothers University enacts the Lasallian mission of the University by providing our highly diverse student populations and the local business community with a learning environment that emphasizes teaching, practical scholarship, and the moral, intellectual, and social development of each individual.

DEGREE REQUIREMENTS

The School of Business offers two degrees designed to prepare graduates for leadership in the business world. The Bachelor of Science degree, with majors in Accounting and Business Administration, allows students to focus their academic experience on specific career paths in the traditional areas of Accounting, Finance, Management, Management Information Systems, and Marketing as well as specialized areas such as International Business, Sports Management, and Human Resources Management.

All degree programs in the School of Business require students to complete 121-122 semester credit hours, maintain a 2.0 GPA overall and a 2.0 in their Business courses. Transfer students must take at least one-half of all upper division business courses (300-400 level) at Christian Brothers University.

The School of Business has partnered with the School of Engineering to offer the Bachelor of Science in Engineering Management. Students earning this degree must complete 122 hours. See pages 83 and 84.
## COURSE REQUIREMENTS FOR B.S. IN ACCOUNTING

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MIS 153 Intro to Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
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<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 125 Speech Communications</td>
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</tr>
<tr>
<td>Social Science/History Elective</td>
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</tr>
<tr>
<td>Orientation</td>
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### FRESHMAN YEAR Semester II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 112 English Composition II</td>
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<tr>
<td>Social Science/History Elective</td>
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<tr>
<td>MATH 106 Applied Math</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science Elective/Lab</td>
<td>4</td>
</tr>
<tr>
<td>Religious Studies Elective</td>
<td>3</td>
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### SOPHOMORE YEAR Semester I

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<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
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<tr>
<td>ACCT 260L Financial Accounting Lab</td>
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<tr>
<td>ECON 214 Microeconomics</td>
<td>3</td>
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<tr>
<td>ENG 211 Intro to Literature I</td>
<td>3</td>
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<td>STAT 221L Elementary Statistics Lab</td>
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<tr>
<td>Elective</td>
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### SOPHOMORE YEAR Semester II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCT 264 Intermediate Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 215 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 222 Intermediate Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 222L Intermediate Statistics Lab</td>
<td>0</td>
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<tr>
<td>ACCT 270 Managerial Accounting</td>
<td>3</td>
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<tr>
<td>ACCT 270L Managerial Accounting Lab</td>
<td>0</td>
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<tr>
<td>ENG 371 Business Writing</td>
<td>3</td>
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<td>PHIL General Education Requirements</td>
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<td>(Contemporary Moral Issues recommended)</td>
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### JUNIOR YEAR Semester I

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<th>Course</th>
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<tbody>
<tr>
<td>ACCT 364 Intermediate Financial Accounting II</td>
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<tr>
<td>ACCT 319 Cost Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BLAW 301 Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>FIN 327 Financial Management I</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 311 Principles of Marketing</td>
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### JUNIOR YEAR Semester II

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ACCT 364 Intermediate Financial Accounting III</td>
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<tr>
<td>ACCT 312 Accounting Systems</td>
<td>3</td>
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<tr>
<td>BLAW 302 Business Law II</td>
<td>3</td>
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<td>FIN 427 Financial Management II</td>
<td>3</td>
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<tr>
<td>MGMT 352 Organizational Behavior and Management</td>
<td>3</td>
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### SENIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ACCT 412 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 430 Federal Income Tax I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 465 Advanced Accounting</td>
<td>3</td>
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<td>Religious Studies Elective</td>
<td>3</td>
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<tr>
<td>ACCT 490 Professional Acct. Ethics</td>
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### SENIOR YEAR Semester II

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>ACCT 431 Federal Income Tax II</td>
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<tr>
<td>ACCT 475 Governmental Accounting</td>
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<td>ACCT 480 Financial Statement Analysis</td>
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<tr>
<td>ACCT 499 Accounting Comprehensives</td>
<td>0</td>
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<tr>
<td>MGMT 498 Business Policy</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

Total credits required for the degree 121.

All Accounting classes except for ACCT 260 and 270 are offered only one time per academic year.

A grade of “C” or better in ACCT 260 – Financial Accounting – is required to proceed to ACCT 264 or 270 or any other upper level accounting class.

A grade of “C” or better in ACCT 264 – Intermediate Financial Accounting I – is required to proceed to any 300 level Accounting class.

A grade of “C” or better in ACCT 364 – Intermediate Financial Accounting II – is required to proceed to ACCT 312 or any 400 level Accounting class.
## COURSE REQUIREMENTS FOR B.S. IN BUSINESS ADMINISTRATION

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MIS 153 Intro to Computer Business Applications</td>
<td>3</td>
</tr>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 125 Speech Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 103 Fundamentals of Business</td>
<td>3</td>
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<tr>
<td>Orientation</td>
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### Semester II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>Social Science/History Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 106 Applied Math</td>
<td>3</td>
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<tr>
<td>Social Science/History Elective</td>
<td>3</td>
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<tr>
<td>Religious Studies Elective</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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### SOPHOMORE YEAR Semester I

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
<td>3</td>
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<tr>
<td>ACCT 260L Financial Accounting Lab</td>
<td>0</td>
</tr>
<tr>
<td>ECON 214 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENG 211 Intro to Literature I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 221 Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 221L Elementary Statistics Lab</td>
<td>0</td>
</tr>
<tr>
<td>MIS 231 Intro to MIS</td>
<td>3</td>
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### Semester II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Natural Science Elective &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>ECON 215 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 222 Intermediate Statistics</td>
<td>3</td>
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<tr>
<td>STAT 222L Intermediate Statistics Lab</td>
<td>0</td>
</tr>
<tr>
<td>ACCT 270 Managerial Accounting</td>
<td>3</td>
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<tr>
<td>ACCT 270L Managerial Accounting Lab</td>
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<tr>
<td>PHIL General Education Requirements</td>
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<td>(Contemporary Moral Issues recommended)</td>
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<td><strong>Total</strong></td>
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### JUNIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MGMT 352 Organizational Behavior and Management</td>
<td>3</td>
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<tr>
<td>Free Elective</td>
<td>3</td>
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<tr>
<td>BLAW 301 Business Law I</td>
<td>3</td>
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<tr>
<td>FIN 327 Financial Management I</td>
<td>3</td>
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<tr>
<td>MKTG 311 Principles of Marketing</td>
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### Semester II

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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MGMT 320 International Business</td>
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<td>Free Elective</td>
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<tr>
<td>BLAW 302 Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>Religious Studies Elective</td>
<td>3</td>
</tr>
<tr>
<td>Concentration Elective</td>
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<td><strong>Total</strong></td>
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### SENIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MGMT 430 Ethical Decision Making in Business</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 418 Global Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>ENG 371 Business Writing</td>
<td>3</td>
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<tr>
<td>Concentration Elective</td>
<td>3</td>
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<tr>
<td>Concentration Elective</td>
<td>3</td>
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### Semester II

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>Free Elective</td>
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<tr>
<td>ECON 420 or FIN 427</td>
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<td>MGMT 498 Business Policy</td>
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<td>Concentration Elective</td>
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<td>Concentration Elective</td>
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<tr>
<td>BUS 499 Business Administration Comprehensives</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Total credits required for the degree 121.

All Business majors are required to take BUS 499 – Business Administration Comprehensive Examination – in their final semester. The examination will be given in the student's field(s) of concentration.
UNDERGRADUATE CONCENTRATIONS IN BUSINESS ADMINISTRATION

Five courses for each concentration (4+1)

The School of Business offers a unique approach to specializing in specific areas within the business discipline. Students can pursue a concentration in one of the traditional business disciplines (Finance, Management, Management Information Systems, or Marketing) or in one of the specialty programs such as Human Resources Management, International Business, or Sports Management.

In order to complete the BS in Business Administration, students must complete one of the fifteen to seventeen (15-17) hour areas of concentration. Each of the concentration areas includes a formal internship/senior project. In addition, all students must enroll in BUS 499 – Business Administration Comprehensive Examination in their final semester.

### FINANCE
- FIN 340 and 340L Investments
- FIN 350 Capital Markets and Institutions
- FIN 427 Financial Management II
- FIN 455 Practicum and Project in Finance
  - One of the following:
    - FIN 410 Derivative Securities
    - FIN 440 and 440L Portfolio Management
    - ACCT 480 Financial Statement Analysis

### MANAGEMENT
- MGMT 339 Operations Management
- MGMT 412 Human Resource Management
- MGMT 490 Seminar in Leadership
- Upper Division Business Elective (non-management)
- MGMT 455 Practicum and Project in Management

### MARKETING
- MKTG 324 Marketing Research & Intelligence
- MKTG 334 Market & Consumer Behavior
- MKTG 411 Marketing Policy & Strategy
- MKTG 433 Promotional Strategy
- MKTG 455 Practicum and Project in Marketing

### INTERNATIONAL BUSINESS
- ECON 422 International Trade
- FIN 437 International Financial Management
- MKTG 438 International Marketing
- MGMT 455 Practicum and Project Management
  - One of the Following:
    - MGMT 453 Seminar in Global Business
    - ECON 346 Current Economic Topics
    - ECON 460 Special Topics in Economics

### MANAGEMENT INFORMATION SYSTEMS
- MIS 295 Data Communication, Networks, & Cyber Security
- MIS 351 Systems Analysis and Design
- MIS 470 Application and Web Development
- MIS 471 Data Base Design and Business Intelligence
- MIS 455 Information Systems Practicum and Project Management

### SPORT MANAGEMENT
- SMGT 410 Management of Sports Industries
- SMGT 420 Marketing & Public Relations in Sports
- SMGT 430 Sports Industry Law
- SMGT 440 Financial Management for Sports Administration
- SMGT 455 Practicum and Project in Sports Management

### HUMAN RESOURCES MANAGEMENT
- MGMT 412 Human Resources Management
- MGMT 450 Organizational Staffing and Development
- MGMT 451 Organizational Reward Systems
- MGMT 452 Employee and Labor Relations and Labor Law
- MGMT 455 Practicum and Project in Management

### HOSPITALITY AND TOURISM MANAGEMENT
- HTM 410 Introduction to Tourism
- HTM 420 Applied Project in Tourism
- HTM 430 Foundation in Hospitality Management
- HTM 440 Event Management
- HTM 455 Practicum and Project in Hospitality Management

---

1. Students in Finance Concentration will be required to take ECON 420 as part of their School of Business core.
2. Students will be required to take FIN 427 as part of their School of Business Core.
3. Students with SHRM certification may apply for credit for this course (see page 16).
### COURSE REQUIREMENTS FOR B.A. IN BUSINESS

#### FRESHMAN YEAR Semester I
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
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<tr>
<td>MATH 105 Finite Math</td>
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<tr>
<td>SPCH 125 Speech Communications</td>
<td>3</td>
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<tr>
<td>MIS 153 Intro to Computer Business Applications</td>
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<td>Orientation</td>
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#### SUMMER SESSION
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<tbody>
<tr>
<td>Philosophy elective</td>
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<td>Social Science/History elective</td>
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#### SOPHOMORE YEAR Semester I
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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
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<td>ACCT 260L Financial Accounting Lab</td>
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<tr>
<td>ECON 214 Microeconomics</td>
<td>3</td>
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<td>BUS 205 Business Probability and Statistics</td>
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<td>ENG/Literature elective</td>
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#### SUMMER SESSION
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#### JUNIOR YEAR Semester I
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<tr>
<td>MGMT 352 Organizational Behavior and Management</td>
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<td>BLAW 301 Business Law I</td>
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<td>FIN 327 Financial Management I</td>
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#### SUMMER SESSION
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#### SENIOR YEAR Semester I
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<td>MGMT 430 Ethical Decision Making in Business</td>
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</table>

**Total credits required for the degree 121.**

This degree program, which is offered in a cohort format, is only available to adult students enrolled in the Professional Studies Program.
MINORS WITHIN THE SCHOOL OF BUSINESS

Students majoring in disciplines other than Business Administration or Business may seek a Minor in Business Administration, International Business, Finance or Economics.

The Minor in Business Administration consists of 21 credit hours of courses typically required for admission to MBA programs.

The courses are:
- Elementary Statistics (STAT 221 or equivalent)
- Principles of Microeconomics (ECON 214)
- Financial Accounting (ACCT 260, ACCT 260L)
- Legal Environment of Business (BLAW 345)
- Principles of Marketing (MKTG 311)
- Organizational Behavior and Management (MGMT 352)
- Financial Management (FIN 327)

The minor in Economics consists of 21 credit hours in the following courses:
- Principles of Microeconomics (ECON 214)
- Principles of Macroeconomics (ECON 215)
- Intermediate Microeconomics (ECON 344)
- Intermediate Macroeconomics (ECON 343)
- International Trade (ECON 422)
- Economics Policy (ECON 450)
- Special Topics in Economics (ECON 460)

The minor in Finance consists of 21 credit hours in the following courses:
- Financial Management (FIN 327)
- Financial Management II (FIN 437)
- Investments (FIN 340) and Investments TVA Lab (FIN 340L)
- Capital Markets and Institutions (FIN 350)
- Portfolio Management (FIN 440) and Portfolio Management TVA Lab (FIN 440L)

One of the following:
- Financial Statement Analysis (ACCT 480)
- Derivative Securities (FIN 410)
- Special Projects in Finance (FIN 430)
- International Financial Management (FIN 437)

The minor in Finance is not available to Bachelor of Science in Business Administration majors.

The International Business Minor consists of 18 credit hours, as follows:
- MGMT 320
- MGMT 455

Plus two of the following:
- Managerial Economics (ECON 420)
- International Trade (ECON 422)
- International Marketing (MKTG 438)
- International Financial Management (FIN 437)
- Seminar in Global Business (MGMT 453)
- Management Internship (MGMT 400)
- Global Supply Management (MKTG 418)

Plus six hours from the student’s major at the 300 or 400 level approved by the International Business Coordinator. Examples include HIST 309, 315, 341; POLS 370; or any two language courses at the 300/400 level.
SCHOOL OF ENGINEERING

Chemical & Biochemical Engineering • Civil & Environmental Engineering
• Electrical & Computer Engineering • Mechanical Engineering
• Engineering Management

ADMINISTRATION
DR. ERIC B. WELCH, Dean
DR. GREGORY A. SEDRICK, Director of Graduate Engineering Programs
DR. R. EUGENE McGINNIS, Chair, Civil & Environmental Engineering Department
DR. RANDEL PRICE, Chair, Chemical & Biochemical Engineering Department
DR. YEU-SHENG SHIUE, Chair, Mechanical Engineering Department
DR. H. JOHN VENTURA, Chair, Electrical & Computer Engineering Department
DR. SIRIPONG MALASRI, Chair, Packaging Department

FACULTY

CHEMICAL & BIOCHEMICAL ENGINEERING
ALI POURHASHEMI, Professor
B.S., M.S., Howard University; Ph.D., University of Maryland (College Park)

RANDEL M. PRICE, Associate Professor
B.S., University of Missouri (Columbia); M.S., University of Arkansas;
Ph.D., Lehigh University

ASIT K. RAY, Professor
B.S., Calcutta University; M.S., Ph.D., Lehigh University

CIVIL & ENVIRONMENTAL ENGINEERING
L. YU LIN, Professor
B.S., Feng-Chia University; M.S., University of Cincinnati;
Ph.D., University of Central Florida; P.E.

SIRIPONG MALASRI, Professor
B.E., Chulalongkorn University; M. Engr., Asian Institute of Technology (Thailand);
Ph.D., Texas A&M University, P.E.

R. EUGENE McGINNIS, Assistant Professor
B.S., M.S., Memphis State University; P.E.

ELECTRICAL & COMPUTER ENGINEERING
DIVYA CHOUDHARY, Assistant Professor
B.E.E., Mumbai University; M.S., Ph.D., The University of Memphis

JUAN CARLOS OLABE-BASOGAIN, Professor
M.S., Ph.D., Universidad Politecnica de Madrid (Spain); I.T.

H. JOHN VENTURA, Associate Professor
B.S., Christian Brothers College; M.E., University of Florida;
Ed.S., Ph.D., Nova Southeastern University; P.E.

ERIC B. WELCH, Professor
B.S., M.S., Ph.D., Mississippi State University

MECHANICAL ENGINEERING
JAMES AFLAKI, Professor
B.S., University of District of Columbia; M.S., University of Maryland, MCSE

JOSE B. DAVILA, Associate Professor
B.S.E., Princeton University; M.S., Stanford University; Ph.D., The University of Texas at Austin

YEU-SHENG SHIUE, Professor
B.S., Tatung Institute of Technology; M.S., Ph.D., Memphis State University
MISSION
The mission of the School of Engineering at Christian Brothers University is threefold: (1) to continue the Lasallian tradition through excellence in teaching and focus on the individual student, (2) to prepare graduates for professional careers and advanced study in engineering, and (3) to encourage students to live with moral responsibility and constructive community involvement.

PROGRAM DESCRIPTION
Christian Brothers University offers ABET accredited undergraduate engineering programs in chemical, civil, electrical, and mechanical engineering. Each curriculum is sufficiently flexible to permit a student to tailor a course of study for entry into the engineering profession immediately or...
for continued study in graduate school. While most graduates do remain in the engineering profession, a significant number use their engineering background as a foundation for professional careers in law, medicine, business, education, science, and other fields.

In addition to the four ABET accredited engineering degrees, the School of Engineering also offers undergraduate and graduate degrees in engineering management and a certificate program in packaging engineering. The School of Engineering and the School of Sciences offer a dual degree in electrical engineering and computer science.

The chemical, civil, electrical, and mechanical engineering degree programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, 410.347.7700.

EDUCATIONAL PHILOSOPHY
Because engineers apply scientific principles and practical judgment to the economic solution of many problems concerned with human welfare, their education must include, in addition to courses in engineering analysis and design, numerous courses in natural science, mathematics, and liberal studies. Thus, the engineering program at Christian Brothers University provides each student with a liberal education designed to prepare the graduate to make important contributions not only toward the solution of specific technical problems, but also in social and environmental issues found in transportation, communications, urban redevelopment, energy production and conservation, and air and water quality.

Through engineering design courses, students learn to integrate their technical knowledge, skills, and ingenuity with the wisdom to develop practical solutions for specific problems. Students at Christian Brothers University begin learning the design process during their first year, while gaining knowledge and skills in science, mathematics, and communication. This practice in design is integrated through all four years of the program, culminating in an independent design project during the senior year.

DEGREE REQUIREMENTS
The Engineering programs at Christian Brothers University are designed to graduate students who will be able to excel as engineering professionals as described previously. This requires an integrated program of mathematics, basic sciences, humanities and social sciences, engineering sciences, and engineering design. A balance is struck between breadth and depth, technical and non-technical content, and rigor and flexibility. Students must meet departmental requirements as listed in the paradigms that follow this section.

In the case of transfer students, at least one half of the upper division major courses (300-400 level courses in CHE, CE, ECE, or ME and upper division Chemistry in the case of CHE) must be taken at Christian Brothers University. Normally, junior and senior level courses from non-ABET accredited programs will not be transferred.

In order to graduate, a student must attain a 2.0 overall grade point average and a 2.0 in the major (CHE, CE, ECE, or ME courses and advanced Chemistry in the case of Chemical Engineering) and program option.

CROSSTOWN DUAL DEGREE
Christian Brothers University and Rhodes College offer a dual degree program wherein a student receives two degrees after five years of study: a Bachelor of Science from Rhodes and a Bachelor of Science in Engineering from Christian Brothers University. While at Rhodes the student majors in Physics, Chemistry, or Biochemistry/Molecular Biology, depending on the course of engineering study to be pursued at CBU. See pages 81 and 82 for program specifics.

DUAL DEGREE
The School of Engineering and the School of Sciences offer a dual degree program for students interested in electrical engineering and computer science. With careful coordination, this program allows students to earn both degrees in a normal undergraduate time frame. For specific degree requirements, see page 81.

JOINT DEGREE
The School of Engineering and the School of Business jointly offer a Bachelor of Science in Engineering Management for students interested in pursuing management positions at engineering firms or other technologically based businesses. For specific degree requirements, see pages 83 and 84.

SUMMARY OF COURSE REQUIREMENTS
Students must complete the University defined General Education requirements (see page 24).

Program Option (department approved 300/400 level courses in Mathematics, Science, Engineering, or Business or advanced ROTC courses—3 hours maximum is allowed for ROTC courses) courses should be part of an integrated sequence of courses consistent with the overall aims and objectives of the School of Engineering. The integrated sequence must receive approval from the student’s advisor.

The religion courses will include one course at the 200 level followed by one at the 300 level or above.

The three-course emphasis on religion and moral values provides depth consistent with the mission of Christian Brothers University and the needs of society and the engineering profession.
## COURSE REQUIREMENTS FOR A B.S. IN CHEMICAL ENGINEERING

**Biochemical Engineering Curricula**

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<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
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<td>CH E 111 Intro Chemical Engineering</td>
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<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
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<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
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<td>CH E 112 Introduction to Chemical Engineering II</td>
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<td>ENG 111 English Composition I</td>
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<td>ENG 112 English Composition II</td>
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<td>MATH 131 Calculus I</td>
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<td>MATH 132 Calculus II</td>
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<td>CH E 231 Elementary Thermodynamics</td>
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<td>CHEM 212 &amp; 212L Organic Chemistry II</td>
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<td>CHEM 211 &amp; 211L</td>
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<td>MATH 232 Calculus III</td>
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<td>MATH 231 Differential Equations</td>
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<td>PHYS 251 &amp; 251L Physics II</td>
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<td>PHYS 150 &amp; 150L Physics I</td>
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<td>CHE 330 Mass Transfer &amp; Separations</td>
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<td>CH E 442 Senior Lab II</td>
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Total credits required for the degree 132.

The B.S. in Chemical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).
# COURSE REQUIREMENTS FOR A B.S. IN CHEMICAL ENGINEERING

## Chemical Engineering Curricula

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<td>CHEM 113 &amp; 113L Principles of Chemistry I .............</td>
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<td>ENG 111 English Composition I ..................</td>
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<td>CH E 231 Elementary Thermodynamics........................</td>
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<tbody>
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<td>CH E 402 CH E Project ................................</td>
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<td>CH E 425 Process Design I ................................</td>
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<td>CH E 437 Modeling &amp; Control ..................</td>
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Total credits required for the degree 132.

The B.S. in Chemical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).
### COURSE REQUIREMENTS FOR A B.S. IN CIVIL ENGINEERING

**FRESHMAN YEAR Semester I**  
<table>
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<th>Course</th>
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<td>CE 105 Intro to Civil &amp; Environmental Design</td>
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<td>CE 111 Engineering Design Graphics</td>
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<td>ENGL 111 English Composition I</td>
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<td>MATH 131 Calculus I</td>
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<td>BIOL 105 or BIOL 107 Environmental Biology</td>
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**Semester II**  
<table>
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<th>Course</th>
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<td>PHYS 150 &amp; 150L Physics I</td>
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<td>Liberal Studies</td>
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**Total**  
| Credits | 16 |

**SOPHOMORE YEAR Semester I**  
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ME 112 Scientific Programming</td>
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**Semester II**  
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<tbody>
<tr>
<td>CE 203 Structural Engineering I</td>
<td>3</td>
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<td>ME 202 Dynamics</td>
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<tr>
<td>CE 299 &amp; 299L Hydraulics</td>
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<td>MATH 232 Calculus III</td>
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<tr>
<td>PHYS 251 &amp; 251L Physics II</td>
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**Total**  
| Credits | 16 |

**JUNIOR YEAR Semester I**  
<table>
<thead>
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<tbody>
<tr>
<td>CE 301 Structural Engineering II</td>
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<td>CE 313 Hydrology</td>
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<tr>
<td>CE 322 &amp; 322L Geotech Engineering</td>
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<td>CE 317 Introduction to Environmental Engineering</td>
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<td>CE 318 Highway Engineering</td>
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<td>CE 340 Design of Foundations</td>
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**Total**  
| Credits | 16 |

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<td>CE 417 Environmental Engineering Lab</td>
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<td>ME 305/CH 231 Thermodynamics</td>
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**Total**  
| Credits | 17 |

Total credits required for the degree 132.

The B.S. in Civil Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).
COURSE REQUIREMENTS FOR A B.S. IN ELECTRICAL ENGINEERING

Computer Systems Curricula

<table>
<thead>
<tr>
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<tr>
<td>ECE 101 Introduction to Engineering Problem Solving</td>
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<td>ENG 111 English Composition I</td>
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<td>ECE 150 Intro to Multimedia DSP</td>
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<td>PHYS 150 &amp; 150L Physics I</td>
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<td>PSYC 105 General Psychology</td>
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<td>ECE 201 Statics</td>
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<td>ECE 235 &amp; 235L Data Structures/Program</td>
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<td>CHEM 115 &amp; 115L General Chemistry</td>
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<td>ECE 222 Electric Circuits II</td>
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<td>ECE 331L Junior Lab I</td>
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<td>ECE 314 Engineering Economy</td>
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<td>ECE 350 Computer Systems</td>
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<td>ECE 332 Electronics II</td>
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<td>ECE 406 Electromagnetic Fields</td>
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<td>ECE 335 Systems, Signals, Noise</td>
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<td>MATH 309 Probability</td>
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<td>ECE 332L Junior Lab II</td>
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<td>PHYS 252 Physics III</td>
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<tbody>
<tr>
<td>CE 400 The Compleat Engineer</td>
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<td>ECE 410 ECE Project II</td>
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<td>ECE 409 ECE Project I</td>
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Total credits required for the degree 133.

The B.S. in Electrical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

All engineering and math electives and Program Options must be 300 or 400 level approved courses and includee 300 or 400 level courses in the B.S. in Engineering Management paradigm and approved 300 or 400 level psychology courses.
COURSE REQUIREMENTS FOR A B.S. IN ELECTRICAL ENGINEERING
Electronics and Systems Curricula

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<th>FRESHMAN YEAR Semester I</th>
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<tbody>
<tr>
<td>ECE 101 Introduction to Engineering Problem Solving</td>
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<td>ECE 290 Digital Design</td>
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<td>ENG 111 English Composition I</td>
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<td>ECE 112 Computers in Engineering Problem Solving</td>
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<tr>
<td>CE 201 Statics</td>
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<td>ECE 221 Electric Circuits I</td>
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<td>CHM 115 &amp; 115L General Chemistry</td>
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<td>ECE 251 Microprocessors</td>
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<td>MATH 231 Differential Equations</td>
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<td>ECE 251L Microprocessors Lab</td>
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<td>PHYS 251 &amp; 251L Physics II</td>
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<td>MATH 232 Calculus III</td>
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<td>ECE 322 Linear Controls</td>
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<td>ECE 406 Electromagnetic Fields</td>
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<td>ECE 335 Systems, Signals, Noise</td>
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<td>ME 305 or CHM 231 Thermodynamics</td>
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<td>ECE 332L Junior Lab II</td>
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<td>MATH 309 Probability</td>
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<td>ECE 401 Energy Conversion</td>
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<tbody>
<tr>
<td>ECE 314 Engineering Economy</td>
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<td>ECE 410 ECE Project II</td>
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<td>ECE 400 The Compleat Engineer</td>
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<td>ECE 409 ECE Project I</td>
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Total credits required for the degree 129.

All engineering and Program Options must be 300 or 400 level courses.

The B.S. in Electrical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

All engineering and math electives and Program Options must be 300 or 400 level approved courses and includec 300 or 400 level courses in the B.S. in Engineering Management paradigm and approved 300 or 400 level psychology courses.

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1 PHYS 353 is offered every other even numbered Fall semester.
## COURSE REQUIREMENTS FOR B.S. IN ELECTRICAL ENGINEERING AND A B.S. IN COMPUTER SCIENCE

### Computer Systems Curricula

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<tr>
<td>CHEM 115 &amp; 115L General Chemistry</td>
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<td>CS 172 &amp; 172L Int. Programming &amp; Lab</td>
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<td>MATH 131 Calculus I</td>
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<td>ECE 250 Digital Design</td>
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<td>ECE 101 Intro to Engr. Problem Solving or CS 171 Intro to Programming</td>
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<td>MATH 132 Calculus II</td>
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<td>Liberal Studies</td>
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<td>PHYS 150 &amp; 150L Physics I</td>
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<td>ECE 221 Electric Circuits I</td>
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<tbody>
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<td>ECE 410 ECE Project II</td>
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Total credits required for the degree 139.

Students enrolled in dual degree programs may incur additional fees due to number of credit hours taken in a semester.

All engineering and CS electives must be 300 or 400 level courses.

The B.S. in Electrical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

---

1. Offered in the Spring semester of even numbered years.
### COURSE REQUIREMENTS FOR B.S. IN MECHANICAL ENGINEERING

#### FRESHMAN YEAR Semester I

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<td>MATH 131 Calculus I</td>
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<td>ME 121 Solids Modeling</td>
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#### Sophomore Year Semester I

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<td>MATH 231 Differential Equations</td>
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<td>ME 112 Scientific Programming</td>
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<td>PHYS 251 &amp; 251L Physics II</td>
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#### Junior Year Semester I

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<td>ME 313 Fluid Mechanics</td>
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<td>ME 316 Engineering Thermodynamics II</td>
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<td>ME 317 Kinematics</td>
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#### Senior Year Semester I

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<td>ME 407 ME Project I</td>
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<td>ME 420 Machine Design</td>
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<td>ME 421 Thermal Systems Analysis &amp; Design</td>
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#### Semester II

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<tr>
<td>ME 201 Manufacturing Processes</td>
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<td>ENG 112 English Composition II</td>
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<td>MATH 132 Calculus II</td>
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<tr>
<td>PHYS 150 &amp; 150L Physics I</td>
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<td>Liberal Studies</td>
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</table>

The B.S. in Mechanical Engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).
CROSS-TOWN DUAL DEGREE PROGRAM IN ENGINEERING WITH RHODES COLLEGE

In this program, a student receives two degrees after five years of study: a bachelor of science from Rhodes and a bachelor of science in engineering from Christian Brothers University. While at Rhodes the student majors in physics, chemistry, or biochemistry/molecular biology, depending on the course of engineering study to be pursued at CBU. A student completes all Rhodes courses required for this dual degree program in three years, and may take select courses at Christian Brothers University during that time. He or she applies to the engineering program at Christian Brothers University during the third year and becomes a full-time CBU student for two additional years. Both degrees are awarded at the completion of the five years of study.

The student must complete each of the following sets of courses to satisfy the Rhodes and CBU portions of the program:

I. GENERAL DEGREE REQUIREMENTS:
All twelve Rhodes foundation requirements with the following stipulations:
1. One of the F1 courses should be a philosophy course.
2. A minimum of 80 credits of the Rhodes BS portion must be fulfilled with Rhodes courses.

II. THE FOLLOWING PRE-ENGINEERING CORE COURSES:
1. Physics 111/111L, 112/112L (Fundamentals of Physics I & II, with lab)
2. Math 121, 122, 223 (Calculus I-III), Math 251 (Differential Equations)
3. Chemistry 111/111L (General Chemistry I with lab)

III. The following additional Rhodes courses depending on the Rhodes major and course of engineering study to be pursued at Christian Brothers University. Courses in parentheses are CBU courses that are suitable substitutes for the Rhodes courses and will satisfy the major requirements at Rhodes:

Physics Major / Mechanical Engineering
- Physics 211, 250; Physics 304 (or CBU ECE 221- Circuit Analysis I); Physics 305 (or CBU ME 202- Dynamics);
- Physics 306 (or CBU program option course); Computer Science 141 (or CBU ME 112-Scientific Programming)

Physics Major / Civil Engineering
- Physics 211, 211L, 250; Physics 304 (or CBU ECE 221- Circuit Analysis I); Physics 305 (or CBU ME 202- Dynamics);
- Physics 406 (or CBU ME 305- Engineering Thermodynamics I); Computer Science 141 (or CBU CE 112- Computer Applications in Civil And Environmental Engineering)

Physics Major / Electrical Engineering - Electrical Engineering Curriculum
- Physics 211, 211L, 250; One upper level physics elective at the 300 level or higher; Physics 406 (or CBU ME 305 - Engineering Thermodynamics I); Computer Science 141 (or CBU ECE 172 - Intermediate Programming And Algorithms)

Chemistry Major / Chemical Engineering- Chemical Engineering Curriculum
- Chemistry 112, 112L, 211, 212, 212L, 311, 312, 312L

Biochemistry Molecular Biology / Chemical Engineering- Biochemical Engineering Curriculum
- Biology 130, 131L, 140, 141L, 307, 325, 325L; Biochemistry and Molecular Biology 310; Chemistry 112, 112L, 211, 212, 212L, 414

IV. The following CBU courses should be taken during the first three years of the program through the Rhodes-CBU exchange program (the Cross-town agreement), depending on the Rhodes major and course of engineering study to be pursued at Christian Brothers University:

Physics Major / Mechanical Engineering
- ME 121 (Solids Engineering), CE 201 (Statics), ME 312 (Mechanics of Deformable Solids) and ME 305 (Engineering Thermodynamics I)

Physics Major / Civil Engineering
- CE 105 (Intro. to Civil and Environmental Engineering Design) and MATH 308 (Statistics)

Physics Major / Electrical Engineering - Electrical Engineering Curriculum
- ECE 221 (Electric Circuit Analysis I) and ECE 222 (Electric Circuit Analysis II)

Chemistry Major or BCMB major / Chemical Engineering - either curriculum
- CHE 231 (Elementary Thermodynamics) and CHE 232 (Material and Energy Balances)

V. The following courses at Christian Brothers University, depending on the course of engineering study to be pursued, are to be taken during years 4 and 5, after the student has been admitted to the school of engineering:

Mechanical Engineering
- ME 201 (Manufacturing Processes), ME 301 (Engineering Instrumentation Laboratory), ME 302 (Energy Systems Laboratory), ME 306 (Heat Transfer), ME 313 (Fluid Mechanics), ME 314 (Engineering Economy), ME 316 (Engineering Thermodynamics), ME 317 (Kinematics), ME 318 (Dynamics of Machines), ME 400 (The Complete Engineer), ME 401 (Mechanical Systems Laboratory), ME 407-408 (Senior Project), ME 420 (Machine Design), ME 421 (Thermal Systems Analysis and Design), ME 422 (Control System Engineering), 2 ME electives, 1 MATH elective, 1 program option course

Civil Engineering
- CE 111 (Engineering Design Graphics), CE 115 (Field Measurements), CE 201 (Statics), CE 213 (Mechanics of Solids II), CE 299 (Hydraulics), CE 310 (Analysis and Design of Steel Structures), CE 311 (Analysis and Design of Concrete Structures), CE 313 (Hydrology), CE 314 (Engineering Economy), CE 315 (Junior Project), CE 317 (Intro. to Environmental Engineering),
CE 318 (Highway Engineering), CE 322 (Geotechnical Engineering), CE 340 (Design of Foundations), CE 400 (The Complete Engineer), CE 417 (Environmental Engineering Laboratory), CE 431-432 (Senior Design Project), 2 CE electives, 1 program option course

Electrical Engineering
MATH 309 (Probability), PHYS 353 (Solid State Physics), CE 201 (Statics), ME 202 (Dynamics),
ECE 201 (Engineering Instrumentation), ECE 250 (Digital Design), ECE 251 (Microprocessor Architecture and Processing),
ECE 314 (Engineering Economy), ECE 322 (Linear Control Systems), ECE 331-332 (Electronics I, II), ECE 335 (Systems, Signals, and Noise), ECE 331L–332L (Junior Laboratory I, II), ECE 400 (The Complete Engineer), ECE 401 (Electromechanical Energy Conversion),
ECE 401L (Energy Conversion Laboratory), ECE 406 (Electromagnetic Field Theory), ECE 409-410 (Project I, II), 1 ECE elective

Chemical Engineering - Chemical Engineering Track
CE 201 (Statics), ECE 221 (Electric Circuit Analysis I), CHE 328 (Material Science), CHE 323 (Fluid Mechanics), CHE 325-326 (Junior Laboratory I, II), CHE 327 (Chemical Engineering Thermodynamics), CHE 314 (Engineering Economy), CHE 324 (Heat Transfer),
CHE 330 (Mass Transfer and Separations), CHE 401-402 (Senior Project), CHE 425-426 (Process Design I, II), CHE 437 (Modeling and Control in Chemical Engineering), CHE 441-442 (Senior Laboratory I, II), CHE 443 (Reactor Design), CHE 444 (Polymeric Materials), 2 program option courses

Chemical Engineering - Biochemical Engineering Track
ECE 221 (Electric Circuit Analysis I), CHE 314 (Engineering Economy), CHE 323 (Fluid Mechanics), CHE 324 (Heat Transfer),
CHE 325-326 (Junior Laboratory I, II), CHE 327 (Chemical Engineering Thermodynamics), CHE 330 (Mass Transfer and Separations), CHE 401-402 (Senior Project), CHE 425-426 (Process Design I, II), CHE 437 (Modeling and Control in Chemical Engineering),
CHE 441-442 (Senior Laboratory I, II), CHE 443 (Reactor Design), CHE 446 (Biochemical Engineering)

SAMPLE CURRICULA
Courses in italics are CBU courses, all others are Rhodes courses. The exact number of courses required for each student will depend on AP credit, language placement, and how a student fulfills the foundations requirements. The majority of students participating in our current dual degree programs have some AP credit and usually two years of language. These sample curricula assume no AP credit and placement in a 102 language course. The availability of courses that satisfy two foundations requirements will also reduce the number of course required.

PHYSICS / CIVIL ENGINEERING

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<th>FALL</th>
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<tr>
<td>1st year</td>
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<tr>
<td>Physics 111, 111L (F7)</td>
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<td>Search/Life (F1)</td>
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<td>Physics 211</td>
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<td>Physics 304 or ECE 221 (Electric Circuit Analysis I)</td>
<td>Physics 250</td>
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<tr>
<td>Math 223</td>
<td>F4</td>
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<td>Language (F10)</td>
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<td>Search/Life (F1, F2i)</td>
<td>Language (F10)</td>
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<td>Physics 305 or ME 202 (Dynamics)</td>
<td>Physics 406 or ME 305 (Engineering Thermodynamics I)</td>
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<td>Chem 111/111L</td>
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<td>F11</td>
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<td>Math 251</td>
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<td>CE 105 (Intro. to Civil and Environ. Eng. Design)</td>
<td>MATH 308 (Statistics)</td>
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<td>CE 111 (Engineering Design Graphics)</td>
<td>CE 213 (Mechanics of Solids II)</td>
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<td>CE 115 (Field Measurements)</td>
<td>CE 299 (Hydraulics)</td>
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<td>CE 201 (Statics)</td>
<td>CE 314 (Engineering Economy)</td>
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<tr>
<td>CE 315 (Junior Project)</td>
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<td>CE 318 (Highway Engineering)</td>
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<td>CE 310 (Analysis and Design of Steel Structures)</td>
<td>CE 311 (Analysis and Design of Concrete Structures)</td>
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<td>CE 313 (Hydrology)</td>
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<td>CE 432 (Senior Design Project)</td>
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<td>CD 400 (The Complete Engineer)</td>
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<td>CE 417 (Environmental Engineering Laboratory)</td>
<td>Program option</td>
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<td>CE 431 (Senior Design Project)</td>
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### Bachelor of Science in Engineering Management (Information Management Concentration)

Offered jointly by the School of Business and the School of Engineering

#### Freshman Year

**Semester I** | **Credits**
--- | ---
Orientation | 0
ENG 111 English Composition I | 3
SPCH 125 Speech Communication | 3
ECE 101 Introduction to Engineering Problem Solving | 3
ME 121 Solids Modeling | 3
MATH 131 Calculus I | 3
**Total** | **15**

**Semester II**

**Credits**
---
ENG 112 English Comp II | 3
PHYS 150 & 150L Physics I | 4
ECE 112 Computers in Engineering Problem Solving | 3
ECT 260 Financial Accounting | 3
ACCT 260L Financial Accounting Lab | 0
PSYC 105 | 3
**Total** | **15**

#### Sophomore Year

**Semester I**

**Credits**
---
Religious Studies elective (200 level) | 3
CE 201 Statics | 3
MIS 231 Introduction to MIS | 3
ENG 211 Literature | 3
PHYS 251 & 251L Physics II | 4
**Total** | **16**

**Semester II**

**Credits**
---
ECON 215 Principles of Macroeconomics | 3
PHIL 223 Business Ethics | 3
ENGR/MATH/BUS elective | 3
**Total** | **15**

#### Junior Year

**Semester I**

**Credits**
---
STAT 221 Elementary Statistics | 3
STAT 221L Elementary Statistics Lab | 0
MGMT 320 International Business | 3
BLAW 301 Business Law I | 3
PHIL 223 Business Ethics | 3
ECON 215 Principles of Macroeconomics | 3
**Total** | **15**

**Semester II**

**Credits**
---
MGMT 498 Business Policy | 3
ENG/ENGR/MATH/BUS elective | 3
Religious Studies elective (300 level) | 3
MIS or ECE elective | 3
**Total** | **15**

#### Senior Year

**Semester I**

**Credits**
---
STAT 222 Intermediate Statistics | 3
STAT 222L Intermediate Statistics Lab | 0
FIN 327 Financial Management | 3
ECE 400 The Complete Engineer | 3
ECE 471 Database Design | 3
MIS or ECE elective | 3
**Total** | **15**

**Semester II**

**Credits**
---
MGMT 498 Business Policy | 3
ENG/ENGR/MATH/BUS elective | 3
Religious Studies elective (300 level) | 3
MIS or ECE elective | 3
**Total** | **15**

Total credits required for the degree 122.

---

1. An elective (200, 300, 400)
### BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT (PACKAGING CONCENTRATION)

Offered Jointly by the School of Business and the School of Engineering

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<th>FRESHMAN YEAR Semester I</th>
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<tbody>
<tr>
<td>ENG 111 English Composition I</td>
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<td>SPCH 125 Speech Communication</td>
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<td>MATH 131 Calculus</td>
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<td>PKG 101 Intro to Packaging</td>
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<tr>
<td>CHEM 115 &amp; 115L Chemistry I and Lab</td>
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<tr>
<td>CE 201 Statics</td>
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<tr>
<td>CE 202 Intro to Strengths of Materials</td>
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<tr>
<td>CHE 328 Material Science</td>
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<td>ME 201 Manufacturing</td>
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<td>ECON 214 Principles of Microeconomics</td>
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<tr>
<td>ENG 371 Business Writing</td>
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<td>PKG 319 Principles of Packaging</td>
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<td>ACCT 260 Financial Accounting</td>
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<td>ACCT 260L Financial Accounting Lab</td>
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<tr>
<td>STAT 221 Elementary Statistics or MATH 308</td>
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<td>STAT 221L Elementary Statistics Lab (if taking STAT 221)</td>
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<tr>
<td>MGMT 339 Prod. &amp; Ops. Planning</td>
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<tr>
<td>PHIL Elective</td>
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<td>Social Science/History GER</td>
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<td>PKG 490 Packaging Projects</td>
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<td>FIN 327 Financial Management</td>
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<td>BLAW 301 Business Law</td>
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<td>MKTG 311 Principles of Marketing</td>
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<tr>
<td>ENG 112 English Comp II</td>
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<tr>
<td>MATH 150 &amp; 150L Physics I</td>
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<tr>
<td>ME 121 Solids Modeling or CE 111 Engineering Design Graphics</td>
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<td>Religious Studies elective (200 level)</td>
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<tr>
<td>MIS 153 Intro to Computer Business Applications</td>
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<td>ENG Literature Elective</td>
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<td>PKG 201 Packaging Seminar</td>
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<td>ECON 215 Principles of Macroeconomics</td>
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<td>PHYS 251 &amp; 251L Physics II</td>
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<tr>
<td>PKG 495 Internship or Art 314 &amp; 314L</td>
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<td>PKG 320 Dist./Med. Dev. Pack</td>
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<td>ACCT 270 Managerial Accounting</td>
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<td>ACCT 270L Managerial Accounting Lab</td>
<td>0</td>
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<tr>
<td>STAT 222 Intermediate Statistics or MATH 309 Probability</td>
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<tr>
<td>STAT 222L Intermediate Statistics Lab (if taking STAT 222)</td>
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<tr>
<td>Mgmt 352 Organizational Management</td>
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<tr>
<td>Engineering Elective</td>
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<tr>
<td>CE 314 Engineering Economy</td>
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<td>BLAW 302 Business Law</td>
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<td>MKTG 418 Supply Chain</td>
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<td>MGMT 498 Business Policy</td>
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</tbody>
</table>

Total credits required for the degree 122.

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1 MIS 153 can be substituted by CE/ECE/ME 112, ECE 101, or CS 171.
2 CE 201 (3 crs) and CE 202 (1 cr) can be substituted by PKG 200 (3 crs).
3 PHIL 325 is recommended.
4 HUM 210 is recommended.
MINORS IN THE SCHOOL OF ENGINEERING

MINOR IN ELECTRICAL ENGINEERING: A minor in Electrical Engineering is open to students not part of the Electrical Engineering majors, and they must complete the following courses: ECE 201, 221, 222, 251, 251L, 331, 331L, 350, and one of the following: 322, 332 and 332L or 335.

MINOR IN PACKAGING: A minor in Packaging is open to students not part of the BSEM (Packaging) majors and they must complete the following courses: PKG 101, PKG 201, PKG 319 (or Ch E/Me 319), PKG 320 (or Ch E/Me 320), PKG 490 (or any engineering project course with approved packaging component), PKG 495, and one elective (Ch E 328, CE 201/202, ME 312, or PKG 200).
SCHOOL OF SCIENCES

Biochemistry • Biology • Biomedical Science • Chemistry • Computer Science • Engineering Physics
Mathematics • Natural Science • Physics

ADMINISTRATION

DR. JOHNNY B. HOLMES, Dean
DR. DENNIS MERAT, Chair, Chemistry Department
DR. PASCAL BEDROSSIAN, Chair, Mathematics & Computer Science
DR. STANLEY EISEN, Director, Pre-Professional Health Programs
DR. SANDRA THOMPSON-JAEGGER, Chair, Biology Department
DR. JOHN A. VARRIANO, Chair, Physics & Natural Science
DR. PEGGY INGRAM Veeser, Director, Nursing

FACULTY

BIOLOGY

STANLEY EISEN, Professor
B.S., State University of New York at Stony Brook; M.A., Ph.D., Indiana University

MALINDA E. C. FITZGERALD, Professor
B.S., M.S., University of Memphis; Ph.D., University of Tennessee, Memphis

JAMES E. MOORE, Assistant Professor
B.S., West Virginia State College; M.S., University of North Carolina Greensboro; Ph.D. University of Memphis

MARY L. OGILVIE, Professor
B.S., M.S., Ph.D., Memphis State University

ANNA E. ROSS, Professor
A.B., Hope College; Ph.D., Clemson University

KATHLEEN SAUSER, Assistant Professor
B.S., University of Tennessee at Martin; M.S., Florida Institute of Technology; Ph.D., Memphis State University

SANDRA THOMPSON-JAEGGER, Associate Professor
B.S. Ouachita Baptist University; M.S., Ph.D., University of Munich (Germany)

CHEMISTRY

DAVID P. DAWSON, Associate Professor
B.S., Rhodes College; Ph.D. University of Arkansas

DENNIS MERAT, Associate Professor
B.S., Southern Methodist University; Ph.D. Texas A & M University

WILLIAM PEER, Assistant Professor
B.S. University of Michigan; Ph.D. University of Texas at Austin

ANTHONY TRIMBOLI, Assistant Professor
B.S., Muhlenburg College; Ph.D., University of South Carolina

JOHN YOUNG, Assistant Professor
B.A. Hendrix College; Ph.D. Mississippi State University

MATHEMATICS & COMPUTER SCIENCE

LEIGH C. BECKER, Professor
B.S., Illinois Institute of Technology; M.S., University of Illinois; M.S., Ph.D., Southern Illinois University

PASCAL BEDROSSIAN, Professor
B.S., Christian Brothers University; M.S., Ph.D., Memphis State University

SANDRA DAVIS, Instructor
B.A., Cameron University; M.S., Memphis State University
ANDREW M. DIENER, Assistant Professor
B.A., St. Mary's University (San Antonio, TX); M.S., Ph.D., Texas A&M University
CATHY W. GRILLI, Professor
B.A., M.A., University of Mississippi
HOLMES PEACHER-RYAN, Associate Professor
A.B., Princeton University; M.S., Ph.D., University of Memphis
BROTHER WALTER SCHREINER, FSC, Associate Professor
B.A., University of St. Thomas; M.S., University of Notre Dame; Ph.D., University of Illinois
ARTHUR A. YANUSHKA, Professor
B.A., Fordham University; M.S., State University of New York at Stony Brook; Ph.D., University of Illinois

SUE LEHMAN TRZYNKA, Assistant Professor, Assistant Director of Nursing
B.S.N., M.S.N., Northern Illinois University; Ph.D., University of Pittsburgh
PEGGY INGRAM VEESE, Professor
B.S.N., Vanderbilt University; M.S., University of Tennessee, Memphis; Ed.D., University of Memphis

PHYSICS & NATURAL SCIENCE
TED CLARKE, Assistant Professor
B.S., M.S., Ph.D., University of Memphis
JOHNNY B. HOLMES, Professor
B.S., Rockhurst College; M.S., Ph.D., University of Miami
JOHN A. VARRIANO, Professor
B.S., University of Pittsburgh; Ph.D., University of Rochester

PROFESSORS EMERITI
BROTHER JOEL BAUMEYER, FSC, Mathematics, Director of Math Center
B.A., M.Ed., St. Mary's College; M.A., Ph.D., St. Louis University
WILLIAM J. BUSLER, Chemistry
B.S., Christian Brothers College; Ph.D., University of Tennessee Center for the Health Sciences
STEWART MICHAEL CONDREN, Chemistry
B.S., University of Arkansas; M.S., Ph.D., University of Missouri-Rolla
MARGUERITE B. COOPER, Chemistry
A.B., University of North Carolina; M.S., Ph.D., Memphis State University
LAWRENCE GULDE, Mathematics
B.S., M.A.T., St. Mary's College; M.A., Boston College; Ph.D., Memphis State University
RELBUE M. MORGAN, Physics
B.S., Christian Brothers College; Ph.D., Iowa State University
BROTHER EDWARD SALGADO, FSC, Biology
B.A., La Salle University; M.S., St. Mary's University; Ph.D., University of the Philippines
BROTHER ROBERT STAUB, FSC, Biology
B.S., St. Mary's College; M.A., Ph.D., University of Minnesota
LYLE D. WESCOTT, JR., Chemistry
B.S., Georgia Institute of Technology; Ph.D., Pennsylvania State University

PART-TIME FACULTY
BROTHER KEVIN MALACHY RYAN, FSC, Assistant Professor
B.S., M.Ed., St. Mary's College
LYNDA R. MILLER, Lab Coordinator
B.A., Southern Illinois University, M.S., Memphis State University
MISSION
THE SCHOOL OF SCIENCES offers programs leading to Bachelor of Science degrees in Biochemistry, Biology, Biomedical Science, Chemistry, Computer Science, Mathematics, Natural Science, Physics, and Engineering Physics, as well as a Bachelor of Arts degree in Mathematics. Students seeking to enter schools of medicine, dentistry, pharmacy, or any health-related professional school traditionally enroll in the School of Sciences. The baccalaureate degrees in Biochemistry, Biology, Biomedical Science, and Chemistry are designed to meet the entrance requirements of all health-related professional schools.

The course of study for each degree program is designed to meet these criteria:

1. Critical thinking— an active, purposeful, organized and disciplined effort to make sense out of our world and our lives— is the essential foundation of lifelong learning.
2. The knowledge bases and skills needed to deal effectively with the challenge of living in contemporary society are multidisciplinary.
3. A person should be able to make personal and professional decisions within religious and ethical contexts.

The degree programs are constructed to produce graduates who will be able to excel as professionals in science, who will succeed in pursuing further education in graduate or professional schools, and who will use their science background as a foundation for careers in other areas such as business, law, education, and engineering.

DUAL DEGREES
Dual degrees are being offered in the School of Science. See the CBU website for the various possibilities.

DUAL DEGREE (Undergraduate/Graduate) OPPORTUNITIES IN SCIENCE
Christian Brothers University has agreements with the Southern College of Optometry, Union University School of Pharmacy, and CBU’s Master of Science in Physician Assistant Studies through which students majoring in Natural Science at CBU have the possibility of admission into the Professional School or Masters program after completing 3 to 3 ½ years of undergraduate study. Students are not guaranteed admission and must meet all admission requirements for the Professional School or Masters program. Upon completion of the Professional School or Masters program, two degrees may be awarded – one from the Professional School or Masters program and the BS in Natural Science from Christian Brothers University.

DEGREE REQUIREMENTS
In order to graduate, a student must complete 122 semester credit hours with an overall grade point average of 2.0 or above and a minimum 2.0 grade point average in the satisfaction of major requirements. In addition, every student must satisfy the requirements of 6 hours in English composition; a minimum of 18 hours in humanities/social science that must include at least 3 hours in literature, 6 hours in religious studies, 3 hours in moral values course work, and 6 hours in the social sciences. All Math and Natural Science requirements, and sometimes some of the other above requirements, are already specified for the majors in Science. Details on permitted or recommended courses can be found in the General Education section of this catalog.
## COURSE REQUIREMENTS FOR B.S. IN BIOCHEMISTRY

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 113 Principles of Chemistry I &amp; Lab</td>
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<td>ENG 111 English Composition I</td>
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### SOPHOMORE YEAR Semester I

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<tr>
<td>CHEM 211 Organic Chemistry I &amp; Lab</td>
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<td>BIOL 217 Anatomy &amp; Physiology I &amp; Lab</td>
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<td>PHYS 201 Introductory Physics I &amp; Lab</td>
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### JUNIOR YEAR Semester I

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### SENIOR YEAR Semester I

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<td>CHEM 428 Research Seminar III</td>
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<td>BIOL 415 Immunology &amp; Lab</td>
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<td>Moral Values GER</td>
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<td>BIOL 421 Cell/Molecular Biology &amp; Lab</td>
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<td>CS 240 Bioinformatics</td>
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</table>

**Total credits required for the degree 122.**

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1. ENG 100, MATH 103, ALG 110, 115, and 120 do not fulfill the free electives requirement.
2. Chemistry electives must be chosen from the following courses: CHEM 311, 342, 410, and 415 & 415L.
## COURSE REQUIREMENTS FOR B.S. IN BIOLOGY

This paradigm applies to all biology majors including students seeking to enter health-related professional schools and other graduate programs.

**FRESHMAN YEAR Semester I**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<td>CHEM 113 &amp; 113L Principles of Chemistry I &amp; Lab</td>
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<td>ENG 111 English Composition I</td>
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**Semester II**

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<td>CHEM 114 &amp; 114L Principles of Chemistry II &amp; Lab</td>
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<td>ENG 112 English Comp II</td>
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**Sophomore Year Semester I**

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<td>PHYS 201 &amp; 201L Introduction to Physics I &amp; Lab</td>
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**JUNIOR YEAR Semester I**

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<td>BIOL 311 &amp; 311L Genetics &amp; Lab</td>
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<td>Chemistry &amp; Lab</td>
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**SUMMER: BIOL 463 Research I**

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**SENIOR YEAR Semester I**

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**Semester II**

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<td>Elective</td>
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<tr>
<td>Social Science Elective</td>
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<tr>
<td><strong>Total</strong></td>
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**Total credits required for the degree 122.**

Minimum GPA of 2.0 in biology courses is required for graduation. Transfer students must take at least 20 hours of biology at or above the 300 level at Christian Brothers University.

**BIOLOGY ELECTIVES (Students should choose at least one course from each group)**

Group I: BIOL 211 Embryology; 217 Anatomy & Physiology I; 218 Anatomy & Physiology II; 236 Nutrition; BIOL 312 Human Physiology; 414 Histology; 451 Neuroscience.

Group II: BIOL 212 Comparative Anatomy; 216 Botany; 335 Invertebrate Zoology; 413 Parasitology.


Group IV: BIOL 321 Microbiology; 367 Pharmacology; 370 Toxicology; 415 Immunology; 421 Cell Biology.

---

1. Students must take MATH 117 and/or CHEM 101 if they do not place into MATH 131 and/or CHEM 113.
2. Minimum of 9 hours of free electives; no more than 6 hours can be in Biology unless the minimum exceeds 122 hours; ENG 100, MATH 103, ALG 110, ALG 115, and ALG 120 do not fill the free electives requirement.
3. Minimum of 31 hours of biology electives at or above the 200 level must include at least one course from each of the four groups listed above; minimum of 20 hours of biology electives must be at or above the 300 level.
4. Recommended: CHEM 315 Biochemistry or CHEM 214 Quantitative Analysis; any chemistry course with a lab at the 200 level or above will satisfy the requirement.
5. Substitute BIOL 461-462 only with permission of the Chair or Course Director. Students who take BIOL 461 and 462 Independent Research will have to make up three credits in biology in order to complete the 122 hours required minimum.
## COURSE REQUIREMENTS FOR B.S. IN BIOLOGY

**Concentration in Environmental Science**

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 111 &amp; 111L Principles of Biology I &amp; Lab</td>
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<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I &amp; Lab</td>
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<td>ENG 111 English Composition I</td>
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<td>Orientation</td>
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### SOPHOMORE YEAR

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<tbody>
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<td>Biology Elective &amp; Lab</td>
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<td>PHYS 201 &amp; 201L Introduction to Physics I &amp; Lab</td>
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### JUNIOR YEAR

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### SUMMER

- BIOL 463 Research I | 1 |

### SENIOR YEAR

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### Semester II

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<td>CHEM 114 &amp; 114L Principles of Chemistry II &amp; Lab</td>
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<tr>
<td>MATH 131 Calculus I</td>
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### SOPHOMORE YEAR

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<td>Religious Studies (200 Level)</td>
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### SUMMER

- BIOL 463 Research I | 1 |

### SENIOR YEAR

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### Semester II

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<td>BIOL 362 Biology Seminar</td>
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<td>MATH 201 Applied Statistics</td>
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<td>Religious Studies (300 Level)</td>
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<tr>
<td>Moral Values Elective (Environmental Ethics recommended)</td>
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<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**Total credits required for the degree 122.**

Minimum GPA of 2.0 in biology courses is required for graduation. Transfer students must take at least 20 hours of biology at or above the 300 level at Christian Brothers University.

### BIOLOGY ELECTIVES

- **Group I:** BIOL 312 Human Physiology; 370 Toxicology; 421 Cell Biology; 451 Neuroscience.
- **Group II:** BIOL 216 Botany; 321 Microbiology; 355 Invertebrate Zoology; 413 Parasitology.
- **Group III:** BIOL 246 Evolution; BIOL 304 Limnology; 381 Animal Behavior; 412 Ecology.
- **Group IV:** BIOL 370 Toxicology; CE 305 Environmental Site Assessment; CE 404 Solid and Hazardous Waste Management; CE 405 Remediation of Organically Contaminated Soil and Water; CE 406 Air Pollution; CHEM 214 Quantitative Analysis.

---

1. Students may need to take MATH 117 and/or CHEM 101 if they do not place into MATH 131 Calculus I and/or CHEM 113.
2. Recommended free elective for environmental track students.
3. Minimum of 31 hours of biology electives at or above the 200 level must include at least one course from each of the four groups listed above; minimum of 20 hours of biology electives must be at or above the 300 level. Biology courses designed for non-majors do not fulfill the Biology elective requirement.
4. Recommended chemistry elective: CHEM 315 and 316
5. May substitute BIOL 461-462 only with permission of the Chair and Course Director. Students who take BIOL 461 and 462 Independent Research will have to make up three credits in biology in order to complete the 122 hours required minimum.
6. Minimum of 12 hours of free electives. No more than 6 hours can be in biology unless the excess is added to the 122 minimum credits for graduation. ALG 110, 115, 120, MATH 103, and ENG 100 do not fulfill the free electives requirement. Recommended free electives: BIOL 107 Environmental Biology, HUM 210 Intro to Sustainability.
### COURSE REQUIREMENTS FOR B.S. IN BIOMEDICAL SCIENCES

This paradigm applies to students who are seeking to enter medical, dental, or veterinary schools.

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
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<tbody>
<tr>
<td>BIOL 111 &amp; 111L Principles of Biology I &amp; Lab</td>
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<td>BIOL 112 &amp; 112L Principles of Biology II &amp; Lab</td>
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<td>CHEM 113 &amp; 113L Principles of Chemistry I &amp; Lab</td>
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<th>Semester II</th>
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<td>BIOL 321 Microbiology &amp; Lab or BIOL 321 &amp; Lab</td>
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<td>BIOL 312 &amp; 312L Human Physiology &amp; Lab</td>
<td>4</td>
<td>PHIL 322 Medical Ethics</td>
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<td>Elective</td>
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<tr>
<td>BIOL 464 Research II</td>
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<td>BIOL 413 Parasitology &amp; Lab</td>
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<td>BIOL 414 Histology &amp; Lab (or BIOL 321 &amp; Lab)</td>
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<td>BIOL 499 Senior Comprehensive</td>
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**Total credits required for the degree 122.**

### BIOLOGY ELECTIVES

Group I: BIOL 211 Embryology; 217 Anatomy & Physiology I; 218 Anatomy & Physiology II; 236 Nutrition; 451 Neuroscience.

Group II: BIOL 212 Comparative Anatomy; 216 Botany; 335 Invertebrate Zoology.


Group IV: BIOL 367 Pharmacology; 370 Toxicology; 421 Cell Biology.

Minimum GPA of 2.0 in biology courses is required for graduation. Transfer students must take at least 20 hours of biology at or above the 300 level at Christian Brothers University.

---

1. Students may need to take MATH 177 and/or CHEM 101 if they do not place into MATH 131 and/or CHEM 113.
2. Minimum of 9 hours of free electives; no more than 6 hours can be in Biology unless the minimum exceeds 122 hours; ENG 100, MATH 103, ALG 110, ALG 115, and ALG 120 do not fill the free electives requirement.
3. One biology elective must be taken from the Group III list.
# COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY

## FRESHMAN YEAR

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<thead>
<tr>
<th>Semester I</th>
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<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I &amp; Lab</td>
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<td>ENG 111 English Composition I</td>
<td>3</td>
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<td>MATH 131 Calculus I</td>
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## SOPHOMORE YEAR

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<td>PHYS 150 &amp; 150L Physics I &amp; Lab</td>
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## JUNIOR YEAR

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<td>PHYS 252 &amp; 252L Physics III &amp; Lab</td>
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## SENIOR YEAR

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## SEMESTER II

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Total credits required for the degree 122.

The maximum number of credits in chemistry applicable to the degree is 52 hours.

Transfer students must take at least 15 hours of the required Chemistry courses numbered at or above the 300 level at Christian Brothers University.

---

1 Eng 100, Math 103, Alg 110, Alg 115, and Alg 120 do not fulfill the free electives requirement.

2 ENG 211, 212, 221, or 222.

3 Chemistry elective must be a 300 or 400 level course.
### COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-MED)

#### FRESHMAN YEAR Semester I

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<th>Course</th>
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<td>CHEM 114 &amp; 114L Principles of Chemistry II &amp; Lab</td>
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<td>BIOL 112 &amp; 112L Principles of Biology II &amp; Lab</td>
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<td>ENG 111 English Composition I</td>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>MATH 131 Calculus I</td>
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#### SOPHOMORE YEAR Semester I

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<td>Biology Elective &amp; Lab</td>
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<td>CHEM 214 &amp; 214L Quantitative Analysis &amp; Lab</td>
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<td>CHEM 352 &amp; 352L Physical Chemistry II &amp; Lab</td>
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<td>PHYS 252 &amp; 252L Physics III &amp; Lab</td>
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<td>CHEM 415 &amp; 415L Analytical Chemistry &amp; Lab</td>
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<td>MATH 308 Statistics</td>
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<td>Biology Elective &amp; Lab</td>
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<td>Free Elective</td>
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#### SENIOR YEAR Semester I

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<td>CHEM 315 &amp; 315L Biochemistry I &amp; Lab</td>
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<td>CHEM 422 &amp; 422L Inorganic Chemistry &amp; Lab</td>
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<td>CHEM 428 Research Seminar III</td>
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<td>Chemistry Elective (Upper Division)</td>
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**Total credits required for the degree 122.**

The maximum number of credits in chemistry applicable to the degree is 52 hours.

Transfer students must take at least 15 hours of the required Chemistry courses numbered at or above the 300 level at Christian Brothers University

---

1. BIOL 211 & 211L Vertebrate Embryology & Lab, BIOL 311 & 311L Genetics & Lab, and BIOL 312 & 312L are strongly recommended.
2. ENG 100, MATH 103, ALG 110, 115, and 120 do not fulfill the free electives requirement.
3. ENG 211, 212, 221, or 222.
4. Chemistry Elective must be a 300 or 400 level chemistry course.
### COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-PHARMACY)

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<td>BIOL 111 &amp; 111L Principles of Biology I &amp; Lab</td>
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<tr>
<td>ENG 111 English Composition I</td>
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<td>MATH 131 Calculus I</td>
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#### Semester II Credits
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<td>BIOL 112 &amp; 112L Principles of Biology II &amp; Lab</td>
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<td>ENG 112 English Composition II</td>
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<td>MATH 132 Calculus II</td>
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#### SOPHOMORE YEAR Semester I
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<td>CHEM 211 &amp; 211L Organic Chemistry I &amp; Lab</td>
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<td>PHYS 150 &amp; 150L Physics I &amp; Lab</td>
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#### Semester II
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<td>CHEM 212 &amp; 212L Organic Chemistry II &amp; Lab</td>
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<td>CHEM 214 &amp; 214L Quantitative Analysis &amp; Lab</td>
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<td>MATH 232 Calculus III</td>
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<td>PHYS 251 &amp; 251L Physics II &amp; Lab</td>
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<td>BIOL 217 &amp; 217L Anatomy/Physiology I &amp; Lab</td>
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<td>CHEM 351 &amp; 351L Physical Chemistry I &amp; Lab</td>
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<tr>
<td>CHEM 330 Research Seminar I</td>
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<td>PHYS 252 &amp; 252L Physics III &amp; Lab</td>
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<table>
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<td>CHEM 422 &amp; 422L Inorganic Chemistry &amp; Lab</td>
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**Total credits required for the degree 122.**

A maximum of 52 hours in chemistry are applicable to the degree.

Transfer students must take at least 15 hours of the required Chemistry courses numbered at or above the 300 level at Christian Brothers University

---

¹ ENG 211, 212, 221, or 222.
² Recommended for some Pharmacy Schools: BIOL 415 Immunology and Lab, (Fall), BIOL 321 Microbiology and Lab (Spring), CHEM 316 Biochemistry II (Spring), ENG 100, MATH 103, ALG 110, 115, and 120 do not fulfill the free electives requirement.
³ Chemistry Elective must be a 300 or 400 level chemistry course.
### COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-FORENSICS)

#### FRESHMAN YEAR

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<td>BIO 111 &amp; 111L Principles of Biology I &amp; Lab</td>
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<tr>
<td>ENG 111 English Composition I</td>
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<tr>
<td>MATH 131 Calculus I</td>
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<td>Orientation</td>
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<td>MATH 231 Differential Equations</td>
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<td>PHYS 150 &amp; 150L Physics I &amp; Lab</td>
<td>4</td>
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<tr>
<td>Religious Studies Elective</td>
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<tbody>
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<td>PHYS 252 &amp; 252L Physics III &amp; Lab</td>
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#### Semesters II

<table>
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<tr>
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<tbody>
<tr>
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<tr>
<td>CHEM 114 &amp; 114L Principles of Chemistry II &amp; Lab</td>
</tr>
<tr>
<td>BIOL 112 &amp; 112L Principles of Biology II &amp; Lab</td>
</tr>
<tr>
<td>ENG 112 English Composition II</td>
</tr>
<tr>
<td>MATH 132 Calculus II</td>
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<tr>
<td>Social Science Elective</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

**Total credits required for the degree 122.**

A maximum of 52 hours in chemistry are applicable to the degree.

Transfer students must take at least 15 hours of the required Chemistry courses numbered at or above the 300 level at Christian Brothers University.

---

1. ENG 211, 212, 221, or 222.

2. Recommended Electives: ANTH 126 Forensic Anthropology & Lab (Fall), BIOL 421 & Lab Cell/Molecular Biology (Spring) and CHEM 205 Forensic Chemistry (Fall).

   ENG 100, MATH 103, ALG 110, 115, and 120 do not fulfill the free electives requirement.

3. Chemistry Elective must be a 300 or 400 level chemistry course; CHEM 316 may not be used to satisfy this requirement.
## COURSE REQUIREMENTS FOR B.S. IN COMPUTER SCIENCE

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 111 English Composition I</td>
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<tr>
<td>ECE 101 Intro to Engineering Problem Solving</td>
<td>3</td>
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<td>MATH 131 Calculus I</td>
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<tr>
<td>Religious Studies Elective</td>
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</tr>
<tr>
<td>Social Science Elective(^1)</td>
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### Sophomore Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 234 Data Structures &amp; Lab</td>
<td>4</td>
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<tr>
<td>Social Science Elective</td>
<td>3</td>
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<tr>
<td>PHYS 150 &amp; 150L Physics I &amp; Lab</td>
<td>4</td>
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<tr>
<td>Option/Minor Elective</td>
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### Junior Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 471 Database Design</td>
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<td>Option/Minor Elective</td>
<td>6</td>
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<tr>
<td>Philosophy Elective(^2)</td>
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<td>Free elective</td>
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### Senior Year Semester I

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 481 Project I</td>
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<tr>
<td>Option Elective</td>
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<td>Minor Elective</td>
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<tr>
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</table>

**Total credits required for the degree 122.**

A maximum of 47 credits in Computer Science is applicable toward the degree.

Transfer students must take at least one half of the required computer related courses numbered 300 or above at Christian Brothers University. **Note:** A minor is required in both the Engineering and Business Options. The minor may not be in Computer Engineering, Computer Science.

**Bioinformatics Option:** The minor for the Bioinformatics option must be either Biology or Chemistry. The minor in Biology includes BIOL 111, 111Lab, 112, 112Lab, 311, 311Lab, 321, 321Lab, 421, 421Lab. Other required courses are BIOL/CS 240; CHEM 113, 113Lab, 114, 114Lab, 211, 211Lab, 212, 212Lab. The minor in Chemistry includes CHEM 113, 113Lab, 114, 114Lab, 211, 211Lab, 212, 212Lab, 315, 315Lab, 316. Other required courses are BIOL/CS 240; BIOL 111, 111Lab, 112, 112Lab, 311, 311Lab.

**Engineering Option:** required courses are ECE 221, 251, 350, 450; MATH 231; two from ECE 451, 453, 454, and 480-489 Special Topics.

**Forensics Option:** The minor for the Forensics option must be Biology which includes BIOL 111, 111Lab, 112, 112Lab, 217, 217Lab, 218, 218Lab, 321, 321Lab. Other required courses are MATH 201; CHEM 113, 113Lab, 114, 114Lab; ANTH 126, 126Lab, 301.

**Business Option:** required courses are MIS 231, ECON 214, MKTG 311, ECE 314, MGMT 320, MKTG 438, and MGMT 352.

---

1. Six hours of Social Sciences must be chosen to satisfy the General Education requirements.
2. Must satisfy the moral values requirement
COURSE REQUIREMENTS FOR B.S. IN COMPUTER SCIENCE & B.S. IN MATHEMATICS

FRESHMAN YEAR Semester I
- ENG 111 English Composition I .......................................................... 3
- ECE 101 Intro to Engineering Problem Solving .................................... 3
- MATH 131 Calculus I ............................................................................. 3
- Religious Studies Elective .................................................................. 3
- Social Science Elective ¹ ................................................................. 3
- Orientation .......................................................................................... 0
Total........................................................................................................ 15

Semester II
- CS 370 Operating Systems ................................................................. 3
- MATH 402 Abstract Algebra ................................................................. 3
- ECE Elective ......................................................................................... 3
- MATH/CS Elective ............................................................................... 3
Total........................................................................................................ 16

SOPHOMORE YEAR Semester I
- CS 234 Data Structures & Lab ............................................................ 4
- MATH 231 Differential Equations ....................................................... 3
- PHYS 251 & 251L Physics II & Lab .................................................... 4
- ECE 221 Circuit I ................................................................................ 3
- Religious Studies Elective ................................................................. 3
Total........................................................................................................ 17

Semester II
- CS 360 Object Oriented Design .......................................................... 3
- MATH 405 Discrete Math .................................................................... 3
- MATH/CS Elective ............................................................................... 3
Total........................................................................................................ 16

JUNIOR YEAR Semester I
- CS 471 Database Design .................................................................... 3
- MATH 401 Linear Algebra .................................................................. 3
- MATH 329 Applied Numerical Analysis ............................................. 3
- MATH Elective ..................................................................................... 3
- ECE 350 Systems Architecture ......................................................... 3
Total........................................................................................................ 15

Semester II
- CS 440 Algorithms ............................................................................. 3
- MATH 482 Math Seminar II ............................................................... 2
- CS 482 Computer Science Project II ................................................ 3
- Philosophy Elective ........................................................................... 3
- Foreign Language ................................................................................ 3
- ECE Elective ..................................................................................... 3
- MATH 121 .......................................................................................... 0
Total........................................................................................................ 14

SENIOR YEAR Semester I
- MATH 413 Complex Analysis ............................................................ 3
- MATH 481 Math Seminar I ................................................................. 1
- CS 481 Computer Science Project I .................................................. 1
- Philosophy Elective ........................................................................... 3
- Foreign Language ................................................................................ 3
- ECE Elective ..................................................................................... 3
- MATH 121 .......................................................................................... 0
Total........................................................................................................ 14

Semester II
- CS 472 & 472L Fundamentals of Computer Science and Lab .......... 4
- ECE 250 Digital Design ..................................................................... 3
- MATH 132 Calculus II ........................................................................ 3
- PHYS 150 & 150L Physics I & Lab .................................................... 4
- ENG Literature Elective ...................................................................... 3
- Math Elective ..................................................................................... 3
- Math Elective ..................................................................................... 3
Total........................................................................................................ 17

Total credits required for the degree 129.

Transfer students must take at least one half of the required math and computer science courses numbered 300 or above at Christian Brothers University.

MATH 482 & CS 482 can be met by a single project if the student’s project has both significant Math and CS content.

¹ Six hours of social science must be chosen to satisfy the General Education requirements.
² Must satisfy the moral values requirement.
# COURSE REQUIREMENTS FOR B.S. IN ENGINEERING PHYSICS

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
<td>CHEM 115 &amp; 115L General Chemistry</td>
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<tr>
<td>Religious Studies</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
<td>3</td>
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<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
<td>MATH 132 Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>ME 121 Solids Modeling</td>
<td>3</td>
<td>PHYS 150 &amp; 150L Physics I &amp; Lab</td>
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<tr>
<td>Elective</td>
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<td>Orientation</td>
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<tbody>
<tr>
<td>ECE 221 Circuit Analysis I</td>
<td>3</td>
<td>ECE 201 Engineering Instrumentation</td>
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<td>MATH 231 Differential Equations</td>
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<td>MATH 232 Calculus III</td>
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<tr>
<td>PHYS 251 &amp; 251L Physics II &amp; Lab</td>
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<td>ECE 222 Circuit Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>Literature Elective</td>
<td>3</td>
<td>CS 172 &amp; CS 172L Fundamentals of Computer Science</td>
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<tr>
<td>Religious Studies Elective</td>
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<td>PHYS 252 Physics III</td>
<td>3</td>
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<tr>
<td>ECE 331 Electronics I</td>
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<td>Engineering Elective¹</td>
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<td>ENGR/PHYS/MATH Elective¹</td>
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<td>PHYS 252L Physics III Lab</td>
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<td>PHYS 353 Solid State Physics</td>
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<td>Moral Values Elective</td>
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<td>PHYS 380 Advanced Mechanics</td>
<td>3</td>
<td>Social Science/History</td>
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<td>Elective</td>
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<tr>
<td>MATH 121</td>
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<tr>
<th>SENIOR YEAR Semester I</th>
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<th>Semester II</th>
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<tbody>
<tr>
<td>MATH 309 Probability</td>
<td>3</td>
<td>PHYS 452 Advanced Physics Lab</td>
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<td>PHYS 340 E &amp; M Fields</td>
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<td>PHYS 415/415L Optics &amp; Lab</td>
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<td>PHYS 499 Comprehensives</td>
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<td>PHYS 447 Quantum Mechanics</td>
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<td>PHYS 491 Research I</td>
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<td>Physics 430 Thermal Physics</td>
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<td>16</td>
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Total credits required for the degree 122.

Transfer students must take at least one-half of the required courses numbered above 300 at CBU.

¹ Engineering electives must be numbered 300 or above and can be from any field of engineering but must be approved by the Physics Department.
## COURSE REQUIREMENTS FOR B.S. IN MATHEMATICS

### FRESHMAN YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
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<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
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<tr>
<td>ECE 101 Intro to Engineering Problem Solving</td>
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<tr>
<td>Foreign Language</td>
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<tr>
<td>Religious Studies Elective</td>
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### Semester II

<table>
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<tbody>
<tr>
<td>ENG 112 English Composition II</td>
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<td>MATH 132 Calculus II</td>
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### SOPHOMORE YEAR Semester I

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<tbody>
<tr>
<td>ENG Literature Elective</td>
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<tr>
<td>MATH 231 Differential Equations</td>
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<td>Religious Studies Elective</td>
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<td>Philosophy Elective 1</td>
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### Semester II

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>MATH 141 Discrete Mathematics</td>
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<td>MATH 232 Calculus III</td>
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### JUNIOR YEAR Semester I

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 401 Linear Algebra</td>
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<tr>
<td>Mathematics Elective 3</td>
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<td>Minor Electives 2</td>
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### Semester II

<table>
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<th>Course</th>
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<tr>
<td>MATH 402 Abstract Algebra</td>
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<td>Minor Electives 2</td>
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### SENIOR YEAR Semester I

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>MATH 413 Complex Analysis</td>
<td>3</td>
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<tr>
<td>MATH 481 Seminar I</td>
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<td>Mathematics Elective 3</td>
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<td>Minor Electives 2</td>
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<td>Electives</td>
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<td><strong>Total</strong></td>
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### Semester II

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>MATH 414 Real Analysis</td>
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<td>MATH 482 Seminar II</td>
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<tr>
<td>Electives</td>
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<tr>
<td>MATH 201</td>
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### Total credits required for the degree 122.

A maximum of 47 credits in mathematics is applicable toward the degree.

Transfer students must take at least one half of the required mathematics courses numbered above 300 at Christian Brothers University.

**Forensics Option:** The minor for Forensics option must be Biology which includes BIOL 111, 111Lab, 112, 112Lab, 217, 217Lab, 218, 218Lab, 321, 321Lab. Other required courses are CHEM 113, 113Lab, 114, 114Lab; 214, 214Lab; ANTH 126, 126Lab, 301.

**Bioinformatics Option:** The minor for the Bioinformatics option must be Biology which includes BIOL 111, 111Lab, 112, 112Lab, 311, 311Lab, 321, 321Lab, 421, 421Lab. Other required courses are BIOL/CS 240; CS 440; CHEM 113, 113Lab, 114, 114Lab, 211, 211Lab, 212, 212Lab.

---

1. Science electives must include at least 8 hours in one of Biology, Chemistry, or Physics outside the area chosen for the minor.
2. Minor electives must be chosen to obtain a minor in one of Bioinformatics, Biology, Chemistry, Computer Science, Forensics, or Physics. Credits necessary for the minor vary with the requirements for that minor. Reduce free electives by the difference of those credits required by the chosen minor and those listed as minor elective credits in this paradigm.
3. The Mathematics electives must be chosen from MATH 301, 308, 309, 329, 405, or 470-479.
4. Must satisfy moral values requirement.
### COURSE REQUIREMENTS FOR B.A. IN MATHEMATICS

#### FRESHMAN YEAR Semester I
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 101 Intro to Engineering Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language 1</td>
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<tr>
<td>Religious Studies Elective</td>
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<td>Orientation</td>
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<tr>
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#### Sophomore Year Semester I
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG Literature Elective</td>
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<tr>
<td>MATH 231 Differential Equations</td>
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<td>Foreign Language 2</td>
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<td>Religious Studies Elective</td>
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#### Junior Year Semester I
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>MATH 401 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics Elective 1</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy Elective 3</td>
<td>3</td>
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<tr>
<td>Liberal Arts Elective 2</td>
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#### Senior Year Semester I
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 413 Complex Analysis</td>
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<td>MATH 481 Seminar I</td>
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#### Semester II
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ENG 112 English Composition II</td>
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<tr>
<td>MATH 132 Calculus II</td>
<td>3</td>
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<td>Foreign Language 3</td>
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#### Sophomore Year Semester II
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<tr>
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<tbody>
<tr>
<td>ENG Literature Elective</td>
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<tr>
<td>MATH 141 Discrete Mathematics</td>
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#### Junior Year Semester II
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>MATH 402 Abstract Algebra</td>
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<tr>
<td>Philosophy Elective 4</td>
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<td>Liberal Arts Elective 3</td>
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#### Senior Year Semester II
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<tr>
<td>MATH 414 Real Analysis</td>
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</table>

**Total credits required for the degree 122.**

A maximum of 47 credits in mathematics is applicable toward the degree.

Transfer students must take at least one half of the required mathematics courses numbered above 300 at Christian Brothers University.

---

1. A minimum of 12 credits in a modern foreign language is required.
2. The required science electives must be from only one of these fields: Biology, Chemistry, or Physics.
3. The mathematics electives must be chosen from MATH 301, 308, 309, 329, 405, or 470-479.
4. At least one philosophy course must satisfy the General Education Moral Values requirement.
5. A total of 51 credits in the Arts must be distributed in such a way that 12 credits are in one of the Social Sciences, Philosophy, Religious Studies, or History.
### COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE

#### FRESHMAN YEAR Semester I
- **BIOL 111 & 111L Principles of Biology**
  - Credits: 4
- **CHEM 113 & 113L Principles of Chemistry I**
  - Credits: 4
- **ENG 111 English Composition I**
  - Credits: 3
- **MATH 117/131**
  - Credits: 3
- Orientation
  - Credits: 0

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<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 111 &amp; 111L Principles of Biology I</td>
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<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I</td>
<td>4</td>
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<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
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<tr>
<td>MATH 117/131</td>
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<tr>
<td>Orientation</td>
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<tr>
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#### Semester II
- **Science Elective**
  - Credits: 4
- **CHEM 114 & 114L Principles of Chemistry II**
  - Credits: 4
- **ENG 112 (English Comp II)**
  - Credits: 3
- **MATH 106/131/132**
  - Credits: 3
- Elective
  - Credits: 3

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<td>CHEM 114 &amp; 114L Principles of Chemistry II</td>
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<tr>
<td>ENG 112 (English Comp II)</td>
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<td>MATH 106/131/132</td>
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<td><strong>Total</strong></td>
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#### SOPHOMORE YEAR Semester I
- Science Area I
  - Credits: 4
- **PHYS 150/201 Physics I & Lab**
  - Credits: 4
- Literature Elective
  - Credits: 3
- Elective
  - Credits: 3

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<tr>
<td><strong>Total</strong></td>
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#### Semester II
- Science Area I
  - Credits: 4
- **PHYS 251/202 Physics II & Lab**
  - Credits: 4
- Moral Values Elective
  - Credits: 3
- Social Science/History
  - Credits: 3

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<tr>
<td>PHYS 251/202 Physics II &amp; Lab</td>
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<tr>
<td>Moral Values Elective</td>
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<td>Social Science/History</td>
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<tr>
<td><strong>Total</strong></td>
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#### JUNIOR YEAR Semester I
- Science Area I
  - Credits: 4
- Science (Any Area)
  - Credits: 3
- Religious Studies Elective
  - Credits: 3
- Social Science Elective
  - Credits: 3

<table>
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<tbody>
<tr>
<td>Science Area I</td>
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<tr>
<td>Science (Any Area)</td>
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<tr>
<td>Religious Studies Elective</td>
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<tr>
<td><strong>Total</strong></td>
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#### Semester II
- Science (Any Area)
  - Credits: 3
- Electives...
  - Credits: 9

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<td>Electives...</td>
<td>9</td>
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<tr>
<td><strong>Total</strong></td>
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#### SENIOR YEAR Semester I
- NSCI 410 Senior Thesis I
  - Credits: 1
- Science (Any Area)
  - Credits: 4
- Electives...
  - Credits: 12

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<tr>
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#### Semester II
- Science (Any Area)
  - Credits: 3
- Electives...
  - Credits: 12

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<tr>
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<tr>
<td><strong>Total</strong></td>
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</table>

### Total credits required for the degree: 122.

Transfer students must take at least one-half of the required courses numbered at or above the 200 level at CBU, and this must include at least two courses (6 to 8 hours excluding NSCI 410) at or above the 300 level.

CHEM 101 does not supply any credit for Major Requirements. It can supply 3 credit hours of Free Electives.

Students wishing to add NSCI as a second major must receive approval from the department.

General education, science, and free electives can be chosen to satisfy the following options.

**Forensics Option:** The following courses are recommended: ANTH 126/126L, 301; BIOL 217/217L, 218/218L 321/321L, 414/414L; CHEM 211/211L, 212/212L, 312/312L; MATH 201

**Professional Writing Option:** A certificate in professional writing is earned by taking four upper level writing courses chosen from ENG 370, 371, 373, 375, 377, 376, 389.

**Sales/Marketing Option:** The following courses are recommended: MKTG 311, 334, 338, 348.

**Teaching Licensure Option:** Refer to the School of Arts section of the Catalog where paradigms for teaching licensure (grades 7-12) are listed. Theses paradigms are part of a five-year plan where the student earns a Master of Arts in Teaching.

---

1. Students who choose Physics as Science Area I can take BIOL 109 & 109L instead of BIOL 111, 111L, 112 & 112L.
2. Students must have at least 30 hours of science (biology, chemistry, or physics) at or above the 200+ level. At least 12 of these 30 hours must be in the same field (Science Area I). At least 14 of these 30 hours must be at the 300+ level (including NSCI 410 & 411).
3. Students who choose Physics as Science Area I must take PHYS 150, 251, 252 and the associated labs.
COURSE REQUIREMENTS FOR B.S. IN NATURAL SCIENCE WITH A CONCENTRATION IN PUBLIC HEALTH

GENERAL EDUCATION REQUIREMENTS (see page 24) ........................................................................................................ 33 hours
Aesthetics (Fulfilled by GER literature requirement) .................................................................................................. 0 hours
English Composition (ENG 111 & 112) .................................................................................................................. 6 hours
Math 201 .................................................................................................................................................................. 3 hours
Math 117 and 131 or MATH 131 and 132 or MATH 117 and 106\(^1\) .................................................................. 6 hours
Social Science/History GERS .............................................................................................................................. 6 hours
Literature GER ...................................................................................................................................................... 3 hours
Religious Studies GERS (a 200 and a 300 level recommended) ........................................................................... 6 hours
Moral Values (PHIL 322 or 325) .......................................................................................................................... 3 hours
Orientation .......................................................................................................................................................... 0 hours

SCHOOL OF SCIENCES REQUIREMENTS ............................................................................................................... 57 hours
Public Health (BIOL 101) .......................................................................................................................................... 3 hours
Principles of Epidemiology (BIOL 102) .................................................................................................................. 3 hours
Biology of Addiction & Lab (BIOL 103) or Environmental Biology & Lab (BIOL 107) ....................................... 4 hours
Principles of Biology I & Lab (BIOL 111) ................................................................................................................ 4 hours
Principles of Biology II & Lab (BIOL 112) ................................................................................................................ 4 hours
Nutrition (BIOL 236) ............................................................................................................................................. 3 hours
Parasitology & Lab (BIOL 413) ............................................................................................................................. 4 hours
Biology Electives (300 Level or higher) ................................................................................................................. 7 hours
Principles of Chemistry I & Lab (CHEM 113) .......................................................................................................... 4 hours
Principles of Chemistry II & Lab (CHEM 114) ........................................................................................................ 4 hours
Physics I & Lab (PHYS 201) ................................................................................................................................... 4 hours
Physics II & Lab (PHYS 202) ................................................................................................................................... 4 hours
Science Electives (200 Level or higher) .................................................................................................................. 6 hours
Senior Seminar (NSci 410) ...................................................................................................................................... 1 hour
Senior Research (NSci 412) .................................................................................................................................... 2 hours

SOCIAL SCIENCE REQUIREMENTS ...................................................................................................................... 18 hours
Global Health (SOC/ANTH 350) .......................................................................................................................... 3 hours
Medical Anthropology (SOC/ANTH 301) ................................................................................................................. 3 hours
12 Credits from the following: ANTH/SOC 160; PSYC/SOC 345; PSYC 218, 230; SOC 202, 362......................... 12 hours

FREE ELECTIVES .................................................................................................................................................. 14 hours

TOTAL FOR GRADUATION ................................................................................................................................ 122 hours

Transfer students must take at least one-half of the required courses numbered at or above the 200 level at CBU, and this must include at least two courses (6 to 8 hours excluding NSci 410, 412) at or above the 300 level.

CHEM 101 does not supply any credit for Major Requirements. It can supply 3 credit hours of Free Electives.

\(^1\) If MATH 201 is not taken as the second math course, a statistics course must be taken.
COURSE REQUIREMENTS FOR R.N. TO B.S. IN NURSING

This paradigm applies only to students who hold a license as a Registered Nurse seeking to complete a Bachelor of Science in Nursing degree. This degree program is offered in an evening cohort format.

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
<th>Semester II</th>
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<tbody>
<tr>
<td>NURS 301 Transition to Professional Nursing$^1$</td>
<td>1</td>
<td>NURS 402 Professional Role Development II</td>
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<tr>
<td>NURS 303 Professional Role Development I</td>
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<td>NURS 404 Community Health</td>
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<tr>
<td>NURS 305 Health Assessment</td>
<td>3</td>
<td>NURS 406 Community Health – Clinical$^2$</td>
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<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
<td>ENG 112 English Composition II</td>
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</tr>
<tr>
<td>Natural/Physics Science w/Lab Elective$^3$</td>
<td>4</td>
<td>MATH 162 Health Science Applications of Algebra and Statistics</td>
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Summer

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Block Credit

| Nursing$^7$ | 30 |
| **Total** | **30** |

Total credits required for the degree 122.

Transfer of equivalent courses will be noted on advisement and the plan of study will be adjusted.

---

$^1$ Attendance to the Transition to Professional Nursing is mandatory.

$^2$ Clinical rotations are similar to internships in that the clinical will take place outside of the evening class hours and will be located in a health care agency/institution.

$^3$ Students will choose a NAT/PHY Science course from the following list: BIOL 103, 107, 109, 111; CHEM 113, 115; NSCI 111, 115, 118, 122, 126, 128; PHYS 150, 201; or one recommended by their faculty advisor.

$^4$ Students may choose either ENG-211 or ENG-212 in order to complete the Literature/Aesthetics requirement.

$^5$ Students may choose courses within the Sociology, Psychology, History, or Political Sciences cluster in order to fulfill the Social Science/History requirement.

$^6$ Students may choose one course from following list: PHIL 219, 220, 223, 224, 234, 321, 322, 324, 325, 340, 391, or 395 in order to complete the Philosophy requirement.

$^7$ Students will receive 30 credit hours; which will be posted to their records after they have successfully completed the Professional Role Development II and before graduation.
### COURSE REQUIREMENTS FOR B.S. IN PHYSICS

<table>
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<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
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<tbody>
<tr>
<td>CHEM 113 &amp; 113L Principles of Chemistry I &amp; Lab</td>
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<td>CHEM 114 &amp; 114L Principles of Chemistry II &amp; Lab</td>
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<tr>
<td>ENG 111 English Composition I</td>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>Religious Studies GER</td>
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<td>MATH 132 Calculus II</td>
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<td>MATH 131 Calculus I</td>
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<td>PHYS 150 Physics I &amp; Lab</td>
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<tr>
<td>Orientation</td>
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<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Total</strong></td>
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<tr>
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<th>Semester II</th>
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<tr>
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<td>ECE 221 Circuit Analysis I</td>
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<td>PHYS 252 Physics III</td>
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<td>MATH 231 Differential Equations</td>
<td>3</td>
<td>CS 172 Fundamentals of Computer Science</td>
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<tr>
<td>PHYS 251 &amp; 251L Physics II &amp; Lab</td>
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<td>CS 172L Fundamentals of Computer Science Lab</td>
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<td>Moral Values Elective</td>
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<td><strong>Total</strong></td>
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<td>ECE 201 Engineering Instrumentation</td>
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<tr>
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<td>PHYS 252L Physics III Lab</td>
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<td>PHYS 381 Advanced Mechanics II</td>
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<td>PHYS 353 Solid State Physics</td>
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<td>Religious Studies Elective</td>
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<td>PHYS 380 Advanced Mechanics I</td>
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<td>Mathematics Elective</td>
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<tr>
<td>Elective</td>
<td>3</td>
<td>Social Science/History</td>
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<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
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<th>Semester II</th>
<th>Credits</th>
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<tr>
<td>PHYS 340 EM Fields</td>
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<td>PHYS 430 Thermal Physics</td>
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<td>PHYS 415 &amp; 415L Optics &amp; Lab</td>
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<td>PHYS 448 Quantum Mechanics II</td>
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<td>PHYS 447 Quantum Mechanics I</td>
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<td>PHYS 452 Advanced Physics Lab</td>
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<td>PHYS 491 Research I</td>
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<td>Literature or Philosophy GER</td>
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<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

**Total credits required for the degree 122.**

Transfer students must take at least one-half of the required courses numbered above 300 at CBU.

---

1. A maximum of 3 elective hours may be in physics.
2. All Mathematics electives must be at the 300+ level.
MINORS IN THE SCHOOL OF SCIENCES

At least 50% of required courses for a minor must be taken at CBU.

MINOR IN BIOLOGY: A minor in Biology requires a minimum of 23 hours in BIOL courses, including BIOL 111 and BIOL 112 and laboratory corequisites plus 15 hours in BIOL courses numbered 200 or above including 7 hours in BIOL courses numbered 300 and above and earned at CBU. See the information about the Bioinformatics Option and the Forensics Option on the pages associated with the B.S. in Computer Science and the B.S. in Mathematics.

MINOR IN CHEMISTRY: A minor in Chemistry requires a minimum of 23 hours in CHEM courses excluding CHEM 101, 115, and 115L. At least 7 of the hours must be in CHEM courses numbered 300 or above and earned at CBU.

MINOR IN COMPUTER SCIENCE: A minor in Computer Science requires the following courses CS 172, 172L, 234, 234L, 360, 471; MATH 141 or 405; and one course selected from CS 370, 440, 460-469.

MINOR IN MATHEMATICS: A minor in Mathematics requires 21 hours in MATH courses including MATH 131, 132, 231, 232, and three MATH courses numbered 300 or above. At least 6 hours in MATH courses numbered 300 or above must be earned at CBU.

MINOR IN PHYSICS: A minor in Physics requires a minimum of 21 hours in PHYS courses including the following courses: PHYS 150, 150L, 251, 251L, 252, 252L, and at least 9 hours in PHYS courses numbered 300 or above. At least 5 hours in PHYS courses numbered 300 or above must be earned at CBU, and no more than 4 hours in PHYS courses numbered 300 or above may be earned via challenge exams.

MINOR IN PUBLIC HEALTH (SCIENCE OPTION): A minor in Public Health (science option) requires 36 hours including BIOL 101, 102, 111, 111L, 112, 112L, CHEM 113, 113L, PHIL 322 or 325, SOC/ANTH 350 Global Health, and 12 hours selected from the following: BIOL 103, 103L, 107, 107L, 236, 321, 321L, 370, 412, 412L, 413, 413L, and 492 (a special topics course in public health with the permission of the biology department). Note that BIOL 321 requires CHEM 211 as a prerequisite, and BIOL 370 requires CHEM 212 as a prerequisite.
INTERDISCIPLINARY PROGRAMS

Some academic programs cross Departmental and School boundaries. They consist of courses drawn from various disciplines and are thus listed separately. Below please find a listing of such interdisciplinary approaches.

CYBERSECURITY AND FORENSICS
Schools of Business, Engineering and Science

FACULTY

DANIEL M. BRANDON, JR., Professor
B.S., Case Western Reserve University; M.S., Ph.D., University of Connecticut; PMP

PASCAL BEDROSSIAN, Professor
B.S., Christian Brothers University; M.S., Ph.D., Memphis State University

LAWRENCE J. SCHMITT, Professor
B.B.A., M.B.A., Ph.D., University of Memphis; MSCE

H. JOHN VENTURA, Associate Professor
B.S., Christian Brothers College; M.E., University of Florida;
Ed.S., Ph.D., Nova Southeastern University; P.E.

ERIC B. WELCH, Professor
B.S., M.S., Ph.D., Mississippi State University

JENNIFER WESKE, Assistant Professor
B.B.A., Stephen F. Austin State University; M.B.A., The University of Memphis

ARTHUR A. YANUSHKA, Professor
B.A., Fordham University; M.S., State University of New York at Stony Brook;
Ph.D., University of Illinois
### COURSE REQUIREMENTS FOR BS IN CYBER SECURITY AND DIGITAL FORENSICS

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 111 English Composition</td>
<td>3</td>
<td>CS 172 &amp; 172L Fund. of CS &amp; Lab.</td>
<td></td>
</tr>
<tr>
<td>ECE 101 Intro to Engr Prob Solving</td>
<td>3</td>
<td>ECE 250 Digital Design</td>
<td>3</td>
</tr>
<tr>
<td>Math 131 Calculus I</td>
<td>3</td>
<td>Eng 112 English Composition II</td>
<td>3</td>
</tr>
<tr>
<td>MIS 153 Intro to Comp Business Apps</td>
<td>3</td>
<td>Math 132 Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>Social Science GER</td>
<td>3</td>
<td>MIS 231 Intro to MIS</td>
<td>3</td>
</tr>
<tr>
<td>Orientation</td>
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<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

| SOPHOMORE YEAR Semester I                                    |         |                                                    |         |
| CS 234 and CS 234L                                            | 4       | Math 141 Discrete Mathematics                      | 3       |
| Social Science GER                                            | 3       | CS 301 C Programming<sup>1</sup>                   | 2       |
| Statistics GER                                                | 3       | Natural Science & Lab GER                          | 4       |
| Religious Studies GER                                         | 3       | MIS 295 Data Comm, Networks, Security              | 3       |
| Moral Values GER                                              | 3       | English Lit GER                                    | 3       |
| **Total**                                                     | 16      | **Total**                                           | 15      |

| JUNIOR YEAR Semester I                                       |         |                                                    |         |
| MIS 470 App & Web Development                                 | 3       | MIS 351 Systems Analysis & Design                  | 3       |
| CS/ECE 370 Operating Systems                                  | 3       | MIS 482 & MIS 482L<sup>2</sup>                     | 4       |
| MIS 481 and MIS 481L<sup>2</sup>                              | 4       | ECE/CS 471 or MIS 471 Database Design              | 3       |
| Minor Elective                                                | 3       | Minor Elective                                     | 3       |
| Free Elective                                                 | 3       | Free Elective                                      | 3       |
| **Total**                                                     | 16      | **Total**                                           | 16      |

| SENIOR YEAR Semester I                                       |         |                                                    |         |
| MIS 483 Security Compliance & Auditing<sup>1</sup>            | 3       | MIS 456 Cyber Security Internship<sup>1</sup>      | 3       |
| Free Elective                                                 | 3       | Minor Elective                                     | 3       |
| Minor Elective                                                | 3       | Religious Studies GER                              | 3       |
| Minor Elective                                                | 3       |                                                     |         |
| Minor Elective                                                | 3       |                                                     |         |
| **Total**                                                     | 15      | **Total**                                           | 12      |

Total credits required for the degree: 122.

<sup>1</sup> This course will first be offered in the 2013 – 2014 academic year.

<sup>2</sup> These courses will first be offered in the 2014 – 2015 academic year.

<sup>3</sup> These courses will first be offered in the 2015 – 2016 academic year.
MINOR IN GLOBAL STUDIES
A minor in Global Studies requires 18 hours of course work with HUM/GS 200 being required and 15 hours to be chosen from a list of designated courses below. Please note the following requirements: 1) 6 elective hours must be at the 300 level or above; 2) elective courses must be taken from at least three different departments or programs; 3) no more than 2 courses can be 100 level courses. In addition to the 18 hours, students must demonstrate a second language capability equivalent to the 202 level (or take up to 12 hours of a foreign language) and take part in a University approved international experience. Designated elective courses include the following: ANTH 160; ANTH/SOC 387; ART 211, 212; BIOL 107, 107lab; CE 305, 317; ECE/ME/CE/CHE 314, 400; ECON 422; ENG 231, 232, and other specified English courses; FIN 437; GEOG 280, 310, 325, 340; any History course (only one American history will apply); MUSC 112; PHIL 317, 318, 324, 325; POLS 113, 115, 340, 370, 375; RS 220, 221, 270, 340; all foreign language courses 300 level and above; and special international topics from a variety of courses including special GS art and cultural offerings. (Note: the faculty of Political Science has oversight of the Minor in Global Studies).

MINOR IN SUSTAINABILITY STUDIES
The minor in Sustainability Studies is an interdisciplinary minor designed to introduce students to the breadth and application of academic approaches relevant to meeting the scientifically, ethically, and politically complex environmental challenges of the Twenty-First Century. The Department of History & Political Science has oversight of the Sustainability Studies minor. This minor degree is intended to complement progress toward completion of a bachelor’s degree in the student’s major field of study by emphasizing sustainability themes in her or his major and related academic areas. In this respect, the minor provides substantial support for students who wish to incorporate sustainability issues and themes in their major program research. The minor in Sustainability Studies requires the following courses:

- HUM 210-Introduction to Sustainability;
- PHIL 324-Technology and Human Values or PHIL 325-Environmental Ethics;
- BIOL 107 and BIOL 107L Environmental Biology and lab or BIOL 412 and BIOL 412L Ecology and lab;
- 3 courses from the following list (two of which must be from outside one's major field of study):
  - ANTH/SOC 160, 350; BIOL 101, 102, 107, 370*, 412*; CE/CH E/ECE/ME 400*; CH E 410*; ECON 325, 346, 420*, 422*; GS/HUM 200; HIST 351*; HUM 295,395†; MGMT 320*; PHIL 324, 325; POLS 113; RS 331.

Course additions and substitutions, e.g., “Special Topics” courses for the minor require prior approval by the director of the Minor in Sustainability Studies.

* Has prerequisite(s) that might not be counted toward the minor;
† Requires approval of the director of the Minor in Sustainability Studies, and only one course in HUM 295,395 may count toward the minor

MINOR IN WOMEN’S AND GENDER STUDIES
The minor in Women’s and Gender Studies is an interdisciplinary minor designed to introduce students to the perspectives and experience of women and the analysis of gender and sexualities in intersection with other important categories including race, ethnicity, religion, class, disability, and nationality. This minor degree is intended to complement progress toward completion of a bachelor’s degree in the student’s major field of study by incorporating contemporary theories of gender and sexuality and the complex relations between education, theory, and practice for social justice as approaches to the student’s major and related academic fields. A minor in Women’s Studies requires 18 credit hours. Courses may be selected from ENG 362; PSYC/SOC 270, 345, 363; RS 372; SOC/ANTH 351. Note: the Religion & Philosophy Department has oversight of the Minor in Women’s and Gender Studies. Additional “Special Topics” courses will be designated as giving credit hours for this minor. Course substitutions for the minor require prior approval by the department’s director of the minor in Women’s and Gender Studies.
ACADEMIC COURSES

References to the timing of course offerings which follow apply only to day courses. Professional Studies and summer school course offerings are scheduled according to need. Christian Brothers University reserves the right to cancel classes at any time due to insufficient enrollment.

■ ACADEMIC PLANNING COURSE
ACAD 150. ACADEMIC PLANNING
Intended for students interested in developing and/or strengthening college study and test-taking skills, memory training, time and stress management, and educational and career planning, this course provides students with opportunities to assess their individual strengths and weaknesses and to explore campus resources for academic assistance. No prerequisites. One semester; three credits

■ ACCOUNTING COURSES
Requirements for the major are found on Page 66.

ACCT 260. FINANCIAL ACCOUNTING (Formerly ACCT 261 & ACCT 262)
This course will provide the student with an understanding of how financial accounting information is used in business decision making and its importance as a field of study regardless of major. Basic transaction analysis, journal entries, and T-accounts are used to provide the structure for understanding the interplay between management decisions and the analysis of financial statements. Prerequisites: MATH 105 or 106; MIS 153. A grade of “C” or better in this course is required to proceed to ACCT 264 or 265 or ACCT 270. Corequisite: ACCT 260L. Offered in both Fall and Spring semesters. One semester; three credits

ACCT 260L. FINANCIAL ACCOUNTING LABORATORY
Laboratory experience to illustrate and explain the principles covered in ACCT 260. Corequisite: ACCT 260. Pass/Fail Grading. One semester; zero credits.

ACCT 264 INTERMEDIATE FINANCIAL ACCOUNTING I
First of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include accounting standards and the conceptual framework underlying financial accounting, accounting information systems, the income statement, the balance sheet and the time value of money. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 260. A grade of “C” or better in this course is required to proceed to any other upper level accounting courses. Offered in the Spring semester. One semester; three credits

ACCT 265. INTERMEDIATE ACCOUNTING I (Formerly ACCT 361)
This course provides an in-depth study of accounting theory and records, the reporting process, inventories, tangible and intangible assets, cash and temporary investments, receivable, and long-term investments such as stocks and bonds. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 260. A grade of “C” or better in this course is required to proceed to any other upper level accounting courses. Corequisite: ACCT 265L. Offered in the Spring semester. One semester; three credits

ACCT 265L. INTERMEDIATE ACCOUNTING I LABORATORY
Laboratory experience to illustrate and explain the principles covered in ACCT 265. Corequisite: ACCT 265. Pass/Fail Grading. One semester; zero credits.

ACCT 270. MANAGERIAL ACCOUNTING (Formerly ACCT 360)
Managerial accounting introduces the student to methods of using accounting information within an organization to plan operations, control activities, and make decisions. Accounting methods covered include cost-volume profit analysis, profit planning, variance analysis and other techniques that aid in decision making and evaluation of business performance. Prerequisite: ACCT 260 with a grade of “C” or better, MATH 105 or 106, MIS 153. Corequisite ACCT 270L. Offered in both Fall and Spring semesters. One semester; three credits

ACCT 270L. MANAGERIAL ACCOUNTING LABORATORY
Laboratory experience to illustrate and explain the principles covered in ACCT 270. Corequisite: ACCT 270. Pass/Fail Grading. One semester; zero credits.

ACCT 312. ACCOUNTING SYSTEMS (Formerly ACCT 410)
Principles underlying establishment of complete accounting systems; application to typical business organizations; emphasis on the functions of control and protection. Prerequisite: ACCT 364 or 365 with a grade of “C” or better. Offered in the Spring semester. One semester; three credits

ACCT 319. COST ACCOUNTING
The course is designed to provide in-depth coverage of cost accounting concepts, objectives, and accumulation and reporting procedures. Particular attention is given to material, labor and overhead costs in job order and process cost accumulation systems. The importance of cost accounting as a management tool in planning, controlling, and analysis is emphasized throughout the course. Prerequisite: ACCT 264 or 265 with a grade of “C” or better. Offered in the Fall semester. One semester; three credits

ACCT 364. INTERMEDIATE FINANCIAL ACCOUNTING II
Second of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include cash and receivables, inventories, property plant and equipment, depreciation, intangible assets, current and long-term liabilities and stockholders’ equity. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 264 with a grade of “C” or better. A grade of “C” or better in this course is required to proceed to any other upper level accounting courses. Offered in the Fall semester. One semester; three credits
ACCT 365. INTERMEDIATE ACCOUNTING II (Formerly ACCT 362)
Coverage of corporate accounting is continued; accounting for bonds; special purpose funds; correction of prior periods, special problems of income
determinations, comparative statements, ratio analysis, statement of cash flows. Various pronouncements of the Financial Accounting Standards
Board are covered. Prerequisite: ACCT 265. A grade of "C" or better in this course is required to proceed to ACCT 312 or any 400 level accounting
courses. One semester; three credits

ACCT 366. INTERMEDIATE FINANCIAL ACCOUNTING III
Third of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include earnings per
share, investments, revenue recognition, accounting for income tax, pensions and leases, accounting changes and the cash flow statement. Various
pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 364 with a grade of "C" or better. A grade of "C" or
better in this course is required to proceed to ACCT 312 or any 400 level accounting course. Offered in the Spring semester. One semester; three credits

ACCT 385. FRAUD EXAMINATION
This course gives a comprehensive view of the growing significance of fraud in today's business world. This course will examine the nature of fraud,
the types of fraud, recent developments in fraud, and the victims of fraud. Students will learn to perform an analysis of fraud using specialized
software. Prerequisite: Must be a Business Major. Grade of "C" or better in ACCT 260 and ACCT 270. Junior standing.

ACCT 400. ACCOUNTING INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the
faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted
upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Pass/Fail
Grading. One semester; three credits

ACCT 412. AUDITING (Formerly ACCT 405)
This course is an introduction to the auditing profession. Particular attention is given to the Generally Accepted Auditing Standards, audit reports,
ethical and legal responsibilities, evidence, audit risk and materiality, internal control, audit programs and the overall audit plan. The auditor's
decision-making process is emphasized throughout the course. Prerequisite: ACCT 312 and ACCT 366 with a grade of "C" or better. Offered in
the Fall semester. One semester; three credits

ACCT 430. FEDERAL INCOME TAXATION I (Formerly ACCT 321)
This course introduces the student to the current Income Tax Code and the effect the Internal Revenue Service and the courts have had on the
evolution of Federal tax law. Application of the Federal Income Tax to individuals, and the determination of their tax liability is explained. Basic
tax research is introduced through the use of various tax services, court decisions, and regulations. This research is considered a prerequisite for
success in tax practice. Principles and procedures of sound tax planning are introduced. Prerequisite: ACCT 365 or 366 with a grade of "C" or
better. Offered in the Fall semester. One semester; three credits

ACCT 431. FEDERAL INCOME TAXATION II (Formerly ACCT 322)
This course is a follow-on course with more advanced tax areas such as gain and loss determination, net operating loss concepts, and other topics.
The application of the Internal Revenue Code to partnerships and corporations and the development of their tax reporting are introduced. Tax
research, as it applies to advanced tax topics, and further discussion of sound tax planning are continued. Prerequisite: ACCT 360. Offered in the
Spring semester. One semester; three credits

ACCT 460-464. SPECIAL TOPICS IN ACCOUNTING.
Each course is designed to permit intensive study into topics of special interest and timeliness in the area of Accounting. Offered as needed. One
semester; three credits

ACCT 465. ADVANCED ACCOUNTING I (Formerly ACCT 375 and ACCT 423)
Advanced Accounting I is a continuation of Intermediate Accounting in that it further explores financial accounting topics with an emphasis on
consolidated financial statements. Coverage also includes accounting for branch offices and partnerships. Prerequisite: ACCT 365 or 366 with a
grade of "C" or better. Offered in the Fall semester. One semester; three credits

ACCT 475. GOVERNMENTAL ACCOUNTING (Formerly Advanced Accounting II)
This course examines the procedures used by government units, particularly municipalities and not-for-profit entities. Emphasis in the course is
on budgetary and fund accounts. Prerequisites: ACCT 260 or ACCT 364 with a grade of "C" or better. Offered in the Summer semester. One semester; three credits

ACCT 480. FINANCIAL STATEMENT ANALYSIS
This course is a review of financial statements for fairness and completeness in reporting. The focus is on the analysis of financial statements and
related footnotes from the standpoint of the different users of financial reports. Required of all Accounting majors. Open to any interested student.
Prerequisite: ACCT 260 with a grade of "C" or better and FIN 327 with a grade of "C" or better. Offered in the Spring semester. One semester; three credits

ACCT 485. FORENSIC ACCOUNTING
This course gives a comprehensive view of forensic accounting including both civil and criminal accounting fraud related activities. This course
will explore false business valuations, employer fraud, information security fraud, and counter-terrorism. Prerequisite: ACCT 412. Offered in the
Spring semester. One semester; three credits

ACCT 490. PROFESSIONAL ACCOUNTING ETHICS
This course provides the student with an understanding of, and an appreciation for, the various ethics requirements of the accounting profession.
Specific attention is given to the Code of Ethics of the AICPA, the IMA, and the FEI. Students will also understand the ethics requirements for
certification by the State Boards of Accountancy. Prerequisites: ACCT 365 or 366 with a grade of "C" or better and PHIL 220. Offered in the
Fall semester. One semester; three credits
ACCT 491 INTERNATIONAL FINANCIAL REPORTING STANDARDS
Similarities and differences between GAAP and International Financial Reporting Standards (IFRS); international issues related to taxation and financial statement analysis. Prerequisite: ACCT 412. Offered in the Spring semester. One semester; three credits.

ACCT 499. ACCOUNTING COMPREHENSIVE EXAMINATION
Seniors will be required to take a comprehensive examination in all areas of accounting before graduation. The examination date will be announced. A passing score is required for graduation. Prerequisite: Permission of Dean of the School of Business. Pass/Fail Grading. One semester, zero credits.

■ AIR FORCE ROTC
Air Force ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

■ ALGEBRA COURSES

ALG 110. ALGEBRAIC EXPRESSIONS
This course is designed for students who need a review in basic math skills. Topics include fractions, exponents, rational exponents, factoring and algebraic expressions. The course does not supply any portion of the mathematics credits required in any CBU degree program. Students may not receive credit for Algebra 110 after completing any Math course numbered 100 or above. Two credits

ALG 115. BASIC ALGEBRAIC EXPRESSIONS
This course provides the student a review of basic math skills. Topics include algebraic expressions, polynomial operations, factoring, rational expressions and exponents. The course does not supply any portion of the math credits required in any CBU degree program. Students may not receive credit for both Algebra 110 and Algebra 115. Also, students may not receive credit for Algebra 115 after completing any Math course numbered 100 or above. One credit

ALG 120. ALGEBRAIC EQUATIONS
This course is a continuation of Algebra 110 or 115. Topics include solving equations and inequalities and an introduction to functions and graphing. The course does not supply any portion of the mathematics credits required in any CBU degree program. Students may not receive credit for Algebra 120 after completing any Math course numbered 100 or above. Prerequisite: ALG 110 or 115. Two credits

■ ANTHROPOLOGY COURSES

ANTH 126. FORENSIC ANTHROPOLOGY
This course is the subspecialty of Physical Anthropology that involves excavation and identification of human remains for legal purposes. Students are exposed to the human skeleton and taught to examine bones for sex, age, ancestry, and stature differences. Interpretation of skeletal crime trauma is stressed. The most recent techniques and analyses in the forensic sciences, along with current and controversial trends in anthropology are discussed. Authentic case studies are used to illustrate the applied field of anthropology. This course is intended for applied psychology and science students. It assumes a basic familiarity with skeletal anatomy. Prerequisite: MATH 105 or higher. Corequisite: ANTH 126L. (Same as NSCI 126) One semester; three credits

ANTH 126L. FORENSIC ANTHROPOLOGY LAB
Laboratory to accompany ANTH 126. Hands-on laboratory sessions will be used to teach basic techniques of skeletal analysis. Laboratory topics to include basic anatomy of the human skeleton, differences between animal and human remains, determination of the time interval since death, age, sex, ancestry, stature, the cause and manner of death, facial reconstruction, case report writing, etc. Please note: Students will be expected to respectfully handle animal and human remains. (Same as NSCI 126L) Corequisite: ANTH 126. One semester; one credit

ANTH 128. PHYSICAL ANTHROPOLOGY
This course is designed to introduce the student to the field of physical/biological anthropology, with an emphasis on human evolution. The larger themes investigated are the fundamentals of biological anthropology, major principles underlying our evolutionary history, and a review of the fossil evidence in an attempt to understand the development of the human species. Prerequisite: MATH 105 or higher. Corequisite: ANTH 128L. (Same as NSCI 128) One semester; three credits

ANTH 128L. PHYSICAL ANTHROPOLOGY LAB
Laboratory to accompany ANTH 128. It includes working with hominid casts, and primate and modern human skeletal material. (Same as NSCI 128L) Corequisite: ANTH 128. One semester; one credit

ANTH 160. CULTURAL ANTHROPOLOGY (Formerly ANTH 150 and SOC 150)
This course, which deals primarily with the concerns of cultural anthropology, focuses on the study of human diversity, and what defines humanity. It explores the beliefs, values, behaviors, technologies, and environments of a wide variety of cultures in an attempt to understand and appreciate variations within the human community in addition to evolution and modern biological variation. In attempting to understand the world’s diversity, students have the opportunity to better understand themselves, their potentials, and their limitations. (Same as SOC 160) One semester; three credits

ANTH 190-199. SPECIAL TOPICS IN ANTHROPOLOGY
Courses in different areas of anthropology that are not offered on a regular basis. Corequisite: Corresponding lab course. One semester; three credits

ANTH 190L-199L. SPECIAL TOPICS IN ANTHROPOLOGY LABORATORIES
Laboratories to accompany ANTH 190-199. Corequisite: Corresponding ANTH 190-199 course. One semester; one credit

ANTH 280-287. SELECTED TOPICS IN ANTHROPOLOGY
Directed work on a special topic or project in anthropology. One semester; one to three credits
ANTH 290-299. HONORS SPECIAL TOPICS IN ANTHROPOLOGY
Special topics in Anthropology open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; one to four credits

ANTH 301. MEDICAL ANTHROPOLOGY (Formerly ANTH 305 and SOC 305)
Health, illness and treatment can be regarded very differently in various parts of the world and even within American society. This course will focus on the impact of beliefs and values on medicine. A range of definitions of health and illness, as well as the treatments which flow from these definitions, will be considered. (Same as SOC 301). One semester; three credits

ANTH 350. GLOBAL HEALTH
The course will introduce students to the main concepts of the public health field and the critical links between public health and social and economic development. Students will get an overview of the determinants of health, how health status is measured, and the influences of various factors including social, economic, and political issues on the health of individuals and of communities. It will also introduce students to key concerns regarding nutrition, reproductive health, infectious diseases, and chronic diseases. Material will include key concepts, be practical in orientation, and global in coverage but with an important focus on the developing world and on the health of the poor. (Same as SOC 350). One semester; three credits

ANTH 351. SOCIOLOGY OF THE FAMILY
Survey of changes in family systems over the years. Areas of study include courtship, love, mate selection, parenthood, and family problems. The course also examines cross-cultural comparisons and considers alternatives to traditional family forms. Emphasis is placed on the use of the empirical evidence to evaluate popular beliefs. (Same as SOC 351). One semester; three credits

ANTH 380-387. SELECTED TOPICS IN ANTHROPOLOGY
Directed work on a special topic or project in anthropology. One semester; one to three credits

ANTH 390-396. HONORS SPECIAL TOPICS IN ANTHROPOLOGY
Special topics in Anthropology open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; one to four credits

■ ARMY ROTC COURSES
Army ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

■ ART COURSES
Requirements for the major are found on Page 40.

ART 101. ART APPRECIATION
The student will be exposed to different areas of the visual arts which will include the study of the visual elements and the principles of design. The course will also cover a brief survey of the highlights of art from the Paleolithic period to modern times. One semester; three credits

ART 102. 2-D DESIGN
Elements and principles of design will be the primary focus through the use of mixed media and collage techniques. How line, form, shape, and color influence composition will be the primary learning outcome of this course. One semester; three credits

ART 106. PHOTOSHOP ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Photoshop CS4. Students begin working with the industry standard for creating raster/bitmap graphics. This incredibly deep program is used for graphic design, web design, image manipulation, photo restoration, digital illustration, lighting effects, and animation. By the end students will have progressed from a beginner to intermediate skill level able to command many of the powerful tools Photoshop has to offer. Payment of expendable materials fee is required. One semester; three credits.

ART 107. ILLUSTRATOR ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Photoshop CS4. Students get hands-on practice working with a sophisticated graphics application that has the capabilities to create complex designs. Students will explore digital drawing basics, combine text and graphics, and design and print packaging for mock products. Payment of expendable materials fee is required. One semester; three credits.

ART 108. INDESIGN ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe InDesign CS4, a powerful but intuitive page layout application. Students work through basic toward advanced techniques ranging from: type controls; graphics file management, layers and document setup. Students will explore designing a range of documents from simple and attractive to complex and spectacular. Payment of expendable materials fee is required. One semester; three credits.

ART 109. FLASH ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Flash CS4. Students learn how to create basic Flash animations and movies using the timeline; discovering how the timeline in Flash can be used to create basic frame-by-frame animations and motion tweened animations. Confidence builds throughout the semester while novice animators learn to navigate the Flash interface, create new Flash files, set stage properties, import images into Flash, create and work with text, create and format drawing objects and add layers. Payment of expendable materials fee is required. One semester; three credits.

ART 111. DRAWING I
The student will learn the basics of composition, visual elements, and principles of design. One semester; three credits
ART COURSE DESCRIPTIONS

ART 200. OIL PAINTING I
The student will learn the basics of design along with techniques of oil painting, using paint from tubes as well as oilbars. One semester; three credits

ART 201. CONCEPTS AND CREATION IN THE VISUAL ARTS
The intended audience for the course is art majors, minors, and students interested in an art-related career. Art 201 is an introduction to the concepts underpinning artistic creation. Through lectures and studio work, students will explore relationships between artistic processes and everyday life. The objective of the course is to foster the development of student's appreciation and understanding of contemporary art through an examination of art and contemporary social, cultural, and political issues surrounding artistic practice. One semester; three credits.

ART 203. PAINTING WATER-BASED MEDIA
A study of painting methods in a variety of traditional and non-traditional water-based material and techniques. Students will begin to combine their understanding of drawing and design in the form of problem-solving exercises focusing on composition, value, color, and surface for both abstract and realistic work. One semester; three credits

ART 204. 3-D DESIGN
An introduction to three-dimensional design concepts through traditional and non-traditional methods. Emphasis will be placed on the elements and principles of design as applied to the sculptural form. One semester; three credits

ART 205. BEGINNING DIGITAL PHOTOGRAPHY
An introduction to the fundamentals of digital photography. The course emphasis is on understanding photography as a tool for visual expression. Payment of expendable materials fee is required. One semester; three credits

ART 210. INTRODUCTION TO ART THERAPY
This course will cover the creative arts approach to counseling. The theoretical basis for using art in counseling will be identified as well as evidence-based practice guidelines for assisting individuals, families, and groups across the lifespan. Biological, psychological, and social perspectives will be integrated into the student's knowledge of counseling methods. One semester; three credits

ART 211. WORLD ART HISTORY I
A survey of major visual art forms from prehistoric times to the Renaissance. One semester; three credits

ART 212. WORLD ART HISTORY II
A survey of major visual art forms from the Renaissance period to the present. One semester, three credits

ART 215. ART OF THE AMERICAS
A study of the art of ancient America from the pre-Columbian art of Mexico to the art and crafts of native Americans. One semester; three credits

ART 233. FIGURE DRAWING
A drawing class using live models as subjects. Drawing materials will include brush and ink, charcoal, pastel and various other media. One semester; three credits

ART 290-299. HONORS SPECIAL TOPICS.
Open to members of the Honors Program or by permission of instructor and Honors Director. One semester; three credits

ART 301. ADVANCED DESIGN: MIXED MEDIA
An emphasis on cultivating individual creativity through combining the elements of two-dimensional and three-dimensional design using collage techniques. At this level, students will have a wide knowledge base of a variety of materials and techniques in order to make creative choices, with the guidance of the instructor, when meeting the goals for project assignments. One semester; three credits

ART 302. CONTEMPORARY ART HISTORY
A survey of contemporary developments in art from 1945-present. This course emphasizes student discussion, critical thinking, and writing. One semester; three credits

ART 304. INTERNSHIP FOR VISUAL ARTS: GALLERY AND MUSEUM STUDIES
Major related work experience through which students apply skills to professional activity. Prerequisites: Permission of arts faculty and good academic standing. One hour in class is required. One semester; three credits.

ART 305. INTERNSHIP FOR VISUAL ARTS
Graphic design major related work experience through which students apply skills to professional activity. Prerequisites: Permission of arts faculty and good academic standing. One hour in class is required. One semester; three credits.

ART 308. OIL PAINTING II
An extension of the techniques learned in Basic Oil Painting (ART 200) with an emphasis on personal growth and creativity. One semester; three credits

ART 309. DRAWING II
A continuation of Drawing I and Figure Drawing with the introduction of advanced techniques. One semester; three credits

ART 310. INTRODUCTION TO PRINTMAKING
The student will be instructed in the basics of printmaking using the techniques of woodcut, linocutting, screen printing, and monoprinting. One semester; three credits
ART 311. PRINTMAKING II
Students will build on printmaking techniques learned in ART 310. An emphasis will be placed on personal growth through projects directed by the instructor. *One semester; three credits*

ART 312. PAINTING III
At this level the student will have mastered basic oil painting techniques and have the ability to apply a more creative approach to the work. *One semester; three credits*

ART 314. BEGINNING DIGITAL IMAGING
This course will cover the basic tools used in digital imaging software. A variety of different software may be offered, including Adobe InDesign, Illustrator, and Photoshop. Students will be introduced to developing a design language and vocabulary. Corequisite: ART 314L. *One semester, two credits*

ART 314L. BEGINNING DIGITAL IMAGING LAB
Introduction to methodological and research practices for designers. Corequisite: ART 314. *One semester, one credit*

ART 315. ADVANCED DIGITAL IMAGING
This course will be a build on information, vocabulary and visual language learned in ART 314. Prerequisites: ART 314 and 314L. Corequisite: ART 315L. *One semester; two credits*

ART 315L. ADVANCED DIGITAL IMAGING LAB
Advanced research practices for designers. Corequisite: ART 315. *One semester; one credit*

ART 316. TYPOGRAPHY
An introduction to the history of typography for the graphic design students. This course emphasizes type identification, type faces and families, type compiling, letter and word spacing, copy-fitting, designing with type, and type as a communication tool. These topics will be introduced through lectures and practiced in project-based assignments. *One semester; three credits*

ART 316L. TYPOGRAPHY LAB
Lab to accompany ART 316. Corequisite: ART 316. *One semester; one credit*

ART 330. SCULPTURE II
Students will apply design principles learned in ART 104 to three dimensional projects using various materials. *One semester; three credits*

ART 331. INTRODUCTION TO HANDMADE PAPER
Using a variety of fibers students will learn the basics of papermaking. This course will also encourage the use of handmade paper in book arts and other art projects for sustainability purposes. *One semester; three credits.*

ART 334. INTRODUCTION TO BOOKMAKING
Using a variety of bookbinding techniques students will learn the basics of bookmaking as an art form. This course will encourage the use of recycled and handmade papers as an introduction to the use of sustainable materials as an art medium. *One semester; three credits*

ART 390-399. HONORS SPECIAL TOPICS IN ART
Special topics in art open to members of the Honors Program or by permission of the instructor and Honors Program Director. *One semester; three credits*

ART 400-405. SPECIAL TOPICS IN ART
Content and credit are variable with interest and instructor. Prerequisite: Approval of Department Chair. *One semester; one to three credits*

ART 411. DRAWING: EXPERIMENTAL
An advanced drawing course that allows students to experiment with techniques, materials and subject matter learned in previous courses. At this level the student will be expected to apply contemporary art historical references to their work along with creative choices when fulfilling assignments. *One semester; three credits*

ART 412-414. PAINTING: EXPERIMENTAL
An advanced painting course that builds on the techniques, materials and subjects learned in other painting and art history courses. Students will fulfill assignments through the painting medium of their choice. *One semester; three credits*

ART 415. GRAPHIC DESIGN I
Continuing development of design language, vocabulary, methodological and research practices for graphic designers. Multifaceted projects explore continuity of design in two-dimensional space, each one focusing on a specific set of relationships. Prerequisite: Art 314 & Art 315. Corequisite: ART 415L. *One semester; two credits*

ART 415L. GRAPHIC DESIGN I LAB
Required time in lab used to complete research and projects. Corequisite: ART 415. *One semester; one credit*

ART 418. GRAPHIC DESIGN II
Comprehensive problem solving with emphasis on design uniformity in more than one medium or format. Simulated client-based projects focus on typography, communication, legibility/readability, language sequence and information hierarchy. Course concludes with portfolio review for admission into Graphic Design III. Payment of expendable materials fee is required. Prerequisite: Art 314, Art 315, & Art 415. Corequisite: ART 418L. *One semester; two credits*
ART 418L. GRAPHIC DESIGN II LAB
Hours required to complete all research and projects using the computer lab. Corequisite: ART 418. One semester; one credit

ART 419. GRAPHIC DESIGN III
This course merges prior knowledge and skills, and sets the stage for independent design projects. The course requires students to research and analyze all components of the design process. New, practical and conceptual skills will be discussed in order to develop meaningful, interactive user experiences. Payment of expendable materials fee is required. Prerequisite: ART 418 and 418L. One semester; three credits

ART 419. GRAPHIC DESIGN III LAB
Required time in lab used to complete research and projects. Corequisite: ART 419. One semester; one credit

ART 420. GRAPHIC DESIGN IV
This course combines lectures with studio work to facilitate a goal directed environment. Students will learn to integrate theory and practical applications while sharpening conceptual, computer, and research skills. All projects are required to meet capable standards stressing the highest quality. Payment of expendable materials fee is required. Prerequisite: ART 419 and 419L. One semester; three credits

ART 420. GRAPHIC DESIGN IV LAB
Required time in lab used to complete research and projects. Corequisite: ART 420. One semester; one credit

ART 470. ADVANCED STUDIO
Students will work on thesis paper and concept building related to their senior exhibition. Projects will be decided through careful advising from instructor. One semester; three credits.

ART 475. SENIOR SEMINAR
The student will be required to produce a large body of work which would be indicative of the level the student has achieved. The theme of the works will be decided by the student and instructor. The student will be required to have an exhibition of these works to be viewed by the public. Prerequisite: Approval of the instructor. One semester; three credits

ART 476. SENIOR SEMINAR (GRAPHIC DESIGN)
Students with an emphasis in Graphic Design will be required to produce a portfolio for review. Students will learn professional practices and work on presentational skills. In the end, each student is required to have an exiting portfolio review with faculty and have an exhibition of these works to be viewed by the public. Prerequisite: Approval of the instructor. One semester; three credits

ART 480-485. SPECIAL STUDIES IN ART
Content and credit are variable with interest and instructor. Prerequisite: Approval of Department Chair. One semester; one to three credits

■ BIOLOGY COURSES

Requirements for the degree are found on Pages 90 and 91.

BIOL 101. PUBLIC HEALTH
This course provides students with an introduction to fundamental concepts and approaches underlying public health. Topics covered include evidence and prevention-based perspectives on health; the social context of health and health disparities; environment and health; health and our food system; the role of community in public health; effective public health interventions; ethical issues in public health; and future directions in public health. Special focus will be paid to the South, Memphis, and the topic of HIV/AIDS. Offered even numbered Fall semesters. One semester; three credits

BIOL 102. PRINCIPLES OF EPIDEMIOLOGY
This course provides students with an introduction to fundamental concepts and approaches underlying public health. Topics covered include evidence and prevention-based perspectives on health; the social context of health and health disparities; environment and health; health and our food system; the role of community in public health; effective public health interventions; ethical issues in public health; and future directions in public health. Special focus will be paid to the South, Memphis, and the topic of HIV/AIDS. Three credits. Offered even numbered fall semesters. One semester; three credits

BIOL 103. BIOLOGY OF ADDICTION
In this course, we will cover the biological effects of alcohol and drugs on human organ systems, particularly the nervous, digestive, excretory and reproductive systems. We will discuss the psychological and sociological consequences of these effects. The use of drugs in both therapeutic and pathologic situations will be explored, and modalities of recovery will be discussed. Offered in the Spring semester. Prerequisite: MATH 105 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; three credits

BIOL 103L. BIOLOGY OF ADDICTION LAB
In this course, we will examine the anatomy and physiology of organ systems affected by alcohol and other psychoactive drugs of abuse. We will use fruit flies as a model to determine the effects of alcohol on their physiology and reproductive success. We will conduct two experiments on human volunteers: effects of caffeine on the cardiovascular system and the effects of ethanol on balance, equilibrium, and judgment. With the laboratory component, this course fulfills University graduation requirements. Offered in the Spring semester. Credit not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; one credit

BIOL 105. FUNDAMENTALS OF ENVIRONMENTAL BIOLOGY
A study of the basic scientific principles required for an understanding of how ecosystems work. Emphasis will be given to nutrient cycling, soil structure, and composition, basic meteorology, air and water pollution and conservation, structure and energy flow in ecosystems, food production and hunger in the world, demographies, epidemics and emerging diseases, and consequences of the disruption of natural systems. This course does not fulfill the general education requirements. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered as needed. One semester; three credits.
BIOL 106. FUNDAMENTALS OF BIOLOGY
An introduction to the fundamental concepts of biology with emphasis on cellular structure and physiology, including cellular respiration, photosynthesis, and transmission of hereditary information. A broad overview of biological diversity, interaction between organisms and their physical environment, as well as the structure and function of the major human organ systems is included. This course is designed for education majors enrolled in the Graduate and Professional Studies Program. Day students may not register for this course. There is no laboratory associated with this course. General education requirements are not fulfilled by this course. Prerequisite: MATH 105 or higher. Enrolled in Graduate and Professional Studies. Liberal Studies majors only. Offered as needed. One semester; three credits

BIOL 107. ENVIRONMENTAL BIOLOGY
An interdisciplinary approach to the study of the environment, the course provides the scientific basis for understanding how environmental systems work. Topics include discussion of the economic impact and consequences of the disruptions of natural systems, the importance of public policy, and how environmental issues are linked to our everyday life. Designed for non-majors. Corequisite: BIOL 107L. Offered as needed. Prerequisite: MATH 105 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; three credits

BIOL 107L. ENVIRONMENTAL BIOLOGY LABORATORY
A combination of laboratory experiences and field trips to illustrate the principles covered in BIOL 107. Visits to sewage treatment plant, pest control center, land fill and forests will be scheduled when possible. Prerequisite or corequisite: BIOL 107. Offered as needed. Credit not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; one credit

BIOL 109. HUMAN BIOLOGY
A systematic study of the developmental structure and function of the human organism, including the anatomy and physiology of each organ system and common problems that may occur in each. Genetics, evolution, and ecology, as they apply to the human organism, are also studied. Designed for non-majors. Prerequisite: MATH 105 or higher. Corequisite: BIOL 109L. Offered as needed. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; one credit

BIOL 109L. HUMAN BIOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 109. Offered in the Fall semester. Prerequisite or corequisite: BIOL 109. Credit not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. One semester; one credit

BIOL 111. PRINCIPLES OF BIOLOGY I
The first half of a comprehensive study of contemporary biology, this semester covers biochemistry, cytology, energy metabolism, photosynthesis, cell division, genetics, evolution, systematics and taxonomy of viruses, prokaryotes, protists, and fungi. This course includes three lectures and one discussion section per week. Prerequisite: ACT of 22 or higher, or a grade of C or better in CHEM 101. Corequisites: BIOL 111L and CHEM 101 or higher. Offered in both Fall and Spring semesters. One semester; three credits.

BIOL 111L. PRINCIPLES OF BIOLOGY I LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 111. Prerequisite or corequisite: BIOL 111. One semester; one credit

BIOL 112. PRINCIPLES OF BIOLOGY II
Continuation of BIOL 111, this semester covers systematics and taxonomy of plants and animals, anatomy and physiology of eukaryotic organisms, embryology and development, and ecology. This course includes three lectures and one discussion per week. Offered in the Fall and Spring semesters and usually in Summer Term II. Prerequisite: BIOL 111 and CHEM 101 or higher. Corequisite BIOL 112L. One semester; three credits.

BIOL 112L. PRINCIPLES OF BIOLOGY II LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 112. Prerequisite: BIOL 111L. Corequisite: BIOL 112. One semester; one credit

BIOL 210. ECOLOGICAL CENSUS TECHNIQUES
This is a field-intensive introduction to the techniques and statistical analyses used in population and community ecology. Experimental design and data collection will be stressed on major groups of organisms, including invertebrates, small mammals, and plants. This course requires mandatory overnight exercises to tentatively be taught at the Edward J. Meeman Biological Field Station and several day trips to various locations throughout the mid-south. Prerequisite: BIOL 112 with C or better, CHEM 113 with C or better and permission of instructor. One semester; three credits

BIOL 211. VERTEBRATE EMBRYOLOGY
A study of human embryology with emphasis on the fundamental development processes common to vertebrate embryos. Topics include gametogenesis, fertilization, and development of the embryo from zygote through the differentiation of the neural tube. The second half of the course is devoted to the development of selected human organ systems including the nervous system, sense organs, and the cardiovascular, digestive, respiratory, and urogenital systems. Prerequisite: BIOL 111 and 112 and CHEM 113 or higher. Corequisite: BIOL 211L. Offered in the Fall semester. One semester; three credits.

BIOL 211L. VERTEBRATE EMBRYOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 211. Histological, preserved, and selected living materials are studied to illustrate gametogenesis, fertilization, and development of the vertebrate embryo from zygote through the differentiation of organ systems in amphibian, avian, and mammalian embryos. Prerequisite or corequisite: BIOL 211. Offered in the Fall semester. One semester; one credit
**BIO 212. COMPARATIVE VERTEBRATE ANATOMY**
A study of the structural and functional evolution of selected organ systems in representative vertebrates, the first part of the course reviews the phylogenetic relationships among the vertebrates. In the remainder of the course, structures and their organizations are interpreted in terms of their embryological development, phylogeny, and functional adaptations. Prerequisite: BIOL 111 and 112 and CHEM 113 or higher. Corequisite: BIOL 212L. Offered in the Spring semester. *One semester; three credits.*

**BIO 212L. COMPARATIVE VERTEBRATE ANATOMY LABORATORY**
Laboratory experience to illustrate and explain the principles covered in BIOL 212. Dissection of preserved representative specimens including shark, amphibian, and cat is required. Prerequisite or corequisite: BIOL 212. Offered in the Spring semester. *One semester; one credit.*

**BIO 213. MEDICAL AND SCIENTIFIC TERMINOLOGY**
This course examines the Latin and Greek origins of words used in the scientific and medical community. In addition to learning the basic meaning of these words, their prefixes, suffixes and combining forms will also be studied. Emphasis will be given to terms applicable to the systems, structure, function and diseases of the human body; also terms applying to veterinary science as well as zoological, botanical, chemical, and geological terms. Attention will be given to pronunciation, spelling and common abbreviations used in scientific writings. Practice with medical and veterinary records will be included. An understanding of etymology will give students in any area of specialization a better comprehension of the fundamental meaning of many English words. Prerequisite: BIOL 112 and CHEM 113 or higher. Offered as needed. *One semester; two credits.*

**BIO 214. BOTANY**
A comprehensive study of the principles of botany. Topics include a survey of the major groups of plants, algae, and fungi, their life cycles, anatomy, metabolism, biogeography, ecology and evolution. All scheduled field trips are mandatory. Corequisites: BIOL 216L. Offered in odd numbered Fall semesters. *One semester; three credits.*

**BIO 214L. BOTANY LABORATORY**
A comprehensive field-based study of the principles of botany. There will be several mandatory field trips throughout the semester that involve travel to local sites so that students gain a better understanding of the local flora and how to gather and prepare specimens in the field. Prerequisites: BIOL 112L and CHEM 113 or higher. Corequisite: BIOL 216. Offered in odd numbered Fall semesters. *One semester; one credit.*

**BIO 215. HUMAN ANATOMY AND PHYSIOLOGY I**
The first half of a study of the various levels of organization of the human body. The first semester covers cells, cell metabolism, tissues and the integumentary, skeletal, muscular, nervous, sensory, and endocrine systems. Prerequisite: BIOL 111 and 112 BIOL 112L and CHEM 113 or higher; Corequisite: BIOL 217L. Offered in the Fall semester. *One semester; one credit.*

**BIO 217L. HUMAN ANATOMY AND PHYSIOLOGY I LABORATORY**
Laboratory experience to illustrate and explain the principles covered in BIOL 217. Dissection of a preserved mammalian specimen is required. Prerequisite or corequisite: BIOL 217. Offered in the Fall semester. *One semester; one credit.*

**BIO 218. HUMAN ANATOMY AND PHYSIOLOGY II**
A continuation of BIOL 217, this semester covers the cardiovascular, immune, digestive, respiratory, urinary and reproductive systems. Students will be responsible for a nominal fee to cover the required CPR course. Prerequisites: BIOL 217, 217L and CHEM 113. Corequisite: BIOL 218L. Offered in the Spring semester. *One semester; three credits.*

**BIO 218L. HUMAN ANATOMY AND PHYSIOLOGY II LABORATORY**
Laboratory experience to illustrate and explain the principles covered in BIOL 218. Dissection of a preserved mammalian specimen is required. Prerequisite BIOL 217, BIOL 217L, and CHEM 113. Prerequisite or corequisite: BIOL 218. Offered in the Spring semester. *One semester; one credit.*

**BIO 236. NUTRITION**
The basic principles of nutrition are studied with particular emphasis on their applications to human health and development. This course includes a study of the essential nutrients; current and past dietary trends, including ethnic considerations; relationship of RDAs and diets to health, disease, and causes of death; changes in individual nutrient requirements based on factors such as age, gender, heredity, environment, etc.; governmental legislation regarding food labels, processing additives, contaminants, preservatives, and dietary guidelines; and a personal assessment of one's own eating habits, requirements, and potential health problems. Outside reading materials related to current nutritional “trends” will be assigned. Prerequisite: BIOL 112 and CHEM 113 or higher. Offered as needed. *One semester; three credits.*

**BIO 240. INTRODUCTION TO BIOINFORMATICS**
The course considers introductory topics in bioinformatics. Topics include the structure of DNA, string representation in PERL, data searches, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics and the use of web-based tools for topics in bioinformatics. Offered in even-numbered Spring semesters. (Same as CS 240). Prerequisite: BIOL 111. *One semester; three credits.*

**BIO 290-299. SPECIAL TOPICS IN BIOLOGY**
Selected topics of interest. Prerequisites: BIOL 112 and CHEM 113 or higher; permission of the Instructor. Corequisite: The laboratory course if offered. *One semester; one to four credits.*

**BIO 290L-299L. SPECIAL TOPICS IN BIOLOGY LABORATORY**
Laboratory experience to illustrate and explain the principles covered in BIOL 290-299L. Prerequisites: BIOL 112 and CHEM 113 or higher; permission of the Instructor. Corequisite: The lecture course. *One semester; one credit.*

**BIO 303. ALGAE, FUNGI AND LICHENS**
This course will focus on the diversity and comparative study of the structure, function, reproduction, growth, development, ecology, evolution and natural history of algae, fungi and lichens. Economic importance and uses of the various organisms will also be covered. Pre-requisite: BIOL 112 and BIOL 112L with C or better and CHEM 113 and CHEM 113L with C or better. Corequisite: BIOL 303L. *One semester; three credits.*
BIOL 303L. ALGAE, FUNGI AND LICHENS LABORATORY
Laboratory exercises will focus on field trip collection and identification of the various algae, fungi and lichen organisms. Taxonomic keys and various chemical tests and laboratory techniques will be used. Proper preserving and herbarium mounting techniques for the lichens will also be covered. Pre-requisite: BIOL 112 and BIOL 112L with C or better and CHEM 113 and CHEM 113L with C or better. Co-requisite: BIOL 303. One semester; one credit

BIOL 304. LIMNOLOGY
Limnology is the study of inland waters, lakes, ponds, rivers and streams. This course examines physical, chemical and biological variables that influence living organisms in these ecosystems. Both theoretical and applied aspects of limnology will be covered. Ecological theories will be examined and studies on aquatic ecosystems, which have been used to test these theories, will be discussed. The role of limnology in the management of water resources will be discussed throughout the course. Prerequisites: Junior or senior standing, BIOL 111 and 112, CHEM 113 and 114. Co-requisite: BIOL 304L. Limnology Laboratory. Offered in odd-numbered spring semesters (alternates with Invertebrate Zoology). One semester; three credits.

BIOL 304L. LIMNOLOGY LABORATORY
Laboratory course to illustrate principles covered in BIOL 304. Several labs will be field trips followed by analysis and discussion of the data collected. This provides the opportunity to ask questions in limnology, illustrate the variation in aquatic habitats, demonstrate the practical aspects of limnology (sampling methods, etc.) and the methods of analyzing and writing up collected data. Participation in scheduled field trips is mandatory. Group III biology elective. Co-requisite: BIOL 304 Limnology. One semester; one credit.

BIOL 311. GENETICS
A study of the structure and function of nucleic acids in viruses, prokaryotes, and eukaryotes along with basic concepts, principles and applications of classical, molecular and population genetics. Topics include recombinant technology, genetics and cancer, developmental and behavioral genetics, genetic engineering. Prerequisites: Grade of “C” or better in BIOL 112 and CHEM 212. Corequisite: BIOL 311L. Offered in the Fall semester. One semester; three credits

BIOL 311L. GENETICS LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 311. Prerequisite or corequisite: BIOL 311. Offered in the Fall semester. One semester; one credit

BIOL 312. HUMAN PHYSIOLOGY
A study of the biochemical and biophysical mechanism underlying human physiology and pathophysiology at a system level. Emphasis is placed on the role of membranes, nerves, and hormones in maintaining homeostasis. Prerequisite: BIOL 112, BIOL 112L. Recommended: CHEM 211 and 211L, 315 and PHYS 201. Corequisite BIOL 315L. Offered in the Fall semester. One semester; three credits

BIOL 312L. HUMAN PHYSIOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 312. Prerequisite or corequisite: BIOL 312. Offered in the Fall semester. One semester; one credit

BIOL 321. MICROBIOLOGY
A study of microbial biochemistry, molecular biology, morphology, physiology, metabolism, growth and growth control, taxonomy, diversity, genetics, evolution, ecology, and immunology with emphasis on bacteria and viruses. Topics in medical, food, industrial, microbiology, and public health. Prerequisites: Grade of “C” or better in BIOL 112 and CHEM 211 and Junior or Senior standing. Corequisite: BIOL 321L. Offered in the Spring semester. One semester; three credits

BIOL 321L. MICROBIOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 321. Corequisite: BIOL 321. Offered in the Spring semester. One semester; one credit

BIOL 335. INVERTEBRATE ZOOLOGY
Taxonomy, ecology, evolution, morphology, and physiology of invertebrate phyla. Prerequisites: BIOL 112 and CHEM 113 or higher, 7 additional credits in Biology at the 200 level or higher, and junior or senior status. Corequisite: BIOL 335L. Offered in odd numbered Fall semesters. One semester; three credits

BIOL 335L. INVERTEBRATE ZOOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles in BIOL 335. Students are required to participate in the Gulf Coast Field trip. Offered in odd numbered Fall semesters. Prerequisite or corequisite: BIOL 335. One semester; one credit

BIOL 346. EVOLUTION
Investigation of the evidence, proponents, and theories of organic evolution with emphasis on modern contributions to the understanding of speciation. Topics covered in this course includes macroevolution, phylogenetics and evolutionary history of major groups of organisms, genetic drift, evolution of genomes, variation, genetical theory of natural selection, and phenotypic evolution. Prerequisite: BIOL 112 and CHEM 113 or higher. Offered in odd numbered Spring semesters. One semester; three credits

BIOL 350. RESEARCH METHODS
This course is designed for students who are involved in research projects that will not be considered for their senior research thesis. Students should either be in a research program or working with a researched off campus. Students should participate in a minimum of 200 hours on the research project. The students will be required to be familiar with several techniques within their research and describe how they are used in research. In addition to the description of the techniques the students will summarize their research experience and data in a short narrative. Prerequisites: BIOL 112, BIOL 112L, CHEM 114, CHEM 114L, permission of the instructor or Chair of the Department. Offered as needed. One semester; three credits
BIOL 366. RESEARCH METHODS

This course is designed for students who are involved in research projects that will not be considered for their senior research thesis. Students should be either in a research program or working with a research off campus. Students should participate in a minimum of 200 hours on their research project. Students will be required to be familiar with several techniques with their research and describe how they are used in research. In addition to the description of the techniques the students will summarize their research experience and data in a short narrative. Prerequisites: BIOL 112, BIOL 112L, CHEM 114 and CHEM 114L. Permission of the Instructor or Chair of the Department. Offered as needed. One semester; three credits

BIOL 367. PHARMACOLOGY

An introduction to the structure, mechanisms, pharmacokinetics, pharmacodynamics, therapeutic uses, and adverse reactions of prototypic agents from the major categories of drugs. Prerequisites: CHEM 212, and either BIOL 217 and 218 or BIOL 312. Offered in odd numbered Spring semesters. One semester; three credits

BIOL 369. HERPETOLOGY

Herpetology is the study of amphibians and reptiles. In this course we will examine the major taxonomic groups of amphibia and reptilia in depth, focusing on local groups and surveying the more interesting exotic members of these taxa to gain an understanding of their diversity. Life history, anatomy, physiology, ecology, and conservation issues are among the topics that will be discussed. Prerequisites BIOL 111, 112, CHEM 113 or higher, seven additional credits of biology at the 200 level or higher, and Junior or Senior standing. Corequisite: BIOL 369L. Offered in even numbered Spring semesters. One semester; three credits.

BIOL 369L. HERPETOLOGY LAB

The student will learn to visually identify (to species level) the amphibians and reptiles naturally found in Western Tennessee and the tri-state area. Additionally, the student will learn to identify amphibians by vocalization (frog calls). Initial identification will take place in the lab using preserved specimens and also digital images and sounds. Identification skills will continue to be developed in the field while on field trips to nearby sites. Field techniques for performing natural history surveys will be discussed, followed by implementation in the field. Prerequisites BIOL 111, 112, CHEM 113 or higher, seven additional credits of biology at the 200 level or higher, and Junior or Senior standing. Corequisite: BIOL 369L. Offered in even numbered Spring semesters. One semester; three credits.

BIOL 370. TOXICOLOGY

An introduction to the basic principles of toxicology including investigation of the sites and modes of action of toxic agents and the factors affecting their toxicity, this course will also examine sources, fate, and effects of environmental pollutants. Prerequisites: BIOL 112 and CHEM 212. Offered in Spring semester of even numbered years. One semester; three credits

BIOL 381. ANIMAL BEHAVIOR

The study of the mechanisms and evolution of animal behavior. Topics include methods for the observation and quantification of behavior, natural selection and evolution of behavior, behavior genetics, neural and physiological mechanisms of behavior, communication, aggression, sexual reproduction, mating systems, and interspecific behavioral interactions. Prerequisites: BIOL 111, 112, CHEM 113 or higher, and seven additional credits of Biology at the 200 level or higher, and Junior or Senior standing. Offered in even numbered Spring semesters. Group III Biology elective. One semester; three credits.

BIOL 390-398. SPECIAL TOPICS IN BIOLOGY

Selected topics of interest. Prerequisite: BIOL 112, CHEM 113 or higher, and 4 credits in Biology at the 200 level or higher; permission of the instructor. One semester; one to four credits

BIOL 390-398. SPECIAL TOPICS IN BIOLOGY LAB

Selected topics of interest. Prerequisite: BIOL 112, CHEM 113 or higher, and 4 credits in Biology at the 200 level or higher; permission of the instructor. Corequisite: the lecture course. One semester; one credit

BIOL 412. ECOLOGY

Study of the principles of ecology. Topics to be investigated include population organization, demographics and regulation, ecosystem and community structure/function, abiotic factors, and cycling of energy. Prerequisites: BIOL 112, CHEM 113 or higher, seven additional credits in Biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 412L. Offered even numbered Fall semesters. One semester; three credits

BIOL 412L. ECOLOGY LABORATORY

Laboratory experience to illustrate and explain the principles covered in BIOL 412. The course includes data-gathering in both terrestrial and aquatic ecosystems and mandatory field trips to ecologically important sites. Students will also complete a semester-long project, with the intent to publish results. Prerequisite or corequisite: BIOL 412. Offered in each semester. One semester; one credit

BIOL 413. PARASITOLOGY

A study of the morphology, taxonomy, life cycle, distribution, pathology, and control of parasites of man and other animals. Alternates with Invertebrate Zoology. Prerequisites: BIOL 112, CHEM 113 or higher, seven additional credits in biology at the 200 level or higher, and Junior or Senior standing. Corequisite: BIOL 413L. Offered in the Fall semester. One semester; three credits
BIOL 413L. PARASITOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 413. Students conduct surveys to study the distribution of parasites and conduct long-term studies on the pathology of parasitic infection. Students are required to participate in the Gulf Coast Field trip. Prerequisite: BIOL 112L. Corequisite: BIOL 413. Offered in the Fall semester. One semester; one credit

BIOL 414. ANIMAL HISTOLOGY
A study of the microscopic and ultramicroscopic structure of vertebrate (primarily mammalian) tissues and organs, i.e., microscopic anatomy. Special emphasis is placed on the relationship of structure to function. Group I Biology elective. Prerequisites: BIOL 112, CHEM 113 or higher, seven additional hours of Biology at the 200 level or higher, and Junior or Senior standing. Corequisite: BIOL 414L. Offered in odd numbered Spring semesters. One semester; three credits

BIOL 414L. ANIMAL HISTOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 414. Prerequisite or corequisite: BIOL 414. Offered in odd numbered Spring semesters. One semester; one credit

BIOL 415. IMMUNOLOGY
The study of antigens, antibodies, organs and cells involved in humoral and cell-mediated immunity; immunologic techniques are discussed, as well as immune problems such as autoimmunity and AIDS. Prerequisites: BIOL 112 and CHEM 212. Recommended: BIOL 311. Corequisite: BIOL 415L. Offered in the Fall semester. One semester; three credits

BIOL 415L. IMMUNOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 415. Prerequisite or corequisite: BIOL 415. Offered in the Fall semester. One semester; one credit

BIOL 421. CELL/MOLECULAR BIOLOGY
A study of eukaryotic cell structures and function. Special emphasis is placed on the role that biomolecules play in cell surface interactions that lead to intracellular signaling. The clinical and molecular nature of cancer is also discussed. Prerequisites: BIOL 112 and CHEM 212. Recommended: BIOL 311. Offered in the Spring semester. One semester; three credits.

BIOL 421L. CELL/MOLECULAR BIOLOGY LABORATORY
Laboratory experiences will demonstrate the concepts covered in BIOL 421. Experiments will employ techniques such as PCR, bacterial transformation, amplification and restriction mapping of plasmid DNA, western blotting and affinity chromatography. Corequisite: BIOL 421. Offered in the Spring semester. One semester; one credit

BIOL 430. BIOLOGY OF ZOO ANIMALS
The student will develop a broad understanding of the Phylum Chordata with emphasis on the subphylum Vertebrata. The focus will be on exotic animals and conservation methods associated with them. Lecture topics will include but are not limited to: vertebrate taxonomy and phylogeny, zoological biodiversity, thermoregulation, water balance, reproductive systems, housing and husbandry, nutritional requirements, and US laws and regulations. The course is geared to students who are interested in zoological park careers, animal care and protection, animal management, wildlife management, veterinary medicine, science teaching, or environmental management and protection. Prerequisite: Seven additional credits of biology at the 200 level or higher. One semester; three credits

BIOL 430L. BIOLOGY OF ZOO ANIMALS LABORATORY
The laboratory experience integrates knowledge and application by emphasizing the practical aspects of the care of exotic and domestic vertebrates. Students will conduct library research in aspects of vertebrate families and prepare a species profile. Work at the Memphis Zoo under the guidance of a zoologist and field trips are integral components of the laboratory experience. One semester; three credits

BIOL 451. NEUROSCIENCE
This course will investigate the field of neuroscience with emphasis on neuroanatomy of the mammalian brain. Also contained within this course will be the study of neurophysiology and neuropharmacology using both vertebrate and invertebrate central and peripheral nervous systems. Offered in the Spring semester. Prerequisite: Junior or Senior standing or permission of the instructor; BIOL 218 or 312 and CHEM 211 or higher. Recommended: CHEM 315. Corequisite: BIOL 451L. One semester; three credits

BIOL 451L. NEUROSCIENCE LABORATORY
This laboratory is designed to complement the Neuroscience lecture course. Neuroanatomy will be taught at both the gross and microscopic level. Experiments and demonstrations will be used to study neurophysiology and neuropharmacology concepts. Corequisite: BIOL 451. Offered in the Spring semester. One semester; one credit

BIOL 461. INDEPENDENT RESEARCH I
Under the guidance of a faculty member, senior students design and conduct an organized research project usually requiring 100-150 in-lab hours. Course emphases include experimental design, controls, analysis of results, use of professional literature, and the writing of a draft of a journal-quality paper. Prerequisites: BIOL 362, Permission of the Chair or Course Director, and Senior standing. One semester; one credit

BIOL 462. INDEPENDENT RESEARCH II
A continuation of BIOL 461, the students prepare to present their results in three forms - a final paper, an oral presentation at a public forum, and a poster session on campus. Prerequisites: BIOL 461 and Senior standing. One semester; one credit

BIOL 463. MENTORED RESEARCH I
Research projects are conducted under the guidance of a practicing researcher, generally off campus, but under some circumstances mentored research may be conducted at CBU. Research is performed in the summer preceding the senior year. Mentored Research I usually requires
200-300 in-lab hours. Students are required to attend group discussions and participate in tutorial meetings or correspondence with the course director. Students normally register for Mentored Research I during the summer. Students unable to begin their research during the summer will need permission of the course director to register for Mentored Research I concurrently during the Fall semester. Students are required to take the ETS Biology II exam (BIOL 499) which will be administered in exam week of the Fall semester. Prerequisites: BIOL 362, Senior standing or permission of the instructor. Offered in the Summer and Fall semesters. One semester; one credit.

BIOL 464. MENTORED RESEARCH II
This course is a continuation of Mentored Research I. During this course the students will meet weekly to discuss their research results and analyze their data. Project results will be presented in a formal paper by the end of the Fall semester. Prerequisite or corequisite: CHEM 315, CHEM 315L, BIOL 463 and BIOL 499. One semester; two credits.

BIOL 465. MENTORED RESEARCH III
During this course, the students will present the results of their work in a public forum as an oral paper and in a poster session on campus. Prerequisite: BIOL 464. Offered in the Spring semester. One semester; two credits.

BIOL 490-498. SPECIAL TOPICS IN BIOLOGY
Selected topics of interest. Prerequisite: BIOL 112 and CHEM 113 or higher, seven additional credits of biology at the 200 level or higher; permission of instructor. One semester; one to four credits.

BIOL 490-498. SPECIAL TOPICS IN BIOLOGY LAB
Laboratory to accompany BIOL 490-498. Prerequisite: BIOL 112 and CHEM 113 or higher, seven additional credits of biology at the 200 level or higher; permission of instructor. One semester; one to four credits.

BIOL 499. SENIOR COMPREHENSIVE
First semester seniors are required to take a comprehensive examination (ETS) on selected fields of biology. A passing score is required for graduation. Offered in the Fall semester. One semester; zero credit.

TENTATIVE SUMMER COURSES in affiliation with the Gulf Coast Research Laboratory (GCRL), Ocean Springs, MS:
Barrier Island Ecology, Coastal Ornithology
Marine Biology, Marine Mammals, Marine Ecology, Marine Conservation, Shark Biology, Oceanography
Marine Ichthyology, Marine Invertebrate Zoology, Marine Aquaculture, Marine Biology, Marine Microbiology
Oceans and Human Health, Marine Fungi, Marine Toxicology
For additional information about the course offerings at the GCRL, see the Chair of the Biology Department.

BUSINESS ADMINISTRATION COURSES

BUS 103. FUNDAMENTALS OF BUSINESS
This course covers the basic business concepts, disciplines, and practices. It surveys major types of business institutions, functional areas of business organizations, and business processes. It provides an orientation into the modern business world for both future business majors and also for other majors. NOTE: if taken by students with 24 hours or more, credit will not count for B.S. degree with a major in Accounting or Business Administration. Offered in both Fall and Spring semesters. One semester; three credits.

BUS 160-164. SPECIAL TOPICS IN BUSINESS ADMINISTRATION
Each course is designed to permit intensive study into topics of special interest and timeliness in one or more areas of business administration. Offered as needed. One semester; one to three credits.

BUS 205. BUSINESS PROBABILITY AND STATISTICS
This course covers basic concepts and methods of probability and statistics for use in the business disciplines. Topics include: quantitative analysis, measurement scales, analysis and description of data, types and methods for probability estimation, probability distributions, and measures of central tendency, skewness, and dispersion. Use of computer spreadsheet models for probability and statistics is covered. Prerequisites: MIS 153, MATH 105 or higher, and admission to the Professional Studies program. One semester; three credits.

BUS 206. BUSINESS RESEARCH METHODS
This course covers the basic concepts and methods for business research. Topics covered include both primary research (observations, experiments, surveys, focus groups, etc.) and secondary research (library and internet literature searching). Research proposal and research report writing is also included. Sampling, data analysis, regression, and hypothesis testing is covered using computer spreadsheet models. Prerequisites: BUS 205 or STAT 221, MIS 153, MATH 105, and admission to the Professional Studies program. One semester; three credits.

BUS 260-264. SPECIAL TOPICS IN BUSINESS ADMINISTRATION
Each course is designed to permit intensive study into topics of special interest and timeliness in one or more areas of business administration. Offered as needed. One semester; one to three credits.

BUS 360-364. SPECIAL TOPICS IN BUSINESS ADMINISTRATION
Each course is designed to permit intensive study into topics of special interest and timeliness in one or more areas of business administration. Offered as needed. One semester; one to three credits.

BUS 499. BUSINESS ADMINISTRATION COMPREHENSIVE EXAMINATION
Seniors will be required to take a comprehensive examination in the student’s field(s) of concentration. The examination date will be announced. A passing score is required for graduation. Prerequisite: Dean of the School of Business. Pass/Fail Grading. One semester, zero credits.
■ BUSINESS LAW COURSES

BLAW 301. BUSINESS LAW I (Formerly BUS 301)
The origins and general survey of contract law along with the nature, formation, execution, and interpretation of contracts in the common law system. Emphasis is on instruction in legal principles that govern typical business situations and on the rules of law and procedure applied by the courts in the United States. Offered in both Fall and Spring semesters. One semester; three credits

BLAW 302. BUSINESS LAW II (Formerly BUS 302)
Continuation of BLAW 301. In-depth study of the Uniform Commercial Code and its far reaching effects on modern business transactions; the laws of agency, partnerships and corporations, and the legal concept of property. Offered in both Fall and Spring semesters. One semester; three credits

BLAW 345. LEGAL ENVIRONMENT OF BUSINESS (Formerly BUS 345)
The course deals with administrative law. Primary areas of concentration include anti-trust law, consumer protection, securities regulation, labor law, and environmental law. Offered in the Spring semester. One semester; three credits

■ CHEMICAL ENGINEERING COURSES

Requirements for the degree are found on Pages 74 and 75.

CH E 101, 201. CHEMICAL ENGINEERING PROJECT
Students participate in technical team projects and learn about written and oral presentations, use of the library and other sources to retrieve technical data, and how to prepare for and make effective job searches. Student AIChe chapter meetings, discussions with panels of practicing engineers from local industry, and chemical plant visits. Industrial safety, ethics, environmental responsibility, and other suitable topics are covered. Two semesters; one credit each

CH E 111. INTRODUCTION TO CHEMICAL ENGINEERING I
Systems of measurement units, concepts of mass and energy balances, and basic approaches for simple unit operations. Corequisite: MATH 117. Offered in Fall semester. One semester; one credit

CH E 112. INTRODUCTION TO CHEMICAL ENGINEERING II
Continuation of CH E 111. Process variables and mass and energy balances. Graphical analysis of engineering problems using spreadsheets and other software. Simple statistics. Prerequisite: CH E 111 or permission of the department. Offered in the Spring semester. One semester; one credit.

CH E 231. ELEMENTARY THERMODYNAMICS
Fundamental laws and concepts of the macroscopic approach to the thermodynamics of pure materials. Properties of pure materials from tables, charts and ideal-gas equation. Heat and work. First and second law analysis of open and closed systems. Introduction to heat engines and heat pumps. (Same as ME 305). Prerequisites: MATH 132 and CHEM 113 or 115 Corequisite: PHYS 150. Offered in the Fall semester. One semester; three credits

CH E 232. MATERIAL AND ENERGY BALANCES

CH E 314. ENGINEERING ECONOMY

CH E 319. PRINCIPLES OF PACKAGING
Overview of the historical development of packaging, the system of packaging science, along with information about economic importance, social implications and packaging as a profession. Study of the functions of packaging and materials, container types, processes, technology and equipment employed to protect goods during handling, shipping and storage. Introduction of package development process, packaging testing and evaluation methods, standards, and equipment. Brief review of governmental regulations affecting packaging. (Same as ME 319 and PKG 319). Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Fall semester. One semester; three credits.

CH E 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING
Overview of physical distribution systems, various distribution hazards imposed to products/packages in transit, rules and regulations governing distribution packaging, and common industry guidelines and practices on distribution packaging. Study of the package design process, protective packaging theories and applications, selection and design, other distribution packaging related materials and applications. Introduction to package testing and evaluation methods, standards, and equipment/systems. Introduction to basics of packaging materials, packaging design and development, and sterilization methods used in biomedical industry. (Same as ME, PKG 320) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits.

CH E 323. FLUID MECHANICS
Principles of fluid mechanics and applications to chemical processes. Laminar and turbulent flow in conduits. Flow through packed and fluidized beds. Flow measurement. Pumps and compressors. Prerequisites: CH E 232 and MATH 231. Corequisite: CH E 325. Offered in the Fall semester. One semester; three credits
CHEMICAL ENGINEERING COURSE DESCRIPTIONS

CH E 324. HEAT TRANSFER
Principles of heat transfer and applications to chemical processes. Design of heat exchangers and evaporators. Prerequisite: CH E 323. Corequisite: CH E 326. Offered in the Spring semester. One semester; three credits.

CH E 325. JUNIOR LABORATORY I
Experimental study of fluid flow and flow measurement. Packed and fluidized bed hydraulics. Corequisite: CH E 323. Offered in the Fall semester. One semester, one credit

CH E 326. JUNIOR LABORATORY II
Experimental study of heat transfer. Double pipe heat exchangers, plate heat exchangers, temperature sensor response, air cooled exchangers. Corequisite: CH E 324. Offered in the Spring semester. One semester; one credit

CH E 327. CHEMICAL ENGINEERING THERMODYNAMICS
Thermodynamic analysis of multi-component, multiphase, and reacting systems. Calculation of properties for real materials. Application of First and Second Laws. Free-energy, activity, fugacity and activity coefficients. Phase equilibrium. Chemical reaction equilibrium and reaction rate kinetics. Prerequisite: CH E 231 or ME 305. Offered in the Fall Semester. One semester; three credits

CH E 328. MATERIALS SCIENCE (Formerly CH E 245)
Material classification, behavior, properties and selection. The internal structures of metals, ceramics, polymers and electronic materials are examined to develop understanding of their mechanical, physical, chemical, electrical properties. Develop some insight to controlling of properties and behavior of materials by manipulating internal structures. (Same as ME 428) Prerequisites: CHEM 113 or CHEM 115. Offered in the Fall semester. One semester; three credits

CH E 330. MASS TRANSFER & SEPARATIONS
Mass transfer and integration of heat, mass, and momentum transfer into analysis of process operations of gas absorption, distillation, adsorption, ion exchange and liquid extraction. Prerequisites: CH E 323, 327. Corequisite: CH E 324. Offered in Spring semester. One semester; three credits

CH E 393. PACKAGING SPECIAL PROJECT
Individual projects related to packaging. Reports are presented in both oral and written form. Prerequisites: PKG 319 or CH E 319 and PKG 320 or CH E 320. One semester, two credits

CH E 400. THE COMPLETE ENGINEER
This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics, regulatory issues; health, safety, and environmental factors; reliability, maintainability, producibility, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy. (Same as ECE 400, CE 400, and ME 400) Prerequisite:Permission of the department and MATH 232. One semester; three credits

CH E 401, 402. CHEMICAL ENGINEERING SENIOR PROJECT
Real world problems in chemical engineering and related fields. Senior project must be approved by the course instructor, and the work supervisor when conducted outside of CBU. Credit for CH E 402 is granted upon final review of the report submitted by the student. Prerequisite: Senior standing in Chemical Engineering. One semester each; two credits each

CH E 410. AIR POLLUTION CONTROL
Causes and consequences of air pollution, regulatory concerns, and methods for controlling and mediating the consequences of air contaminants. Pre-requisite: CHEM 113 or 115 and junior standing or permission from the instructor. Offered in the Spring semester. One semester, three credits

CH E 412. INDUSTRIAL AND PROCESS SAFETY
Basic principles of industrial safety. Hazards and risks of industrial processes (particularly those in the chemical process industries) and how these hazards can be controlled. CHEM 113 or 115 and junior standing or permission from the instructor. Offered in the Spring semester. One semester, three credits

CH E 425. PROCESS DESIGN I
Application of principles and concepts of prior course work with safety, economic and practical considerations to design equipment to meet a processing need. The emphasis is placed upon a particular unit or subsystem rather than a complete process which is the subject of CH E 426, Process Design II. Prerequisite: CH E 330. Corequisite: CH E 443. Offered in the Fall semester. One semester; three credits

CH E 426. PROCESS DESIGN II
Application of principles of process and plant design using knowledge from earlier course material to solve comprehensive industrial problems. Includes flowsheet development, equipment sizing and determination of operating parameters, startup and safety considerations, cost estimation and economic analysis. Prerequisite: CH E 425 and CH E 443. Offered in the Spring semester. One semester; three credits

CH E 437. MODELING AND CONTROL IN CHEMICAL ENGINEERING
Development of mathematical models for Chemical Engineering systems in terms of ordinary differential equations. Design of feedback control systems. Controller stability and tuning. Prerequisite: CH E 330. Offered in the Fall semester. One semester; three credits

CH E 441. SENIOR LABORATORY I
Experimental study of heat, mass, momentum transfer. Filtration, ion exchange, distillation, etc. Written and oral reports required on results of experiments. Prerequisites: CH E 330. Offered in the Fall semester. One semester; one credit
CH E 442. SENIOR LABORATORY II
Experimental study of reaction kinetics and behavior of various reactor. Polymerization and characterization of polymers. Written and oral reports are required on experimental results. Prerequisite: CH E 443. Offered in the Spring semester. One semester; one credit

CH E 443. REACTOR DESIGN
Chemical kinetics of homogeneous and heterogeneous isothermal systems and homogeneous non-isothermal systems. Application of kinetics to analysis and design of batch and flow reactors and their combinations to achieve specified production. Prerequisites: CH E 324, 327. Corequisite: CH E 441. Offered in the Fall semester. One semester; three credits

CH E 444. POLYMERIC MATERIALS
Introduction to chemistry, physics, technology and uses of common high polymers currently being produced. Prerequisite: CH E 443. Offered in the Spring semester. One semester; three credits

CH E 446. BIOCHEMICAL ENGINEERING
Extension of chemical engineering fundamentals to biological systems. Prerequisites: CHEM 315 and CH E 443. Offered in the Spring semester. One semester; three credits

CH E 490-494. SPECIAL TOPICS
Elective courses of special or current interest. Taught by faculty with special or unique qualifications. Prerequisites are announced with course offerings. One semester; one to four credits

CH E 495. INTERNSHIP IN CHEMICAL ENGINEERING
Students majoring in chemical engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior standing and permission of the department. Pass/Fail Grading. One semester; one to three credits

CHEMISTRY COURSES
Requirements for the degrees are found on Pages 93-96.

CHEM 101. INTRODUCTION TO COLLEGE CHEMISTRY
This course is designed for students who are unprepared to begin the study of chemical principles. Emphasis is on elements and their symbols, names and formulas of compounds, valences, balancing equations, stoichiometry, and the algebra required for proficiency in chemistry. Prerequisite or corequisite: MATH 103 or 117 or placement in a higher numbered MATH course. This course does not supply any portion of the science credits required in any CBU degree program. Offered in the Fall semester. One semester; three credits

CHEM 113. PRINCIPLES OF CHEMISTRY I
This is the first-semester chemistry course for all students of science and chemical engineering. Topics include matter, measurements, atoms, molecules, ions, use of formulas and equations, thermochemistry, gases, electronic structure, the periodic table, covalent bonding, molecular structure, liquids and solids, and solutions. Prerequisite: CHEM 101 at Christian Brothers University or high school chemistry and satisfactory performance on departmental placement examination. Prerequisite or corequisite: MATH 117 or MATH 129 or MATH 131; CHEM 113L. Offered in the Fall and Spring semesters. One semester; three credits

CHEM 113L. CHEMICAL PRINCIPLES I LABORATORY
This course is designed to illustrate and explain the principles covered in CHEM 113. Prerequisite or corequisite: CHEM 113. Offered in the Fall and Spring. One semester; one credit

CHEM 114. PRINCIPLES OF CHEMISTRY II
This is the second-semester chemistry course for students of science and chemical engineering. Topics include chemical equilibrium, precipitations, acids and bases, chemical thermodynamics and kinetics, oxidation and reduction, electrochemistry, and nuclear reactions. Prerequisites: CHEM 113, 113L. Prerequisite or corequisite: CHEM 114L. Offered in the Spring semester. One semester; three credits

CHEM 114L. CHEMICAL PRINCIPLES II LABORATORY
This course is designed to illustrate and explain the principles covered in CHEM 114. Prerequisite or corequisite: CHEM 114. Prerequisite: CHEM 113, 113L. Offered in the Spring semester. One semester; one credit

CHEM 115. GENERAL CHEMISTRY
A one-semester survey course in chemistry. Topics include matter, formulas and equations, thermochemistry, gases, electronic structure of the atom, the periodic table, bonding, molecular structure, liquids and solids, chemical kinetics, equilibrium, and electrochemistry. Prerequisite: MATH 117 or equivalent. Prerequisite or corequisite: CHEM 115L. Offered in the Fall semester. One semester; three credits

CHEM 115L. GENERAL CHEMISTRY LABORATORY
A one-semester laboratory course in chemistry designed to illustrate and explain the concepts covered in CHEM 115. Prerequisite or corequisite: CHEM 115. One semester; one credit

CHEM 200-201. SPECIAL TOPICS
Introductory course in one of the following fields: Environmental Chemistry or Forensic Chemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to three credits each
CHEM 200L-201L SPECIAL TOPICS LABORATORY
Introductory course in one of the following fields: Environmental Chemistry or Forensic Chemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to three credits each

CHEM 205, FORENSIC CHEMISTRY
This course is an introduction to the basic principles of forensic chemistry. The course begins with a basic overview of forensic science, including crime scene investigation and collection and handling of physical evidence. Sample preparation, chromatography, drug analysis and toxicology, PCR and DNA fingerprinting, and chemical analysis of physical evidence will be discussed. Prerequisite: CHEM 114, 114L and MATH 117. Offered in the Fall semester. One semester; one credit.

CHEM 211, ORGANIC CHEMISTRY I
This course uses both a mechanistic and functional-group approach to introduce organic concepts. Topics include bonding, functional groups, stereochemistry, acids and bases, and conformations. Mechanisms covered include electrophilic addition, SN2, SN1, E1, E2 and radical reactions. This course deals with compounds from the aliphatic series. Prerequisites: CHEM 113, CHEM 113L, CHEM 114, and CHEM 114L with a minimum grade of “C” in each course. Prerequisite or corequisite: CHEM 211L. Offered in the Fall semester. One semester; three credits

CHEM 211L, ORGANIC CHEMISTRY I LABORATORY
This course is designed to teach the student the techniques of organic chemistry as well as to carry out reactions discussed in class. Some of the techniques presented are distillation, recrystallization, and extraction. The experiments will teach the proper methods of carrying out reactions. Prerequisites: CHEM 113, CHEM 113L, CHEM 114, and CHEM 114L with a minimum grade of “C” in each course. Prerequisite or corequisite: CHEM 211L. Offered in the Fall semester. One semester; one credit

CHEM 212, ORGANIC CHEMISTRY II
This is the second in a two-semester sequence which builds on CHEM 211. This course will use a mechanistic and functional-group approach to introduce organic concepts. Topics include NMR, IR, and UV spectroscopy, aromaticity, enolates, and polymers. Mechanisms include EAS, NAS, nucleophilic addition, and nucleophilic acyl substitution. This course deals with compounds from both the aliphatic and aromatic series. Prerequisites: CHEM 211, 211L. Prerequisite or corequisite: CHEM 212L. Offered in the Spring semester. One semester; three credits

CHEM 212L, ORGANIC CHEMISTRY II LABORATORY
This course is a continuation of CHEM 211L. The lab will be a combination of spectroscopy, reactions and identification of unknowns. The experiments carried out in lab will correspond to ones discussed in class. The identities of the organic unknowns will be determined by chemical and spectroscopic means. The skills learned in the first semester are used extensively in this class. Prerequisites: CHEM 211, 211L. Prerequisite or corequisite: CHEM 212L. Offered in the Spring semester. One semester; one credit

CHEM 214, QUANTITATIVE ANALYSIS
A course which covers analytical principles and sources of error, principles of volumetric and gravimetric analysis, electrogravimetry, potentiometric titrations, and spectrophotometric analysis. Prerequisites: CHEM 114, 114L. Prerequisite or corequisite: CHEM 214L. Offered in the Spring semester. One semester; two credits

CHEM 214L, QUANTITATIVE ANALYSIS LABORATORY
Laboratory to accompany CHEM 214. Prerequisite or corequisite: CHEM 214. Offered in the Spring semester. One semester; two credits

CHEM 311, ORGANIC QUALITATIVE ANALYSIS
This course covers the identification of pure organic compounds and mixtures. The course includes use of spectroscopy and chromatography as well as classical techniques. Prerequisites: CHEM 212, 212L. One hour of lecture and six hours of laboratory work per week. Offered in the Spring semester of odd-numbered years. One semester; three credits

CHEM 315, BIOCHEMISTRY I (Introduction to Biochemistry)
This course is a detailed introduction to the chemistry of the major classes of biologically important molecules including amino acids, proteins, carbohydrates, lipids, and nucleic acids. A discussion of the role of water in biological systems, techniques for isolation and characterization of biomolecules, enzyme kinetics, regulation of enzyme activity, membrane structure and function, bioenergetics, general characteristics of metabolic pathways, glycolysis, gluconeogenesis, the Krebs cycle, and glycogen metabolism will be included. The course will conclude with an introduction to signal transduction pathways. Prerequisites: CHEM 212, 212L. Prerequisite or Corequisite: CHEM 315L. Offered in the Fall semester. One semester; three credits

CHEM 315L, BIOCHEMISTRY I LABORATORY
This course is designed to accompany Biochemistry I. It will provide an introduction to laboratory techniques used in the isolation and characterization of the major classes of biological molecules. Emphasis will be placed on techniques for protein purification and assay including chromatography, electrophoretic methods, centrifugation, spectroscopy, and enzyme kinetics. Prerequisites: CHEM 212, 212L. Prerequisite or corequisite: CHEM 315L. Offered in the Fall semester. One semester; one credit

CHEM 316, BIOCHEMISTRY II (Metabolic Regulation and Signal Transduction)
This course is a continuation of Biochemistry I, providing a comprehensive introduction to the study of metabolic pathways with emphasis on basic principles of regulation. The mechanism of hormone action and interrelationships between signal transduction and metabolic regulation will be discussed. An introduction to drug design and the mechanism of action of drugs in the human body will be included. The course will conclude with an introduction to molecular biology. Prerequisites: BIOL 112, 112L and CHEM 315, 315L. Offered in the Spring semester. One semester; three credits
CHEM 330. RESEARCH SEMINAR I (formerly CHEM 430)
A study of the chemical literature and ethical conduct in science. Students will be required to prepare a journal club presentation and to write a research proposal. Attendance of departmental seminars is also required. Prerequisites: CHEM 212, 212L. Offered in the Fall semester. One semester; zero credit

CHEM 331. RESEARCH SEMINAR II
Students will be required to attend departmental seminars and to submit summaries of these presentations. Students will select a research project and advisor. Prerequisite: CHEM 330. Offered in the spring semester. One semester, zero credit

CHEM 342. PHYSICAL BIOCHEMISTRY
Studies of the physical properties of biological molecules. Prerequisites: MATH 131, CHEM 315 & 315L, or permission of instructor. Offered in the Fall semester. One semester, three credits

CHEM 351. PHYSICAL CHEMISTRY I
Studies of the kinetic theory and properties of gases, the laws of thermodynamics, molecular energies, free energy and equilibrium, phase equilibria, ideal and real solutions, colligative properties, electrochemistry, rates and mechanisms of chemical reactions, catalysis, photochemistry, and collision theory. Prerequisites: CHEM 114, 114L; MATH 231; and PHYS 251, 251L. Prerequisite or corequisite: CHEM 351L. Offered in the Fall semester. One semester; three credits

CHEM 351L. PHYSICAL CHEMISTRY I LABORATORY
Laboratory work corresponding to CHEM 351. Prerequisite or corequisite: CHEM 351. Offered in the Fall semester. One semester; one credit

CHEM 352. PHYSICAL CHEMISTRY II
Studies of quantum mechanics and atomic structure, chemical bonding, spectroscopy and term symbols, molecular statistics, partition functions, diffraction and crystallography, intermolecular forces, liquids, surface chemistry, colloids, viscosity and diffusion, and macromolecules. Prerequisites: CHEM 351, 351L; PHYS 252, 252L; and MATH 232. Prerequisite or corequisite: CHEM 352L. Offered in the Spring semester. One semester; three credits

CHEM 352L. PHYSICAL CHEMISTRY II LABORATORY
Laboratory work corresponding to CHEM 352. Prerequisite or corequisite: CHEM 352. Offered in the Spring semester. One semester; one credit

CHEM 410. ADVANCED BIOCHEMISTRY
A student of the cellular aspects of biochemistry including membrane transport, membrane and organelle chemistry, photosynthesis, and a discussion of the chemistry of DNA replication, transcription, and translation. The course will include a detailed discussion of selected metabolic pathways from lipid and amino acid metabolism. Mechanisms of enzyme action will also be discussed. Prerequisites: BIOL 112, 112L, CHEM 315, and 315L. Prerequisite or corequisite: CHEM 410L. Offered in the Spring semester of even numbered years. One semester; three credits.

CHEM 410L. ADVANCED BIOCHEMISTRY LABORATORY
Laboratory work illustrating concepts discussed in CHEM 410. Prequisite or corequisite: CHEM 410. Offered in the Spring semester of even numbered years. One semester; one credit.

CHEM 415. ANALYTICAL CHEMISTRY
This course is oriented toward the study and use of instruments in chemical analysis and research. Theory and its application to instrumental methods of analysis are covered, including basic electronics, spectrophotometry, electrochemical analysis, and chromatography. Three one-hour lectures per week. Prerequisites: MATH 131, CHEM 212, 212L, 214, 214L. Prerequisite or corequisite: CHEM 415L. Offered in the Spring semester of even-numbered years. One semester; three credits

CHEM 415L. ANALYTICAL CHEMISTRY LABORATORY
Experiments dealing with basic electronics, optical spectrophotometry, non-optical spectrometry, electrochemical analysis, and chromatography are performed. Prerequisite or corequisite: CHEM 415. Offered in the Spring semester of even-numbered years. One semester; one credit

CHEM 422. INORGANIC CHEMISTRY
This course is an in-depth study of the elements (metals and non-metals) and their compounds. Emphasis is on periodic relationships, theory of solutions, coordination compounds, and the kinetics of inorganic reactions in solution. Three one-hour lectures per week. Prerequisites: CHEM 351, 351L. Prerequisites or corequisites: CHEM 212, 212L, 352, 352L, 422L. Offered in the Spring semester of odd-numbered years. One semester; three credits

CHEM 422L. INORGANIC CHEMISTRY LABORATORY
Advanced laboratory techniques are used in the synthesis, analysis, and purification of inorganic coordination compounds. Prerequisite or corequisite: CHEM 422. Offered in the Spring semester of odd-numbered years. One semester; one credit

CHEM 428. RESEARCH SEMINAR III
Students will be required to attend departmental seminars and to submit summaries of these presentations. Students will begin writing their senior research paper. Prerequisite: CHEM 331. Offered in the spring semester. One semester; zero credit.

CHEM 429. RESEARCH SEMINAR IV (formerly CHEM 431)
Completion of a research project. Oral presentation of research at a meeting of a learned society. Completion of a written research paper in a format suitable for publication in a refereed journal. In addition, each student will prepare a poster and present it at a poster session on campus. Students will be required to attend departmental seminars and to submit summaries of these presentations. Prerequisite: CHEM 428. Offered in the Spring semester. One semester; two credits

CHEMISTRY COURSE DESCRIPTIONS
CHEM 432-437, 440-441. SPECIAL TOPICS
An advanced study in one of the following fields: Inorganic, Organic, Analytical, Polymer, Physical, or Biochemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to four credits each

CHEM 439. ASTROPHYSICAL CHEMISTRY
This is an interdisciplinary capstone course for Science and Engineering majors. Astronomy is used as the framework upon which to hang many other topics; the student’s previous knowledge of chemistry, physics, mathematics, and biology will be reviewed and expanded upon, along with history, philosophy, music, and religion. Topics include an overview of the Universe, the sky and the Earth, the history of astronomy, light and telescopes, origin and evolution of the Solar System, the nature and evolution of stars, including supernovae, neutron stars, pulsars, and black holes, the Milky Way and other galaxies, interstellar molecules, life in the Universe, quasars, and cosmology, including the Big Bang and the expanding Universe. Optional observing sessions included. Prerequisites: CHEM 114, PHYS 150 or 201, MATH 131. Junior standing recommended. Offered in the Spring semester of even-numbered years. One semester; three credits

CHEM 490. INTERNSHIP IN CHEMISTRY
Students majoring in Chemistry or Biochemistry may be placed in an area company or research facility under approved supervision. Students submit progress reports and a final paper describing the experience. Prerequisite: Junior standing and permission of department chair. One semester; one credit

CHEM 498. SENIOR COMPREHENSIVE/BIOCHEMISTRY
Students must pass either an external examination in biochemistry chosen by the department (such as the GRE) or pass a comprehensive examination administered by the faculty of the department. A passing score is required for graduation. Offered in the spring semester. Offered pass/fail. One semester, zero credit.

CHEM 499. SENIOR COMPREHENSIVE/CHEMISTRY
Students must pass either an external examination covering all of the major fields of chemistry that is chosen by the department (such as the Major Field Assessment in Chemistry) or pass a comprehensive examination administered by the faculty of the department. A passing score is required for graduation. Offered in the spring semester. Offered pass/fail. One semester, zero credit.

CHINESE COURSES
The following foreign language courses will be offered on the campus of Rhodes College under the instruction of Rhodes faculty. See Dean of the School of Arts concerning these courses.

CHIN 101-102. ELEMENTARY CHINESE
This two-semester course introduces Chinese to students with no knowledge of the language. Equal emphasis will be given to acquiring the rudiments of spoken and written Chinese. Students who complete the year-long course will master approximately 700 characters and a vocabulary of a little more than 1,000 words. It also intends to acquaint students with some basic aspects of Chinese culture and society as a necessary part of their education in this language. Offered in sequence in the Fall and Spring. Two semesters; eight credits

CHIN 201-202. INTERMEDIATE CHINESE
In addition to the same objectives for the first year, this course aims at improving students’ aural-oral skills to achieve fluency and comprehension, further developing their proficiency in reading for understanding, and enhancing their ability to write in Chinese and to translate from Chinese into English and vice versa. Prerequisite: Chinese 102 or the equivalent. Offered in sequence in the Fall and Spring. Two semesters; eight credits

CHIN 205. MODERN CHINESE LITERATURE IN ENGLISH TRANSLATION
An introductory course of modern Chinese literature (1918-1989) designed to acquaint students with major phases of modern Chinese literature and some masterpieces of representative writers in relation to political and social changes. The course provides opportunities to learn about modern Chinese culture, society, and politics through readings of chosen works and trains students to read thoughtfully and critically. No prior knowledge of Chinese language and culture is required. One semester; four credits.

CHIN 210. CHINESE LITERARY HERITAGE
This course introduces one of the world’s richest literary heritages: traditional Chinese literature. It conducts a general survey of Chinese literature from high antiquity up to modern times with the focus on some representative writers and their works. It consists of three major sections: poetry and prose, drama, and fiction. All readings are in English. No prior knowledge of Chinese language and culture is required. One semester; four credits.

CHIN 214. INTRODUCTION TO CHINESE CULTURE
This course introduces students to Chinese civilization and culture from the multiple perspectives of geography, history, philosophy, language, literature, religion, art, people, society, and general ways of life. Major concerns will include, but are not restricted to, forms of material and spiritual culture that have developed and changed through China’s continuous traditions; individual and collective values that underlie social life, political organization, economics systems, family structure, human relationships, and individual behavior; and the rationales that have made Chinese culture what it is. One semester; four credits.

CHIN 215. IMAGES OF WOMEN IN CHINESE LITERATURE AND FILM
This course offers a critical survey of women’s images in Chinese literature and films. It seeks to examine the images of traditional Chinese women as well as how these images have changed throughout history. It also seeks to understand the social, cultural and institutional norms of women’s behaviors in traditional Chinese society as well as how the fictional imagination conforms to, deviates from and subverts these normative gender behaviors. Offered in the Fall semester. One semester; four credits.
CHIN 220. CONTEMPORARY CHINESE CINEMA
An introductory course on contemporary Chinese cinema that combines film viewing with readings of film theory and criticism. The aim is to provide a window for students to glimpse the complexity of contemporary Chinese culture. Students will view selected Chinese films produced in mainland China, Taiwan, and Hong Kong from the 1980's to the present and be required to read essays of critical studies which explore the interrelations of various issues in Chinese society. One semester; four credits.

CHIN 301-302. ADVANCED CHINESE
This course lays greater emphasis on further developing students' proficiency in reading for understanding and enhancing their ability to write in Chinese and to translate from Chinese into English and vice versa. At the end of the year-long course students should be able to read Chinese materials in everyday life, to write compositions in Chinese characters for daily communication, and to translate non-technical materials from Chinese into English and vice versa with the help of dictionaries. Prerequisite: Chinese 202 or the equivalent. Offered in sequence in the Fall and Spring. Two semesters; four credits

409. SPECIAL TOPICS
Intensive study of some aspect or theme of Chinese literature, culture or society in China. May be taken more than once for credit with new topics. Prerequisites: Chinese 301 and 302 or permission of instructor. One semester; four credits.

CIVIL & ENVIRONMENTAL ENGINEERING COURSES
Requirements for the degree are found on Page 76.

CE 100. INTRODUCTION TO CIVIL AND ENVIRONMENTAL ENGINEERING
New students are introduced to different areas of civil and environmental engineering, professional registration, ethics, and professional responsibilities. The course is team-taught by the faculty and practitioners. Offered in the Fall semester. One semester; zero credit.

CE 105. INTRODUCTION TO CIVIL AND ENVIRONMENTAL ENGINEERING DESIGN
Interdisciplinary team design projects are assigned by the faculty. Student teams are introduced to elementary design concepts and are involved in hands-on experiences in typical civil and environmental engineering projects. Reports are presented in both oral and written form. Offered in the Fall semester. One semester; one credits

CE 111. ENGINEERING DESIGN GRAPHICS
Emphasis on visual aspects of engineering communications, expression of ideas, developing spatial concepts as related to design. Graphical design is taught using orthographic projection, technical sketching, and 3-D modeling. CAD applications in Civil and Environmental Engineering. Offered in the Fall semester. One semester; three credits

CE 112. COMPUTER APPLICATIONS IN CIVIL AND ENVIRONMENTAL ENGINEERING
Introduction to the use of computers in civil engineering problem solving. Topics include PowerPoint presentations, Excel applications in civil and environmental engineering, and a general overview of computer programming. Offered in Spring semester. One semester; three credits

CE 115. FIELD MEASUREMENTS
Theory of measurements and errors. Measurement of line, direction and angles. Principles of leveling, traversing and topographic surveys. Horizontal and vertical route alignments. Computer applications. Two lectures and three laboratory hours each week. Report writing skills are required. Offered in the Fall semester. Corequisites: CE 111 and ENG 111. One semester, three credits

CE 201. STATICS
Principles of statics; coplanar and non-coplanar force systems. Equilibrium of force systems, analysis of structures, friction, centroids, moment of inertia. Prerequisite: PHYS 150. One semester; three credits

CE 202. INTRODUCTION TO MECHANICS OF MATERIALS
Axial load, shear and moment diagram. Differential equations of beams. Study of stresses due to axial bending, and torsional loading. Mohr's circle of stress. Hands-on lab projects. Co-requisite or Prerequisite: CE 201. One semester, one credit

CE 203. STRUCTURAL ENGINEERING I

CE 299. HYDRAULICS
Study of hydrostatics includes pressure heads, pressure centers, buoyancy and flotation, stability of gravity dams, flow of fluids in pipes and open channels, nozzles, weirs, compound and branching pipe networks. Fundamentals of conveyance system design. Oral and written communication skills are required. Prerequisite: CD 202. Corequisite: CE 299L. Offered in the Spring semester. One semester; three credits

CE 299L. HYDRAULICS LABORATORY
Laboratory experimental work to support theory covered in CE 299. Prerequisite CE 202. Corequisite: CE 299. Offered in the Spring semester. One semester; one credit

CE 301. STRUCTURAL ENGINEERING II
Design of concrete beams, one-way slabs, columns, and spread footings. Wind load calculation. Design of wood, masonry, and concrete shear walls. Introduction to pre-stressed concrete. Hands-on lab projects. Prerequisites: CE 203. Offered in the Fall semester. One semester; three credits
CIVIL ENGINEERING COURSE DESCRIPTIONS

CE 302. STRUCTURAL ENGINEERING III

CE 305. ENVIRONMENTAL SITE ASSESSMENT
Environmental assessment; environmental laws and regulations; planning and conducting; title search, site walk-through, water and soil sampling; laboratory and field testing of soil and groundwater; fundamentals of site remediation. Written and oral communication skills are required. Prerequisite: CE 299. Offered depending on enrollment. One semester; three credits

CE 313. HYDROLOGY
The aspects of hydrology which are of concern to an engineer: water balance, probability and statistics in hydrologic design and analysis, basin modeling, hydrographs, stream flow routing, flood control, groundwater hydrology, and computer applications. Oral and written communication skills are required. Prerequisites: CE 299. Offered in the Fall semester. One semester; three credits

CE 314. ENGINEERING ECONOMY (Formerly CE 314 Economic Factors in Design)

CE 315. JUNIOR PROJECT
Interdisciplinary team design projects are initiated by the student (or suggested by the faculty) and approved by the faculty, investigated and developed throughout three semesters preceding the student's graduation. Students submit proposals for CE 315, CE 431, and CE 432. Students attend senior presentations and other professional lectures. Report writing and oral presentation. Prerequisite CE 203. To be taken three semesters preceding the student's graduation. Offered in the Fall and Spring semesters. One semester; zero credit

CE 317. INTRODUCTION TO ENVIRONMENTAL ENGINEERING
Introduction of pollution in Environmental Engineering, mass balance, environmental regulations, water/wastewater characteristics, water/waste-water treatment, solid and hazardous waste management, and air pollution and control. Written communication skills are required. Prerequisites: CHEM 115,115L, CE 299, BIOL 105 or BIOL 107. Offered in the Spring semester. One semester; three credits

CE 318. HIGHWAY ENGINEERING
Study of driver and vehicle characteristics as they relate to the geometric design of highways. Highway capacity and safety. Design of drainage structures. Highway materials and the structural design of flexible and rigid pavements. Students are required to develop plans for a design project assigned by the instructor. Discussion of transportation planning, land use/transportation relationships, economy, mass transit facilities and inter-modal systems. Computer applications. Oral and written communication skills are required. Prerequisite: CE 313 and BIOL 105. Offered in the Spring semester. One semester; three credits

CE 319. TRAFFIC ENGINEERING
Travel time, delay, speed and volume studies. Capacity of freeways, expressways, urban streets, arterials and intersections. Pedestrian, parking and accident studies. Traffic markings, signs, signals both pretimed and actuated, and progression. Geometric design of urban arterials and intersections. Students are required to submit functional plans for design projects assigned by the instructor. Emphasis on intersection, interchange, and expressway design. Computer applications. Written communication skills are required. Offered depending on enrollment. Prerequisite: CE 115. One semester; three credits

CE 322. GEOTECHNICAL ENGINEERING
A study of the origin and composition of soils; character and properties; gradation and permeability; seepage phenomena and frost action. Introduction to mechanics of earth masses including consideration of stresses, strains, consolidation theory, rate of consolidation, total and differential settlements, and shearing resistance. Prerequisites: CE 299; Corequisite: CE 322L. Offered in the Fall semester. One semester; three credits

CE 322L. GEOTECHNICAL ENGINEERING LABORATORY
Standard laboratory tests to determine soil properties. Written and oral communication skills are required. Corequisite: CE 322. Offered in the Fall semester. One semester; one credit

CE 323 URBAN TRANSPORTATION PLANNING
Principles of planning, data collection, analysis, selection, financing and implementation of alternate urban transportation systems; formulation of community goals and objectives, inventory of existing transportation facilities; transportation modeling, trip generation, trip distribution, modal choice, traffic assignment, operation of modern transit and other transportation modes. Offered depending on enrollment. One semester; three credits

CE 340. DESIGN OF FOUNDATIONS
Sub-surface investigations and geotechnical reports; bearing capacity of soils, theory and design of shallow and deep foundations; settlement analysis; lateral earth pressure and cantilever retaining walls; slope stability analysis. Computer applications. Emphasis on design throughout. Written communication skills are required. Prerequisite: CE 322. Offered in the Spring semester. One semester; three credits

CE 345. PLANNING AND SCHEDULING
Various methods of scheduling will be presented including CPM, PPM, PERT, and LSM. Discussion of issues relating to activity duration, contractual considerations, time cost trade-off, schedule monitoring/updating and integration of schedule and cost. Computer applications. Offered depending on enrollment. Prerequisite: CE 203. One semester; three credits
CE 350. CONSTRUCTION ESTIMATING AND COST CONTROL
Methods of making quantity surveys, estimating construction cost, construction scheduling and methods of cost control. The study of labor relations as they affect construction cost, scheduling and job control. Prerequisite: CE 203. Offered depending on enrollment. One semester; three credits

CE 400. THE COMPLETE ENGINEER
This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics; regulatory issues; health, safety, and environmental factors; reliability, maintainability, producibility, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy. (Same as CH E 400, ECE 400, and ME 400) Prerequisite: Permission of the department and MATH 232. One semester; three credits

CE 401. ADVANCED ENVIRONMENTAL ENGINEERING ANALYSIS AND DESIGN
Advanced concepts in environmental engineering. Industrial waste treatment, toxic material disposal, physical, biological, and chemical treatment schemes. Oral and written communication skills are required. Prerequisite: CE 317. Offered depending on enrollment. One semester; three credits

CE 402. OPEN CHANNEL HYDRAULICS
Study of open channel fluid conveyance systems. Special emphasis on the design and analysis of natural and artificial channels. Characteristics of flow systems. Prerequisite: CE 299 or equivalent. Offered depending on enrollment. One semester; three credits

CE 404. SOLID AND HAZARDOUS WASTE MANAGEMENT
Introduction to solid and hazardous waste management, legislation and social impact. Engineering design, planning and analysis associated with waste sources, handling, storage, collection, transport, and disposal of solid and hazardous wastes. Written communication skills are required. Offered depending on enrollment. Prerequisite: CE 299. One semester; three credits

CE 405. REMEDIATION OF ORGANICALLY CONTAMINATED SOIL AND WATER
Soil Remediation: soil venting, air sparging, vapor extraction, bioremediation, soil washing, land farming, and thermal desorption; groundwater remediation; pump and treat and carbon adsorption; cost estimates; case histories. Written communication skills are required. Prerequisite: CE 305. Offered depending on enrollment. One semester; three credits

CE 407. GEOTECHNOLOGY OF WASTE MANAGEMENT
Site selection; ground modification and compaction; liners; leachate generation and collection; caps; gas management; properties of wastes. Prerequisite: CE 322. Offered depending on enrollment. One semester; three credits

CE 409. SPECIAL TOPICS IN STRUCTURAL ENGINEERING
Topics vary depending on senior projects. Prerequisites: CE 302. One semester; three credits

CE 410. INTRODUCTION TO BRIDGE ENGINEERING
Design, rehabilitation, and maintenance of modern highway bridges. AASHTO LRFD specifications. Offered depending on enrollment. One semester; three credits

CE 413 INTRODUCTION TO WIND AND EARTHQUAKE ENGINEERING
Analysis and design of buildings under wind and earthquake. Retrofit and repair. Offered depending on enrollment. Prerequisite: CE 203. One semester; three credits

CE 417. ENVIRONMENTAL ENGINEERING LABORATORY
Laboratory work to support treatment concepts presented in CE 317. Written communication skills are required. Prerequisites: CE 317. Offered in the Fall semester. One semester; one credit

CE 418. ADVANCED DESIGN OF FOUNDATIONS
Counterfort retaining walls; construction of earth dams; seepage; sheet piles; foundations on swelling soils; soil improvement. Oral and written communication skills are required. Offered depending on enrollment. Prerequisite: CE 340. One semester; three credits

CE 420. CONTRACTS AND SPECIFICATIONS
Consideration of fundamental principles of contract law with particular reference and application to engineering contracts. Study of specification documents. Preparation of typical documents for public and private construction projects. Prerequisite: CE 203. Offered depending on enrollment. One semester; three credits

CE 421. DESIGN OF PAVEMENTS
Factors affecting design of pavements: loads, climate, and environment; stresses in flexible and rigid pavements; properties of pavement components; materials characterization; soil stabilization; theory and design of flexible and rigid pavements for highways and airports; pavement evaluation and rehabilitation. Oral and written communication skills are required. Prerequisite: CE 322. Offered depending on enrollment. One semester; three credits

CE 425. HEAVY CONSTRUCTION EQUIPMENT AND METHODS
Study of the equipment, methods and materials used in “horizontal” construction. Methods of estimating the production and costs of heavy construction equipment will be presented. Prerequisite: CE 203. Offered depending on enrollment. One semester; three credits

CE 428. CONSTRUCTION MANAGEMENT
Study of the principles and professional management practices applied to construction projects to ensure the successful execution of capital projects for owners. Students will learn how to plan, schedule, estimate costs and select the proper equipment and materials to complete a construction project to specifications on time and within budget. Prerequisite: CE 203. Offered depending on enrollment. One semester; three credits
CE 431-432. SENIOR DESIGN PROJECT
Interdisciplinary team design projects are initiated by students (or suggested by the faculty) and approved by the faculty. Investigated and developed throughout the senior year by the students. Reports are presented in both oral and written form. Practitioner involvement is required in each project. Professional registration, responsibility, and ethics. Also includes considerations of safety, reliability, aesthetics, social and environmental impact. Taken in sequence during the last two semesters before graduation. Practitioner involvement is required in each project. Review of Civil Engineering courses for the Fundamentals of Engineering examination. These courses address various management, business, public policy, leadership, and professional issues. Prerequisite: CE 315. Taken in sequence during the last two semesters before graduation. **Two semesters; four credits**

CE 490-494. SPECIAL TOPICS
Elective courses of special or current interest. Taught by faculty with special or unique qualifications. Taken by Juniors and Seniors. Prerequisites are announced with course offerings. **One semester; one to four credits.**

CE 495. INTERNSHIP IN CIVIL AND/OR ENVIRONMENTAL ENGINEERING (Formerly CE 499)
Students majoring in civil/environmental engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports, a final report, and a final oral presentation to the faculty. Minimum time 200 hours. Prerequisites: CE 203 and Permission of department. **One semester; three credits**

CE 496-498. TOPICS IN CIVIL ENGINEERING
Directed work on a special problem. Problems of an inter-disciplinary nature are encouraged. A written report is required. A contract outlining the scope of the project is required prior to the initiation of work. Prerequisites: Senior standing and a duly executed contract. **One semester; one, two, and three credits respectively**

**COMPUTER SCIENCE COURSES**
*The requirements for the degree are found on Page 97. Requirements for the dual degree in Computer Science and Mathematics are found on Page 98. Requirements for the dual degree in Computer Science and Electrical Engineering are found on Page 79.*

CS 171. INTRODUCTION TO COMPUTER SCIENCE (Formerly CS 109)
This course concerns elementary algorithms and programming. Topics include an overview of computer hardware and software, system architecture, data representation, basic data structures, Boolean logic, digital circuit design, discovery and expression of algorithms, implementation and efficiency of algorithms, programming and control structures and basic UNIX commands. It uses a Java based language for programming exercises. Offered in the Fall semester. **One semester; three credits**

CS 172. FUNDAMENTALS OF COMPUTER SCIENCE (Formerly CS 122)
This course concerns more topics in algorithms and program development using object-oriented programming concepts. Topics include methods, arrays, classes, objects, encapsulation, inheritance, composition, abstraction and graphical user interfaces. It uses the Java language for programming exercises and projects. Prerequisite: CS 171, ECE 101 or MATH 117, 129, or 131. Corequisite: CS 172L Offered in the Spring semester. **One semester; three credits**

CS 172L. FUNDAMENTALS OF COMPUTER SCIENCE LAB (Formerly CS 122L)
Lab to accompany CS 172. Corequisite: CS 172L. **One semester; one credit**

CS 234. DATA STRUCTURES
The course teaches the student important data structures, such as lists, stacks, queues, trees and tables. The student designs and implements correct readable and efficient software systems with interacting components. Prerequisite: CS 172. Corequisite: CS 234L. Offered in the Fall semester. **One semester; three credits**

CS 234L. DATA STRUCTURES LAB
Lab to accompany CS 234. Corequisite: CS 234. **One semester; one credit**

CS 240. INTRODUCTION TO BIOINFORMATICS (Same as BIOL 240)
Prerequisite: CS 172.

CS 301. C PROGRAMMING
The course discusses problem solving and the design of algorithms and their implementation in the C programming language. It considers the fundamentals of procedural programming with applications in business, engineering and science. Topics include variables, expressions and statements, console input/output, modularization and functions, arrays, pointers and strings, data structures, and file input/output. Its laboratories require designing and implementing applications. Prerequisites: CS 234. **One semester; two credits**

CS 360. OBJECT ORIENTED DESIGN
The course uses object oriented analysis and design techniques and tools to develop and implement solutions to problems in business, engineering and science. Prerequisite: CS 234. Offered in the Spring semester. **One semester; three credits**

CS 370. OPERATING SYSTEMS (Formerly CS 380)
This course presents the topics that govern the behavior of operating systems. Topics include processor scheduling, memory management, input, output, file storage allocation, protection and security. Prerequisite: CS 234 or ECE 235. Same as CS 370. Offered in the Spring semester. **One semester; three credits.**
CS 400. INTERNSHIP IN COMPUTER SCIENCE
Computer science majors receive on-the-job training in the offices of cooperating firms. To receive credit, the student must submit periodic reports and a detailed final report of the work done. The authorized supervisor at the firm must verify these reports. Prerequisites: Junior standing and approval of the Computer Science faculty. Pass/Fail Grading. One semester; one to three credits

CS 440. ALGORITHMS
The course studies standard methods and examples in the design and analysis of algorithms. Topics include some basic paradigms in algorithm design and analysis of the efficiency and optimality of representative algorithms selected from some of graph, pattern matching, numerical, randomized and approximation algorithms. Offered in the Spring semester of even numbered years. Prerequisites: MATH 141 or 405 and CS 234. One semester; three credits

CS 460-469. TOPICS IN COMPUTER SCIENCE
Courses are designed each semester to meet the current needs of the students and to express the particular interests of the instructors. Prerequisite: CS/ECE 360. Offered in the Spring semester of odd numbered years. One semester; one to three credits

CS 471. DATABASE DESIGN
The course stresses the design of databases and their implementation using a relational database management system. Topics include entity-relationship and relational data models and database design. Abstract query languages (relational algebra) and SQL (language for creating, querying, and modifying relational and object-relational databases). Views, integrity, constraints, triggers, transactions and security. Data warehouses, data mining, temporal databases, XML. Prerequisite: Junior standing. Offered in the Fall semester. Same as ECE 471. One semester; three credits

CS 481. COMPUTER SCIENCE PROJECT I
The course requires that the student design, develop and implement a major project that solves a real problem in either business or engineering in the field of computer science. The project requires the presentation of oral and written reports. Prerequisites: CS/ECE 360 and Senior standing. Offered in the Fall semester. One semester; one credit

CS 482. COMPUTER SCIENCE PROJECT II
The course is a continuation of CS 481. The student completes the project begun in CS 481 and must pass a departmental assessment test. The student may have to take an external assessment examination approved by the department. Prerequisite or corequisite: CS 481. Offered in the Spring semester. One semester; three credits

COUNSELING COURSES
COUN 300, 301. COUNSELOR TRAINING
This is a special preparatory program for students selected as Peer Counselors for CBU. The program provides extensive training for the Peer Counselors in preparation for their role as group leaders in new student orientation (see ORIN 100). The training covers a wide range of topics presented to new students and identifies issues and solutions that may arise as new students adapt to university life at CBU. Prerequisite: Approval of instructor. Offered in the Fall semester. Two semesters; three credits each

COUN 310, 311. CAREER COUNSELOR TRAINING
This special program is designed to train selected Career Peer counselors to assist fellow students in various stages of their career development and to assist with various projects associated with the Career Center. Students will learn to clarify their own career objectives and develop job search skills, learn the dynamics of counseling others, and gain valuable leadership experience. Prerequisite: Approval of instructor. Offered in the Spring semester. Two semesters; three credits each

CRIMINAL JUSTICE COURSES
CJ 150. PUBLIC ADMINISTRATION
A history and overview of the field of Public Administration as a profession and an academic discipline. It is designed to give the student a solid and in-depth understanding of past, present, and future problems of administrators in managing government organizations in the political environment. Interrelationships between chief executives, legislators, the judiciary, interest groups, and bureaucracies are considered. One semester; three credits

CJ 200. CRIMINAL JUSTICE
An analysis of the structure, functions, and decision process of social agencies that deal with the management and control of crime and criminal offenders. Includes study of the nature, causes, and role of criminal behavior in society. One semester; three credits

CJ 205. CRIMINOLOGY
This course will offer an introduction to theoretical explanations for the causes of crime. We will take a psychosocial approach to understanding crime causation and prediction through the use of data and specific theories. One semester; three credits

CJ 210. CRIMINAL LAW
Criminal Law is an examination of some of the substantive aspects of criminal law, including principles of criminal liability, specific analysis of elements of crimes, and substantive defenses to crimes. Throughout the course, there is an ongoing examination of Constitutional safeguards that control the substantive and procedural aspects in the criminal justice system. Course instruction consists of lecture, use of hypothetical case studies and reading and analysis of selected laws and court decisions. One semester; three credits

CJ 215. CORRECTIONS
This course will offer a comprehensive look at the components that make up the corrections system in the United States. The history and future of the corrections system will be analyzed through an examination of the political and social climate in our country. One semester; three credits
CJ 220. POLICING
This course is an in-depth study of law enforcement in the United States, the largest and most visible part of the criminal justice system. Students will focus on the differences and functions of federal, state, local, county and private policing in this country. One semester; three credits

CJ 225. JUVENILE JUSTICE
The focus of this course is to examine the juvenile delinquency phenomenon through the historical context of delinquency, the changing legal environment (including major court decisions which have transformed the juvenile system), exploring the theories of the causes of juvenile delinquency, and discussion of juvenile delinquency prevention and control programs. One semester; three credits

CJ 245. CHILD SEXUAL ABUSE
This class will acquaint the student with the various players involved in the crime of child sexual abuse, dispel many of the popular myths associated with this crime and introduce the physical and behavioral indicators of abuse. The most recent research on forensic interviewing and repressed memory will be reviewed. Guest speakers will include prosecutors and police investigators with the Child Protection Investigation Team. One semester; three credits

CJ 250. SERIAL KILLERS
This class will present a brief history of the more famous serial killers in both the United States and abroad and the increasing phenomenon of serial killings will be discussed. Students will be introduced to the science of profiling and other techniques used in the investigation of serial killings and psychological profiles of two contemporary serial killers will be compared. One semester; three credits

CJ 280-287. SELECTED TOPICS IN CRIMINAL JUSTICE
Directed work on a special topic or project in criminal justice. One semester; one to three credits

CJ 290-299. HONORS SPECIAL TOPICS.
Special topics in criminal justice open to members of the Honors Program or by permission of instructor. One semester; one to four credits

CJ 315. CROSS-CULTURAL CRIMINAL JUSTICE
Crime, justice, and retribution vary tremendously around the globe. Some cultures have meetings with parties rather than courts, and, in some, suspects merely vanish never to be seen again. This course will look at varieties of concepts of crime, wrongdoing, punishment (or lack of), and systems for dealing with these in other parts of the world, and compare some of these systems to the criminal justice system and its ideology in the United States. One semester; three credits

CJ 362. SOCIETY OF ADDICTION
( Same as SOC 362) Prerequisite: SOC 101. One semester; three credits

CJ 365. DEVIANT BEHAVIOR
An exploration of theoretical perspectives on deviance, problems in defining deviance and specific categories of deviance. Deviant behaviors discussed may include but are not limited to prostitution, gambling, transgendersness, pornography, mental illness, sexualities, and physical disability. (Same as PSYC 365 and SOC 365) One semester; three credits

CJ 370. APPLICATIONS OF MEMORY
An examination of the application of memory in such diverse areas as courtroom testimony (e.g., factors influencing witnesses, hypnosis, repressed memory, false memory), memory for everyday events, memory aids, and advertising. The relevant theories and research in each area are examined. Prerequisite: PSYC 105. (Same as PSYC 370) One semester; three credits

CJ 380-387. SELECTED TOPICS IN CRIMINAL JUSTICE
Directed work on a special topic or project in criminal justice. One semester; one to three credits

CJ 390-399. HONORS SPECIAL TOPICS IN CRIMINAL JUSTICE
Special topics in criminal justice open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; three credits.

CJ 401. CONSTITUTIONAL LAW
( Same as POLS 471) Prerequisite: POLS 112 or HIST 151 or Permissions of the department chair. One semester; three credits

CJ 455. CORRECTIONAL COUNSELING
This course is designed to present some of the counseling and treatment techniques that are available to assist correctional workers toward assisting the offender to establish a satisfying lifestyle that conforms to the regulations as well as protecting the community from harmful activity by offenders placed under the correctional workers’ supervision. (Same as PSYC 455) One semester; three credits

CJ 480-487. ADVANCED TOPICS IN CRIMINAL JUSTICE
Directed work on a special topic or project in criminal justice. One semester; one to three credits

ECONOMICS COURSES
ECON 214. PRINCIPLES OF MICROECONOMICS (Formerly ECON 212)
Attention is focused on the micro concept of economic analysis, and primary attention given to the theory of the firm and partial equilibrium problems arising within any enterprise economy. Attention is also given to government regulation of business, the theory of income distribution as it pertains to the determination of wages, rents and profits, and international trade. Offered in both Fall and Spring semesters. One semester; three credits
ECON 215. PRINCIPLES OF MACROECONOMICS (Formerly ECON 211)
This course focuses attention on the aggregate or macroeconomic relationships and gives attention to the central problems of economic organization, the functioning of the price system, the economic role of government, the determination of national income, employment, the rate of inflation, and fiscal and monetary policy. Further, the student is introduced to the interactions between aggregate markets such as the product market, the factor/labor market, and the money market. Prerequisite: ECON 214. Offered in both Fall and Spring semesters. One semester; three credits.

ECON 323. THE ECONOMICS OF HEALTH AND HEALTHCARE
The course uses the tools of economic thinking and economic analysis to examine the current state of health and healthcare in the United States. Economic concepts to be discussed include scarcity, rationing, the roles of the free market and government, sensitivity to price, determinants of the demand for, and the supply of, healthcare, and production possibilities. These and other tools will be used to examine such topics as changing demographics, alternative production and delivery systems, health insurance, regulation of the health sector, and the legal environment. Prerequisite: ECON 214 or consent of instructor. Offered as needed. One semester; three credits.

ECON 325. ENVIRONMENTAL ECONOMICS
This course will examine the emerging field of environmental economics - that is, the connections between economics and the environment. Topics will include the sources of environmental problems, the concept of natural capital, sustainable development, and how to balance environmental policy, economic growth and the constraints of a market based economic system. One semester; three credits.

ECON 343. INTERMEDIATE MACROECONOMICS
The theory of national income and employment, analysis of aggregate demand, the general degree of utilization of productive resources and the general level of prices as well as related questions of policy. Prerequisites: ECON 214, 215. Offered in the Fall semester. One semester; three credits.

ECON 344. INTERMEDIATE MICROECONOMICS
A study of basic economic theory as it pertains to the individual economic units of a society, a study of the tools which are used in analyzing these units. Price determination, market analysis, and resource allocation are stressed. Prerequisites: ECON 214, 215. Offered in the Spring semester. One semester; three credits.

ECON 346. CURRENT ECONOMIC TOPICS
Analysis and discussion of current issues from an economic perspective. Possible subject areas include the environment, health care, comparative economic systems, welfare, growth and development, crime, religion and economics, and other current topics. The course may examine several current issues or may focus on just one or two. Offered as needed. One semester; three credits.

ECON 347. SUSTAINABILITY, CULTURE, AND ECONOMICS
This course will examine the relationship between these three topics by choosing one area of the world, such as Asia, Europe, and Latin America, and selecting specific countries in one of these areas for a micro and macro comparison. This course will include optional travel to one of these areas during fall, winter, spring or summer break. One semester; three credits.

ECON 400. ECONOMICS INTERNSHIP
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Offered in the Fall and Spring. Pass/Fail grading. One semester; three credits.

ECON 420. MANAGERIAL ECONOMICS
This course focuses on the application of economics theory to the problems and decisions faced by business managers in a market-oriented economy. The economic aspects of business departments such as marketing, finance, accounting, and law are explored and integrated into the applicable economic theories and models. Thus, in a very general sense, this course attempts to provide the student with a method of looking at the world of microeconomics through the eyes of an economist and from the perspective of a business person. Prerequisites: ECON 214, 215. Offered in both Fall and Spring semester. One semester; three credits.

ECON 422. INTERNATIONAL TRADE AND ECONOMICS
This course is designed to provide the student with a basic understanding of the principles of international trade, marketing, and finance. Specific topics which will be introduced include but are not limited to: tariffs, subsidies, import restrictions, foreign exchange, methods, agencies, and middlemen and business practices which influence trade relations. In addition, students will study the basics of the field of International Business including national differences in political economy and culture, global trade and investments, foreign direct investments, regional economic integration, foreign exchange markets, and strategic alliances. Prerequisites: ECON 214, 215. Offered in the Fall semester. One semester; three credits.

ECON 450. ECONOMICS POLICY
Application of economic theory and methodology to the study of decision making in both the political arena and various government agencies. This will include the study of politics using the economic ways of thinking, various theories of justice and approaches to public policy, analysis of representative/democratic government, study of decision making inside bureaucracies, and development of the process of public policy formulation and implementation. Among the policy areas covered will be an analysis of policy programs in the areas of education, welfare, and health care. Prerequisites: ECON 214. Offered as needed. One semester; three credits.

ECON 460-466. SPECIAL TOPICS IN ECONOMICS
The reading and discussion of significant economic literature. The course is designed to improve the student's approach to modern economic problem solving and to stimulate economic thinking and the analysis of modern business problems. Prerequisites: ECON 214, 215. Offered as needed. One semester; three credits.
EDUCATION COURSES

EDUC 211. INTRODUCTION TO EDUCATION
Introduction to the profession of teaching and development of a personal philosophy of teaching and learning; examination of American education and contemporary schools. Orient prospective teachers to licensure requirements and the Teacher Education Program. Field experience is a required part of the course. One semester; three credits.

EDUC 303. PROFESSIONAL FOUNDATIONS I
Students acquire background in the professional foundations of education, emphasizing perspectives on the profession of teaching, the teacher as a leader, the history of schooling, philosophies of curriculum, social and cultural influences on schools and classrooms, the diversity of student populations, and the politics, economics, and law of education. One semester; three credits.

EDUC 304. PROFESSIONAL FOUNDATIONS II
Students acquire background and skill in curriculum design and instructional strategies and methods, instructional planning and guidance, analysis of patterns of classroom dynamics, classroom assessment, and classroom inquiry in conjunction with perspectives on school reform, teacher leadership, and lifelong professional development. One semester; three credits.

EDUC 307. CLASSROOM MANAGEMENT AND METHODS
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and discipline. Ten hours of field experience required. One semester; three credits.

EDUC 331. SURVEY OF EXCEPTIONAL LEARNERS
This course surveys and assesses the physical, psychological, social, and learning characteristics and needs of atypical learners with emphasis on skills and techniques for identifying and teaching such learners in a heterogeneous classroom. Requires interviews with and observations of practitioners in special education and a practicum experience of at least ten hours. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 350. PORTFOLIO AND PRACTICUM I
Required for elementary licensure. Candidates recently admitted to the Teacher Education Program complete 30 clock-hours of school-based experience and assessments, including initial development of technology driven portfolio. Prerequisites: Admission to the Teacher Education Program. One semester; one credit.

EDUC 402. PRACTICUM IN EDUCATION
Required for students choosing middle or secondary teaching majors linked with the MAT route to middle or secondary licensure. Also required for students in K-6 Liberal Studies, Pre-licensure program, Pre-K - 3 Early Childhood program, and Special Education K-12 program. Weekly one-hour seminar, readings, and 30 hours of field experience. One semester; three credits.

EDUC 405. CURRICULUM AND METHODS IN LANGUAGE ARTS, Pre-K - 3
Students examine the theory and practice of transforming the methods of inquiry and the knowledge base of the language arts into language curriculum, emphasizing content and performance standards, planning for instruction, teaching methods and materials, including the integration of technology into the elementary school language arts curriculum. Specialized instruction in teaching grades K-3 to read is an integral part of this course. One semester; three credits.

EDUC 406. CURRICULUM AND METHODS IN LANGUAGE ARTS, 4-8
Required for elementary licensure. Theory and practice in reading and instruction and in the knowledge and skills of language literacy, emphasizing content and performance standards in the language arts, planning for instruction, teaching methods, and materials, including the integration of technology into the 4-8 language arts curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 407. CLASSROOM MANAGEMENT AND METHODS
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and discipline. Ten hours of field experience required. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 411. CURRICULUM AND METHODS IN SCIENCE, Pre-K-6
Required for elementary licensure. Theory and practice in transforming the methods of inquiry and the knowledge base of the sciences into the elementary science curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary science curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 412. CURRICULUM AND METHODS IN SOCIAL STUDIES, Pre-K-6
Required for elementary licensure. Theory and practice in transforming the methods of inquiry and the knowledge base of the social sciences into the elementary social studies curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary social studies curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.
EDUC 420. PORTFOLIO AND PRACTICUM II  
Required for elementary licensure. Candidates at a mid-point in the Teacher Education Program complete 30 clock-hours of school-based experience and assessments, including further development of technology-driven portfolio, appropriate Praxis II tests, and application for student teaching experience. Prerequisite: Admission to the Teacher Education Program.  
One semester; one credit

EDUC 422. CURRICULUM AND METHODS IN MATHEMATICS, Pre-K-6  
Required for elementary licensure. Theory and practice in transforming the methods of reasoning and the knowledge base of mathematics into the elementary math curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary math curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program.  
One semester; three credits

EDUC 424. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, Pre-K-6  
Required for elementary licensure. Integration of concepts of music, visual art, drama, and dance into the elementary classroom. Prerequisite: Admission to the Teacher Education Program.  
One semester; one credit

EDUC 428. ADOLESCENT LITERATURE  
A study of literature written for preadolescent children and adolescents designed for those who will teach middle school and high school English and language arts. Prerequisite: Admission to the Teacher Education Program or permission of instructor.  
One semester; three credits

EDUC 430. CURRICULUM AND ASSESSMENT IN SECONDARY SCHOOLS, 7-12  
Elective course focusing on standards-based curriculum development and assessment strategies in the secondary school.  
One semester; three credits

EDUC 431. STUDENT TEACHING—ELEMENTARY LEVEL I  
Directed student teaching in the early childhood grades is under the supervision of a selected cooperating teacher and a selected University supervisor. There is a $150.00 fee attached to this course. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 432. No other courses may be taken concurrently except corequisites. Offered in the Fall and Spring semesters.  
Pass/Fail Grading.  
One semester; six credits

EDUC 432. STUDENT TEACHING—ELEMENTARY LEVEL II  
Directed student teaching in the middle grades is under the supervision of a selected cooperating teacher and a selected University supervisor. There is a $150.00 fee attached to this course. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 431. No other courses may be taken concurrently except corequisites. Offered in the Fall and Spring semesters.  
Pass/Fail Grading.  
One semester; six credits

EDUC 473. TEACHING PRACTICUM III  
Culminating semester long experience of supervised teaching for students in the Early Childhood Pre-K - 3 and Special Education degree program. During Teaching Practicum III, students are expected to improve their instructional methods and classroom management, to become more reflective and analytical about their own professional practice, and to utilize clinical methods, assessment strategies, and classroom inquiry techniques to investigate their impact on student learning. Students continue to compile their portfolio and are required to take EDUC 474, Professional Seminar and Portfolio III, with EDUC 473.  
One semester; four credits

EDUC 474. PROFESSIONAL SEMINAR AND PORTFOLIO III  
Seminar accompanies EDUC 473 and supports students in their experience of supervised teaching in the Early Childhood Pre-K - 3 and Special Education (K-12) programs. During the seminar, students complete the final components of required assessments for their licensure program, including their portfolio.  
One Semester; one credit

EDUC 490-498. PROBLEMS IN EDUCATION  
Directed work in a special topic in education approved by the department up to 3 credit hours. Prerequisite: Approval of Director of Teacher Education.  
One semester; one to three credits

EDUCATION - EARLY CHILDHOOD  
ECDV 430. CHARACTERISTICS OF EARLY CHILDHOOD EDUCATION  
This course explores the nature and development of children pre-K-third grade. Students explore models and theories of early childhood development and research based approaches to design developmentally appropriate strategies for early childhood students.  
Three credits

ECDV 431. METHODS OF TEACHING EARLY CHILDHOOD EDUCATION  
Students examine theory and practice of methods and inquiry as they pertain to the early childhood classroom. Emphasis is placed on transforming these practices into the early childhood curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and the integration of technology across the curriculum.  
Three credits

EDUCATION - SPECIAL  
EXCE 431. INCLUSION AND THE GENERAL EDUCATION SETTING  
Candidates in this course will develop practical knowledge on how to create successful inclusion environments for students with disabilities. While this course provides a broad perspective of inclusive practices, there will be a particular focus on Science and Social Studies as related to projects and activities. Candidates will gain knowledge on how to plan and implement inclusive strategies, as well as adapt the general content to meet the needs of special learners. This course includes a 5 hour observation requirement to be completed in a co-teaching setting.  
One semester; three credits
EXCE 433. SPECIALIZED INSTRUCTION FOR EXCEPTIONAL LEARNERS: LEVEL I  
Candidates will acquire background and understanding of reading, math, and writing challenges in elementary students who have mild or moderate disabilities. This course will help candidates acquire a set of skills that will enable them to determine what core academic concepts are necessary for each student. Candidates will also learn effective instructional methods for teaching these basic skills. Candidates will gain their knowledge through course readings, application assignments, observations/field experiences, lectures, demonstrations, and group discussions. One semester; three credits.

EXCE 434. SPECIALIZED INSTRUCTION FOR EXCEPTIONAL LEARNERS: LEVEL II  
Candidates will acquire background and understanding of instructional strategies related to teaching students with mild or moderate disabilities in the upper grades. Students will use generalizations about classroom practice to develop key principles for use of the instructional strategies. Emphasis will be placed on the integrations of research findings and theories of instructional models that apply to teaching middle and high school students who need to be involved in higher level thinking. This course will prepare candidates to plan and implement appropriate lessons, assessments, activities, assignments, teaching strategies, and develop collaborative relationships that actively engage students in their own learning, thus creating lifelong learners. One semester; three credits.

EXCE 438. USING APPLIED BEHAVIOR ANALYSIS TO CREATE SUCCESSFUL LEARNING ENVIRONMENTS  
Candidates will learn the principles of behavior analysis and how to apply them to managing classroom behavior in the following ways: selecting and writing behavioral goals and objectives, collecting data on the seven dimensions of behavior, applying procedures for reducing maladaptive behavior and increasing appropriate behavior, teaching useful target skills, and understanding the functions of behavior in order to complete a functional behavior assessment and behavior intervention plan. Candidates will also learn positive behavior support strategies as they relate to class-wide and school-wide behavior intervention programs. One semester; three credits.

EXCE 440. ASSESSMENT AND EXCEPTIONAL LEARNERS  
Candidates will become familiar with formal and informal assessment strategies used in the identification and service of students. This course provides in-depth information on standardized testing and hands-on learning related to criterion-referenced assessments by teachers, psychologists, therapists, and medical professionals. In addition, the field experience component will include administering an informal criterion-referenced test. One semester; three credits.

EXCE 451. FAMILY CONSULTATION AND SUPPORT  
Candidates will acquire the knowledge to engage, support, and collaborate with the families of students with disabilities. Candidates will gain an understanding of the impact of identification and diagnosis on families, transitioning students between various school settings, transitioning between post school and adulthood, and collaboration with community to aid in post school opportunities. Candidates will also acquire knowledge in the diversity of students, backgrounds, and the law of education. One semester; three credits.

ELECTRICAL & COMPUTER ENGINEERING COURSES

Requirements for the degree are found on Pages 77-78. Requirements for a dual degree in Electrical Engineering and Computer Science are found on Page 79.

ECE 101. INTRODUCTION TO ENGINEERING PROBLEM SOLVING  
Introduction to engineering disciplines and careers, role of the engineer in society, engineering approach to problem-solving, engineering design process, and engineering ethics. An introduction to EXCEL, AutoCad, and C++ and the application of the software to engineering problems. Corequisite: Math 117, 129, or 131. Offered in the Fall semester. One semester; three credits.

ECE 112 COMPUTERS IN ENGINEERING PROBLEM SOLVING (Formally ECE 172)  
This course is an Introduction to computers and programming in engineering problem solving. It emphasizes object-oriented programming and the use of modern tools and techniques for software engineering practices. It uses the Java language for programming exercises and projects. Topics include classes, objects, methods, encapsulation, inheritance, abstraction, flow control, basic data structures, sorting and searching algorithms, and file I/O. Corequisite: Math 117, 129, or 131. Offered in the Spring semester. One semester, three credits.

ECE 112L COMPUTERS IN ENGINEERING PROBLEM SOLVING LAB (Formally 172L)  
Lab to accompany ECE 112 and required by electrical engineering majors in the computer track. Corequisite: ECE 112. One semester, one credit.

ECE 130. INTRODUCTION TO PROGRAMMING USING 3D GRAPHICS  
This course is an introduction to object oriented programming using graphics in the creation of 3D movies, games and interactive applications. It studies: Algorithmic thinking and expression (how to read and write in a formal language); Abstraction (how to communicate complex ideas simply, and decompose problems logically); Appreciating elegance (why some solutions are inherently better than others); Object development (classes, objects, methods, parameters, and inheritance); Interactive programs (events and event handling); Core programming concepts (functions, if/else, loops, recursion, lists, arrays, variables). One semester, three credits.

ECE 132. INTRODUCTION TO JAVA PROGRAMMING (Formerly ECE 120)  
This course concerns more topics In algorithms and program development using object-oriented programming concepts. Topics include methods, arrays, classes, objects, encapsulation, inheritance, composition, abstraction and graphical user interfaces. It uses the Java language for programming exercises and projects. Online Course. Offered as needed. One semester; three credits.

ECE 150. INTRODUCTION TO MULTIMEDIA DSP  
This course is a hands-on Introduction to Digital Signal Processing applied to Multimedia signals: video, images, music and voice. Topics include compression, enhancement and restoration of multimedia signals. Spectrum representation, Sampling and Aliasing, FIR and IIR filters, the
ELECTRICAL & COMPUTER ENGINEERING COURSE DESCRIPTIONS

Z-Transform, Spectrum analysis. It studies the application of DSP in areas such as biotechnology, medical imaging, economic forecasting, telecommunications, scientific imaging, materials science, weather forecasting, seismic data processing, analysis and control of industrial process, aerospace and defense, remote sensing, computer-generated animation, etc. Offered in the Fall semester. Corequisite: Math 105, 117, 129 or 131 or instructor's approval. One semester; three credits

ECE 201. ENGINEERING INSTRUMENTATION
A laboratory course designed to instruct students in the theory and use of various engineering instruments and transducers. Emphasis is placed on appropriate error analysis in the reduction, analysis, and reporting of data. Technical report preparation is emphasized. Two lecture periods and one laboratory period of three hours. Prerequisite: ECE 221. Offered in the Fall and Spring. (Same as ME 301) One semester; two credits

ECE 221. ELECTRIC CIRCUIT ANALYSIS I
Fundamental electrical concepts: charge, voltage, current, power, resistance, capacitance and inductance. Techniques of circuit analysis; Kirchhoff's Laws; nodal and mesh analysis; source transformations. Thevenin's and Norton's theorems; linearity and superposition. Transient analysis; source free R-L, R-C, and R-L-C networks; unit step forcing function; natural and forced responses. Sinusoidal steady-state analysis; the complex forcing function; phasors-complex impedance; complex power; effective values and balanced three-phase systems. Prerequisite: MATH 132. Corequisite: PHYS 251. Offered in the Fall and Spring. One semester; three credits

ECE 222. ELECTRIC CIRCUIT ANALYSIS II
Complex frequency; damped sinusoidal forcing function, Z(s) and Y(s). Frequency response; series and parallel resonance. Magnetically coupled circuits; mutual inductance, linear and ideal transformers. Two-port networks; admittance, impedance and hybrid parameters. Fourier analysis; trigonometric and complex forms; complete response to periodic forcing functions. Fourier transforms; unit impulse function; convolution and circuit response in the time and frequency domain; system transfer functions. Laplace transform techniques; initial and final value theorems and transfer functions. Prerequisite: ECE 221 and MATH 231. Corequisite: PHYS 251. Offered in the Fall and Spring. One semester; three credits

ECE 235 DATA STRUCTURES (Formally ECE 234)
This course studies the analysis, design, implementation, and properties of advanced data structures such as linked lists, stacks, queues, trees, heaps, graphs, and hash tables. Topics include order notation and time-space analysis and tradeoffs, and the importance of choosing appropriate data structures when solving a problem. It includes programming projects in the Java programming language. Prerequisites: CS 172/172L or ECE 112/112L. Offered in the spring semester. One semester; three credits

ECE 235L DATA STRUCTURES LAB (Formally ECE 234L or ECE 244)
Lab to accompany ECE 235. Corequisite: ECE 235. One semester; one credit

ECE 250. DIGITAL DESIGN
Binary number system and Boolean Algebra. Minimization of logic functions. Implementation of logic circuits. Design of combinational circuits. Sequential devices. Design of synchronous sequential circuits. Introduction to counters, registers, and Register Transfer Language. Design of advanced arithmetic circuits. Memory devices. Processor design and microprogramming. Written reports are required for each of three design projects. Prerequisites: ECE 101 or ME 112. Offered in the Spring semester. One semester; three credits

ECE 251. MICROPROCESSOR ARCHITECTURE AND PROGRAMMING
Eight bit microcomputer architecture, instructions, addressing modes registers, assembly language. Interfacing methods and devices. Current popular microprocessors with emphasis on the Motorola 68HCII. Two design projects will be required, one of which must include hardware. Prerequisite: ECE 250. Corequisite ECE 251L. Offered in the Spring semester. One semester; three credits

ECE 251L MICROPROCESSOR ARCHITECTURE AND PROGRAMMING LABORATORY
Microprocessor architecture and programming lab to accompany ECE 251. Corequisite ECE 250. One semester; one credit

ECE 314. ENGINEERING ECONOMY

ECE 322. LINEAR CONTROL SYSTEMS
Analysis and design of linear control systems. Transfer function, block diagrams and state-variable representation. Feedback concepts and stability analysis in both the frequency and time domain. Design by Root locus, Bode plots, and state variable methods. Emphasis on use of computational software for complex cases. (Same as ME 422 Control Systems Engineering) Prerequisites: MATH 231, ECE 221, and ME 202. Offered in the Fall semester. One semester; three credits

ECE 331 ELECTRONICS I
Properties of semiconductors. PN-junction diodes: theory, models, and circuit applications. Operation and characteristics of bipolar junction and field effect transistors. Analysis and design of transistor bias circuits. Low frequency transistor models. Analysis and design of single stage amplifiers. Introduction to the operational amplifier and some of its applications. Introduction to frequency response of amplifiers. Introduction to oscillation. Prerequisites: ECE 221, 201, and MATH 132. Corequisite: ECE 331L. Offered in the Fall semester. One semester; three credits

ECE 331L. JUNIOR LABORATORY I (Formerly ECE 341)
Experiments paralleling topics from ECE 222 and ECE 331. Most experiments will relate to topics from electronics and stress designing with discrete electronic devices. Introduction to integrated circuits through circuit applications. Students will be required to maintain a lab journal. Prerequisites: ECE 201 and 221. Corequisite: ECE 331. Offered in the Fall semester. One semester; one credit
ECE 332. ELECTRONICS II
Analysis and design of single and multi-stage transistor circuits. Applications of the operational amplifiers and other integrated circuits. Introduction to feedback amplifiers, digital electronics, and small analog-digital systems. Introduction to power devices and circuits. Prerequisites: ECE 222 and 331. Corequisite: ECE 332L. Offered in the Spring semester. One semester; three credits

ECE 332L. JUNIOR LABORATORY II (Formerly ECE 342)
Design projects paralleling ECE 322 and ECE 331. Some experiments may be assigned by the instructor, but some projects will be proposed by the students and submitted to the instructor for approval prior to the initiation of the work. An engineering notebook is kept by each student. Prerequisite: ECE 331L. Corequisite: ECE 332. Offered in the Spring semester. One semester; one credit

ECE 335. SYSTEMS, SIGNALS AND NOISE
Signal models, systems analysis, random variables and random processes. Analog communication systems, baseband analog signal transmission, and continuous wave modulation techniques for analog transmission. Digital transmission for analog signals, sampling, quantizing, encoding of analog signals for transmission over digital systems. Analysis and design of digital communications systems, information theory, discrete pulse and carrier wave modulation schemes. Prerequisites: ECE 222 and MATH 309 or the successful passing of an ECE departmental exam. One semester; three credits

ECE 336. ELECTROMAGNETIC FIELD THEORY
Field and vector operations. Electrostatic and magnetostatic fields. Time varying fields and electrodynamics. Plane waves. Transmission lines, transient and steady state. Prerequisites: ECE 221, MATH 232 and PHYS 251. Offered in the Fall semester. Corequisite: ECE 401. One semester; three credits

ECE 340. ELECTROMAGNETIC FIELD THEORY
Field and vector operations. Electrostatic and magnetostatic fields. Time varying fields and electrodynamics. Plane waves. Transmission lines, transient and steady state. Prerequisites: ECE 221, MATH 232 and PHYS 251. Offered in the Fall semester. Corequisite: ECE 401L. Offered in the Fall semester. One semester; three credits

ECE 350. COMPUTER SYSTEMS DESIGN AND ARCHITECTURE
General-purpose machines. Machine language and instruction set design. Simple RISC Computer using RTN, CISC (Motorola 68000) and RISC (SPARC) machines. Processor design, machine reset and exceptions. Pipelining and parallelism. Radix conversion, fixed and floating point arithmetic. Memory system design, virtual memory, and multi level memory. I/O subsystems, DMA, and error control. Peripheral Devices and intro to computer communication. Offered in the Fall semester. Prerequisite: ECE 251. One semester; three credits

ECE 361 OBJECT ORIENTED PROGRAMMING (Formally ECE 360)
This course studies advanced topics in object-oriented programming using the Java programming language. It includes elements of program design, style, documentation, and efficiency. It emphasizes the use of object-oriented tools and techniques in engineering problem solving. Topics include inheritance and polymorphism, graphical user interfaces and event-driven programming, recursion, memory allocation, and abstract data types. Prerequisites: CS 234/234L or ECE235/235L. Offered in the Spring semester. One semester, three credits.

ECE 370. OPERATING SYSTEMS
This course presents the topics that govern the behavior of operating systems. Topics include processor scheduling, memory management, input, output, file storage allocation, protection and security. Prerequisite: CS 234 or ECE 235. Same as CS 370. Offered in the Spring semester. One semester; three credits

ECE 380. THE COMPLEAT ENGINEER
This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics; regulatory issues; health, safety, and environmental factors; reliability, maintainability, producibility, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy (Same as CH E 400, CE 400, and ME 400). Prerequisite: Permission of the department and MATH 232, 308 or 309. One semester; three credits

ECE 401. ELECTROMECHANICAL ENERGY CONVERSION
Linear and nonlinear magnetic circuits of transformers. Basic principles of electromechanical energy conversion, electromechanical devices and feedback control systems. Derivation and analysis of mathematical models. Rotating a.c. and d.c. machinery and their use to control systems. Direct energy conversion systems. Prerequisite: ECE 222. Corequisite: ECE 401L. Offered in the Fall semester. One semester; three credits

ECE 401L. ENERGY CONVERSION LABORATORY (Formerly ECE 403)
Laboratory experiments paralleling ECE 401. Single phase transformers. Induction and synchronous machines. Use of variable frequency sources for speed control of induction motors, voltage and speed control circuits of d.c. machines. Structured, written laboratory reports. Corequisite: ECE 401. Offered in the Fall semester. One semester; one credit

ECE 406. ELECTROMAGNETIC FIELD THEORY
Field and vector operations. Electrostatic and magnetostatic fields. Time varying fields and electrodynamics. Plane waves. Transmission lines, transient and steady state. Prerequisites: ECE 221, MATH 232 and PHYS 251. Offered in the Fall semester. One semester; three credits

ECE 409. ELECTRICAL AND COMPUTER ENGINEERING PROJECT I
Design, development and implementation of student selected projects. Projects are sponsored by local and national industry. Includes complete engineering and testing as well as economic analysis. Written reports are required with the final product in engineering report form. A required oral presentation of the project to industry sponsors, faculty and students. Prerequisites: ECE 332, Senior Standing, and approval of Department advisor. Offered in the Fall semester. Pass/Fail grading. One semester; zero credits

ECE 410. ELECTRICAL AND COMPUTER ENGINEERING PROJECT II
This is the major design experience for ECE students in which they demonstrate knowledge and skills acquired in earlier course work, technical and non-technical. They must also incorporate relevant engineering standards and realistic constraints in their work. Students select, design, develop and implement solutions to selected projects. Projects are suggested and sponsored by local and national industry, government, and institutions. Written reports are required with the final report in engineering report form. A final oral presentation to sponsors, faculty and friends is required. Prerequisites: ECE 409, senior standing and approval of department advisor. Offered in the Spring semester. One semester; three credits
ECE 450. COMPUTER NETWORKS
The course emphasizes the relationship between computer systems and network services. HTTP, SMTP, DNS, NNTP and other networking services are introduced and explained. The Unix operating system implementation of these services is studied. Network based programming projects are assigned to verify understanding of protocols and operating system issues. Security and privacy issues in a networked environment are addressed. Prerequisite: ECE 235 or CS 234 or permission of instructor. Offered in the Spring semester. One semester; three credits

ECE 451. ADVANCED C++ PROGRAMMING
This course extends the object-oriented concepts developed in ECE. The course will cover topics that address namespaces, templates, exceptions, run time type indentification, and the standard library including containers, iterators, and algorithms. Prerequisites: Senior standing or Permission of the instructor and either ECE 172 or CS 172. One semester; three credits

ECE 453. COMPUTER GRAPHICS
This course is designed to give students an introduction to the use of computers as tools in graphical design. Topics include computer hardware, two and three dimensional representation, orthographic views, isometric views, curved surfaces animation, and interactive techniques. A graphics project is required. Prerequisites: Permission of the instructor and ECE 172 or CS 172. One semester; three credits

ECE 454. COMPUTER HARDWARE
Review of logic operations. Boolean algebra. Analysis and design of combinatorial circuits and sequential circuits. Race conditions and state assignments. Use of FPGA, EPLD, and VHDL in embedded digital design. Design tradeoffs: economics, speed, power dissipation, timing considerations, hardware and software. Computer related I/O standards such as: IEEE 488, CAMAC, RS449. Prerequisites: ECE 251. One semester; three credits

ECE 470. DATA COMMUNICATIONS
Elements of data communication and the ISO reference model. Network structure, architectures and protocol hierarchies. Algorithms and heuristics for design of computer network topology. Physical basis for data communication. Synchronous and asynchronous data communication, interface standards, data channels and modulation schemes. Data link protocols. Point-to-point, satellite, packet radio, and local area networks. Written reports are required for each of the three design projects. Prerequisite: ECE 335 or ECE 350. Offered in the Fall semester. One semester; three credits

ECE 471. DESIGN OF DATABASE SYSTEMS
The course stresses the design of databases and their implementation using a relational database management system. Topics include entity-relationship and relational data models and database design. Abstract query languages (relational algebra) and SQL (language for creating, querying, and modifying relational and object-relational databases). Views, integrity, constraints, triggers, transactions and security. Data warehouses, data mining, temporal databases, XML. Prerequisite: Junior Standing. Offered in the Fall semester. Same as CS 471. One semester; three credits

ECE 477. DIGITAL SIGNAL PROCESSING

ECE 480-489. SPECIAL TOPICS
Elective courses of special or current interest. Usually taught by visiting faculty with special or unique qualifications. Normally taken by Seniors. Prerequisites are announced with course offerings. One semester; three credits

ECE 490-494. SEMINAR
Special series of lectures on selected topics. Course credit assigned may range from zero to two. One semester; zero to two credits

ECE 495-496. INTERNSHIPS IN ELECTRICAL AND COMPUTER ENGINEERING
Students majoring in electrical engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior standing and Permission of the department. Pass/Fail Grading. One semester; three credits

ECE 497, 498, 499. TOPICS IN ELECTRICAL AND COMPUTER ENGINEERING I, II, III
Directed work on a special problem. Problems of an interdisciplinary nature are encouraged. A written report is required. A contract outlining the scope of the project is required prior to the initiation of work. Prerequisite: Senior standing and a duly executed contract. ECE 497 & 498 are Pass/Fail grading. One semester each; one, two, and three credits respectively.

ENGLISH COURSES
Requirements for the degree are found on Pages 38 and 39.

ENG 100. DEVELOPMENTAL COMPOSITION I
Intensive work on basic grammar, punctuation, sentence structure, paragraph development, and reading skills designed to prepare students for ENG 111. Separate sections will be offered for native and non-native speakers. Offered in the Fall semester. One semester; three credits

ENG 111. ENGLISH COMPOSITION I
An introduction to academic writing and critical reading. Writing sequences with practical application of strategies for invention, drafting, frequent revision, peer review, and editing. Offered in the Fall and Spring. Honors Program students typically take ENG 231 and 232 instead of ENG 111 and 112 and a literature course. One semester; three credits
ENG 112. ENGLISH COMPOSITION II
An introduction to argumentative strategies, research skills, and other applied writing. Students will write several short pieces and a research paper. Special sections which focus on a specific topic, such as "censorship" or "gender," may be designated. Prerequisites: ENG 111. Offered in the Fall and Spring. Honors Program students typically take ENG 231 and 232 instead of ENG 111 and 112 and a literature course. One semester; three credits

ENG 211. INTRODUCTION TO LITERATURE I
A study of the literary forms of the novel and the short story, including the reading of significant world novels and short stories. This course will include an emphasis on writing skills cultivated in ENG 111, 112. Prerequisites: ENG 111, 112. Offered in the Fall and Spring. One semester; three credits

ENG 212. INTRODUCTION TO LITERATURE II
A study of the literary forms of drama and poetry, including the reading of significant world plays and poems. This course will include an emphasis on writing skills cultivated in ENG 111, 112. Prerequisites: ENG 111, 112. One semester; three credits

ENG 215. GATEWAY COURSE FOR MAJORS
A survey of the elements of poetry, drama, and fiction, and an introduction to contemporary critical approaches and MLA style. Will include an emphasis on writing about literature and incorporating critical research. For English, ECC, and English Education majors, this course is required before enrolling in any 300-400 level English course. One semester; three credits.

ENG 221. SURVEY OF BRITISH LITERATURE I
A survey of the representative prose and poetry writers of Great Britain from the beginnings through the 18th Century. Fulfills ENG 211 requirements. Prerequisites: ENG 111, 112 or Permission of Department Chair. Offered in the Fall semester. One semester; three credits

ENG 222. SURVEY OF BRITISH LITERATURE II
A survey of the representative prose and poetry writers of Great Britain since 19th-century Romantic Period. Fulfills ENG 212 requirement. Prerequisites: ENG 111, 112 or Permission of Department Chair. Offered in the Spring semester. One semester; three credits

ENG 231. HONORS SURVEY OF WORLD LITERATURE I
A survey of significant prose and poetry writers of world literature from ancient times through 1600. This course will include an emphasis on writing skills. ENG 231 by itself can be substituted for ENG 111. Prerequisite: Membership in the Honors Program. Offered in the Fall semester. One semester; four credits

ENG 232. HONORS SURVEY OF WORLD LITERATURE II
A survey of significant prose and poetry writers of world literature from 1600 through the present. This course will include an emphasis on writing skills. ENG 232 by itself can be substituted for ENG 112. ENG 231 and 232 together can be substituted for ENG 111, 112, and one of the following: ENG 211, 212, 221, or 222. Prerequisite: Membership in the Honors Program. Offered in the Spring semester. One semester; four credits

ENG 240-249. SPECIAL TOPICS
Topics vary with the instructor. Prerequisite: ENG 111,112 or ENG 231, 232. One semester; one to three credits

ALL 300 AND 400 LEVEL COURSES ARE OPEN TO STUDENTS WHO HAVE COMPLETED ONE 200 LEVEL LITERATURE COURSE (211, 212, 221, 222, 231, 232). ENGLISH, ECC, AND ENGLISH EDUCATION MAJORS MUST HAVE COMPLETED ENG 215.

ENG 290-299. HONORS SPECIAL TOPICS IN ENGLISH
Special topics in English open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; three credits

ENG 315. HISTORY OF THE THEATRE
An in-depth study of the theatre including samples of dramatic literature from ancient Greece to the present. (Same as THEA 315) One semester; three credits

ENG 331. AMERICAN LITERATURE TO 1865
A study of the representative prose and poetry writers of American literature set against the political, religious, and philosophical backgrounds from the Colonial Period through the Romantic Period. One semester; three credits

ENG 332. AMERICAN LITERATURE FROM 1865
A study of representative prose and poetry writers of American literature set against the social, political, and philosophical backgrounds since the Romantic Period. One semester; three credits

ENG 339. EIGHTEENTH-CENTURY BRITISH NOVEL
Extensive reading in novels by representative eighteenth-century British novelists such as Defoe, Richardson, Fielding, Smollett, and Sterne. One semester; three credits

ENG 340. NINETEENTH-CENTURY BRITISH NOVEL
Extensive reading in novels by representative nineteenth-century British novelists such as Austen, the Brontes, Dickens, Eliot, and Hardy. One semester; three credits

ENG 341. NINETEENTH-CENTURY AMERICAN NOVEL
Extensive reading in representative nineteenth-century American novels, set against the social, political, and literary backgrounds of their times. One semester; three credits
ENG 342. AMERICAN ROMANTICISM
A study of the representative influences, characteristics, and figures of the American Romantic Movement from 1830 to 1860. One semester; three credits

ENG 343. LITERATURE OF THE AMERICAN SOUTH
A survey of Southern American literature, including its background and themes, with emphasis on twentieth-century writers such as Faulkner, Welty, and Warren. One semester; three credits

ENG 351. MODERN NOVEL
An examination of modern modes of fiction through representative novelists and the stylistic concepts that shape their expression. One semester; three credits

ENG 352. MODERN POETRY
A study of theory and representative poets in the United States, Great Britain, and Ireland from 1900 to the 1960s. One semester; three credits

ENG 354. MODERN DRAMA
An examination of modern American drama from 1880-1960, beginning with a survey of late nineteenth-century European works followed by an intensive study of major playwrights and movements of the twentieth century. One semester; three credits

ENG 361. AFRICAN-AMERICAN LITERATURE
A study of poetry and prose by representative African-American writers, reflecting the development of African-American literature in the United States. One semester; three credits

ENG 362. WOMEN IN LITERATURE
An examination of literature by women in light of feminist literary theory. One semester; three credits

ENG 371. BUSINESS WRITING
An examination of logical and psychological patterns of business communication and adaptation to varying audiences. A study of forms of written and oral communication in the business world from letters for both routine and problem situations to memos, proposals, short and long reports, in the context of relevant technologies. Offered in the Fall and Spring. One semester; three credits

ENG 373. ADVANCED COMPOSITION
A study of rhetorical theory and rhetorical models accompanied by advanced practice in composition. One semester; three credits

ENG 375. SCIENTIFIC AND TECHNICAL WRITING
An examination of the principles of effective communication in industry, business, and government with emphasis on practical writing skills for technical articles, reports, proposals, and documentation. Heavy emphasis on the computer as the technical writer's workspace. One semester; three credits

ENG 376. CREATIVE WRITING
A study of the major forms of poetry and fiction, specifically the short story, and an introduction to the stylistic and rhetorical aspects of those forms through study and practice. This class includes workshop of the students' original work. ENG 111 and 112. One semester; three credits

ENG 377. INTRODUCTION TO DRAMATIC WRITING
A study of the major forms of drama and an introduction to the stylistics and rhetorical aspects of those forms through study and practice. The class will culminate in a workshop of the students' own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 378. INTRODUCTION TO LITERARY NONFICTION
A study of the major forms of creative nonfiction and an introduction to the stylistics and rhetorical aspects of those forms through study and practice. The class will culminate in a workshop of the students' own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 379. INTRODUCTION TO SCREENWRITING
A study of the screen writing tradition in which students begin with the basics of visual storytelling, and then examine the two fundamental elements of drama – structure and character. The class will culminate in a workshop of the students' own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 380-389. SPECIAL TOPICS
Topics vary with the instructor. Prerequisite: ENG 111, 112, and one 200 level English course (211, 212, 215, 221, 222, 231, 232). One semester; one to three credits

ENG 390-399. HONORS ENGLISH SPECIAL TOPICS
Special topics in English open to members of the Honors Program or by Permission of the instructor and Honors Director. One semester; one to four credits

ENG 401. WRITING POETRY WORKSHOP
A study of the poetic tradition in which students work to find their own poetic voice through the application of various poetic techniques. Students will also workshop their own writing and actively critique the work of their peers. Prerequisite: Prerequisite: ENG 111 and 112. One semester; three credits

ENG 431. LITERARY NONFICTION
An application of the tools often associated with writing fiction and poetry to both analyze and produce documents about actual people, places, and events. One semester; three credits
ENG 432. MEDIEVAL LITERATURE
A study of representative works, European as well as British, from the Medieval Period. One semester; three credits

ENG 440. CHAUCER
A study of Chaucer's major works with emphasis on The Canterbury Tales and Troilus and Criseyde. One semester; three credits

ENG 441. SHAKESPEARE
An extensive and intensive study of both the comedies and tragedies. One semester; three credits

ENG 442. RENAISSANCE LITERATURE
A study of the major poets and prose writers of the English Renaissance Period including Spenser, Marlowe, and others. One semester; three credits

ENG 443. MILTON
A study of Milton's poetry with emphasis on Paradise Lost. One semester; three credits

ENG 444. RESTORATION AND THE EIGHTEENTH CENTURY
Dryden, Pope, Swift, and Johnson together with minor writers in poetry, prose, and drama. One semester; three credits

ENG 445. ROMANTIC PROSE AND POETRY
Wordsworth, Coleridge, Byron, Shelley, Keats-their practice and theory-as well as the Romantic essayists. One semester; three credits

ENG 446. VICTORIAN PROSE AND POETRY
Tennyson, Arnold, Browning, Hopkins, Carlyle, Newman, Ruskin-their lyrics and essays. One semester; three credits

ENG 447. SEVENTEENTH-CENTURY POETRY
A study of the poets of the seventeenth century including Jonson, Donne, Herbert, Marvell, Herrick, Lady Mary Wroth, and Aemilia Lanyer. One semester; three credits

ENG 450. CONTEMPORARY LITERATURE
A study of American and British fiction, poetry, and drama of the past twenty-five years. One semester; three credits

ENG 451. WRITING FICTION WORKSHOP
A study of the prose tradition in which students work to find their own voice through the application of various narrative techniques. Focusing on the short story, students will workshop their own writing and actively critique the work of their peers. Prerequisite: Prerequisite: ENG 111 and 112. One semester; three credits

ENG 460-469. SPECIAL TOPICS
Topics of special interest including Comic Drama, Literary Non-Fiction, Tragic Drama, Detective Fiction, Publishing History of the United States, Baseball in American Literature, etc. Topics vary with instructor. Prerequisite: one 200 level English class (211, 212, 215, 221, 222, 231, 232). One semester; one to three credits each

ENG 478. JUNIOR SEMINAR FOR CREATIVE WRITING MAJORS
A practical study of the application of creative writing in the academic and publishing world, including graduate schools, fellowships, colonies, conferences, and employment. This class will replace the tradition Junior Seminar. Students will produce a directed collection of writing in their track as well as participate in a public presentation. Prerequisite: junior standing. One semester; one credit

ENG 479. JUNIOR SEMINAR FOR ENGLISH MAJORS
This course should be taken in the Spring semester of the junior year. Students will examine contemporary critical approaches to literature and will engage in preliminary work on their senior seminar thesis. Offered in the Spring semester. One semester; one credit

ENG 480. SENIOR SEMINAR FOR ENGLISH MAJORS
This course should be taken during the Fall semester of the senior year. In the course students will examine methods and approaches to literary research and will produce a major term paper, their senior thesis, on a writer or literary theme of their choosing. Offered in the Fall semester. One semester; three credits

ENG 481. SENIOR PROJECT FOR CREATIVE WRITING MAJORS
A study of the methods and approaches to each student's specific field of creative writing. Students will produce a portfolio of original works or one longer piece that will reflect their studies in creative writing. Students will also have a public reading of select works. Prerequisite: senior standing. One semester; three credits

ENG 485. HONORS RHETORIC AND POWER
An exploration into how language reflects and interacts with society from a number of different angles, including (as they apply to language) definition, framing stereotypes, language taboos, powerful and powerless language. One semester; one to three credits

ENG 486. CASTINGS INTERNSHIP
Experience in editing CBU's literary magazine. For editor(s) only. Students may enroll in this course more than one time. One semester; one to three credits

ENG 487. HONORS JOURNAL INTERNSHIP
Experience in soliciting submissions for and editing the Honors Journal. Prerequisite: Honors Program membership and Approval by the Honors Program Director. Students may enroll in this course more than one time. Pass/Fail Grading. One to two semesters; one to three credits
FIN 327. FINANCIAL MANAGEMENT I
An introduction to the basic concepts, principles and analysis techniques of finance as applied to business organizations. The basis for virtually all financial analysis methodology lies in discounted cash flow analysis which is covered in this course. DCF techniques are then applied to areas of basic corporate decision-making involving the acquisition or replacement of physical assets and the decision to pursue capital projects. Finance 327 is a quantitative, problem solving course. Prerequisites: ACCT 260, ECON 215, MIS 153, MATH 105, and STAT 221. Offered in both the Fall and Spring semesters. One semester; three credits.

FIN 340. INVESTMENTS (Formerly FIN 429)
Finance 340 covers the principles governing the selection of investment media, topics in modern portfolio theory, and techniques of analysis and evaluation as applied to various investment alternatives. The functioning of security markets and how financial assets are traded as well as valuation techniques for bonds, equity instruments, options and futures are covered. Emphasis is on gaining a more in-depth understanding of financial investment alternatives, their valuation and analysis. Prerequisite: FIN 327. Corequisite: FIN 340L. Offered in the Spring semester. One semester; three credits.

FIN 340L. INVESTMENTS TVA LAB
Students will meet in a lab environment to apply the concepts and principles governing the selection of equity securities by making investment recommendations – buy, hold, sell – used to invest the Tennessee Valley Authority's $350,000 portfolio. Corequisite with FIN 340. Offered in the Spring semester. One semester; one credit hour.

FIN 346. PERSONAL FINANCE
The course is designed to acquaint the student with basic principles necessary to efficiently manage personal financial affairs. Special attention is given to the areas of budgeting, insurance, consumer credit, housing cost problems, and investment opportunities. This course cannot be used to fulfill any of the Finance requirements in the School of Business. Offered as needed. One semester; three credits.

FIN 350. CAPITAL MARKETS AND INSTITUTIONS
Survey of financial markets and institutions and their individual characteristics; sources of supply of and demand for funds in each market, the complex interrelations among markets and the role of each in the process of capital formation and allocation. Prerequisites: FIN 327. Offered in the Spring semester. One semester; three credits.

FIN 400. FINANCE INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Pass/Fail Grading. One semester; three credits.

FIN 410. DERIVATIVE SECURITIES
Structure, operation, and mechanics of trading in markets for futures, swaps, options, synthetic options, and futures on options; transfer of risk and stabilization of prices through futures trading; buying/selling strategies; valuation of futures contracts and options. Applications of derivatives to hedging and speculating strategies. Prerequisite: FIN 340. Offered in the Fall semester. One semester; three credits.

FIN 427. FINANCIAL MANAGEMENT II (Formerly FIN 328)
Extends the knowledge of financial management and provides insights into the complexity of the decisions faced by practicing financial managers. Various topics are covered in the course with major emphasis on capital budgeting. Other topics covered include working capital management, international mergers and acquisitions, financial engineering, optimal capital structure, and enterprise value. Prerequisite: FIN 327. Offered in Spring semester. One semester; three credits.
FIN 430-436. SPECIAL PROJECTS IN FINANCE
Readings and discussions of recent significant finance and investment literature. Possible subject areas include leveraged buyouts, mergers and acquisitions, junk bonds, speculative markets, fixed-income investments, foreign markets and exchanges, and hedging. Prerequisites: FIN 327, 340. Offered as needed. One semester; three credits

FIN 437. INTERNATIONAL FINANCIAL MANAGEMENT
The international aspects of financial management. Topics include currency markets and exchange rate determination, transfer of funds, banking services, international financial institutions, parity conditions, foreign exchange exposure and management, and valuation of international projects. Prerequisite: FIN 427. Offered in the Spring semester. One semester; three credits

FIN 440. PORTFOLIO MANAGEMENT
The analysis and valuation of securities and the selection, timing, diversification, and other aspects of supervising the management of investment portfolios. Students analyze the composition of, make buy/sell recommendations for, and evaluate the performance of a portfolio during the semester. Prerequisite: FIN 340. Corequisite: FIN 340L. Offered in the Fall semester. One semester; three credits

FIN 440L. PORTFOLIO MANAGEMENT TVA LAB
Students will meet in a lab environment to apply the concepts and principles governing the management of equity portfolios by making investment recommendations used to invest CBU's Tennessee Valley Authority's portfolio. Co requisite: FIN 440. Offered in the Fall semester. One semester; one credit

FIN 455. PRACTICUM AND PROJECT IN FINANCE
This course is designed to explore and put to practical use the entire body of knowledge gained in previous FIN courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student's ability to apply classroom principles and skills to specific problems in the financial services professions. Prerequisite: Permission of the Instructor. Offered in the Fall and Spring semesters. One semester; three credits

FOREIGN LANGUAGE COURSE REQUIREMENTS (for courses taught at CBU)
When a student has passed two or more years of the same foreign language with at least a “C” average in high school, she/he may choose one of the following options:

1. Enroll in the same foreign language studied in high school at the 201 level (recommended option) or at the 101 or 102 level (permitted options).

2. Enroll at the elementary level (101) of a foreign language not studied in high school (Note that a 101 course must be followed by the corresponding 102 course in order to acquire elementary competency in a language.)

A minimum of thirty minutes per week in the language laboratory is required for all 100 and 200 level courses.

Upper-division language courses may be taken concurrently with intermediate courses with prior approval of the instructor.

Upper-division language courses may be offered as tutorial courses with the availability and the consent of the instructor and the approval of the Chair of the Department of Literature & Languages.

FOREIGN LANGUAGE COURSES
FONR LANG 101, 102. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. Offered in sequence in the Fall and Spring. Two semesters; six credits

FONR LANG 301, 302, 401, 402. FOREIGN LANGUAGE UPPER-LEVEL COURSES
The study of upper-level courses in foreign languages. Four semesters; twelve credits

FRENCH COURSES
FREN 101. ELEMENTARY FRENCH I
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits

FREN 102. ELEMENTARY FRENCH II
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of French. Offered in the Spring semester. Prerequisite: FREN 101. One semester; three credits

FREN 201. INTERMEDIATE FRENCH I
A review of French grammar with composition and conversation. Second semester includes the reading of French short stories selected from French literature, designed to increase the student's vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: FREN 101, 102. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits

FREN 202. INTERMEDIATE FRENCH II
A review of French grammar with composition and conversation. Second semester includes the reading of French short stories selected from French literature, designed to increase the student's vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: FREN 201. Not open for credit to native speakers of French. Offered in the Spring semester. One semester; three credits
FREN 301. COMPOSITION AND CONVERSATION I
Continued study of French grammar and composition. Drill on idioms and difficult constructions with reading in French civilization. Prerequisites: FREN 201, 202 or the equivalent. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits

FREN 302. COMPOSITION AND CONVERSATION II
Continued study of French grammar and composition. Drill on idioms and difficult constructions with reading in French civilization. Prerequisites: FREN 201, 202 or the equivalent. Not open for credit to native speakers of French. Offered in the Spring semester. One semester; three credits

FREN 311. SURVEY OF FRENCH LITERATURE I
A survey of the chief French authors and their works from the beginnings through the Golden Age. Readings, lectures, discussions. Prerequisite: Two years of college French or the equivalent. Offered in the Fall semester. One semester; three credits

FREN 312. SURVEY OF FRENCH LITERATURE II
A survey of the chief periods and movements in French literature from the 18th to the 20th century. Reading in French of selections from the masterpieces of the principal authors of these centuries. Prerequisite: Two years of college French or equivalent. One semester; three credits

FREN 313. FRENCH CIVILIZATION I
An overview of the chief historical, political, and artistic periods in French civilization from the Middle Ages through the 18th century. Readings, lectures, discussions, films, and presentations. Prerequisite: Two years of college French or equivalent. Offered in the Fall semester. One semester; three credits

FREN 314. FRENCH CIVILIZATION II
Continued study of the principal historical, political, and artistic periods in French civilization, with an emphasis on the 19th and 20th centuries. Readings, lectures, discussions, films, and presentations. Prerequisite: Two years of college French or equivalent. Offered in the Fall semester. One semester; three credits

FREN 315. BUSINESS FRENCH I
An introduction to business and technology in the French-speaking world from a personal, everyday life perspective. Study includes banking, telecommunications, computers, and the Internet. Prerequisite: Two years of college French or the equivalent. Offered in the Fall semester. One semester; three credits

FREN 316. BUSINESS FRENCH II
Continued study of business and technology in the French-speaking world. Units include interviewing, resume writing, business correspondence, and corporate organization. Prerequisite: Two years of college French or the equivalent. Offered in the Spring semester. One semester; three credits

FREN 380-389. SPECIAL TOPICS IN FRENCH.
Topics of special interest related to French literature, language, or culture. Prerequisites: French 302 and 312 and permission of instructor. Offered in Fall or Spring. One semester; one to three credits

FREN 400-410. RESEARCH TOPICS IN FRENCH.
Original writing projects or independent study and research in literature, pursued under the guidance of a member of the French faculty. Syllabus and credit hours contracted by the student with the French professor. One semester each; one to three credits each

FREN 480-489. SPECIAL TOPICS IN FRENCH.
Topics of special interest related to advanced study of French literature, language, or culture. Prerequisites: French 302 and 312 and permission of instructor. Offered in Fall or Spring. One semester; one to three credits

■ GEOGRAPHY COURSES
GEOG 280. GEOGRAPHY SURVEY
The study of the general nature of the earth, focusing on topography and climate of land areas, ways of living of the world's peoples, and relationships of people, their resources and environment. One semester; three credits.

GEOG 310. PHYSICAL GEOGRAPHY
An introduction to environmental and earth science, particularly weather and climate. Study of atmospheric phenomena, global climate systems and patterns; emphasis on the development of map and globe skills. One semester; three credits

GEOG 325. REGIONAL GEOGRAPHY
Spatial analysis of economic, cultural, and physical characteristics of selected areas of the world. Comparisons of developing and industrialized nations involving population distribution, spatial patterns of economic activity, and human-environmental relationships. One semester; three credits

GEOG 340. HUMAN GEOGRAPHY
Study of cultural, political, and economic aspects of major ethnographic areas and selected cultures of the world. One semester; three credits

■ GERMAN COURSES
GERM 101. ELEMENTARY GERMAN I
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of German. Offered the Fall semester. One semester; three credits

GERM 102. ELEMENTARY GERMAN II
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of German. Offered the Spring semester. Prerequisite: GERM 101. One semester; three credits
GERM 201. INTERMEDIATE GERMAN I
A review of German grammar with composition and conversation. Second semester includes the reading of German short stories selected from German literature, designed to increase the student's vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: GERM 101 & 102. Not open for credit to native speakers of German. Offered the Fall semester. One semester; three credits

GERM 202. INTERMEDIATE GERMAN II
A review of German grammar with composition and conversation. Second semester includes the reading of German short stories selected from German literature, designed to increase the student's vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: GERM 101 & 102. Not open for credit to native speakers of German. Offered the Spring semester. One semester; three credits

GLOBAL STUDIES COURSE
GS 200. FOUNDATIONS OF GLOBAL STUDIES
In this course we will explore the diverse and often conflicting meanings associated with the concept of globalization. We will examine world geography with respect to major regions and consider political, economic, and cultural systems with an eye to what it means in the 21st century to be or become a "global citizen." The course will be interdisciplinary and will offer the students the opportunity to examine ways to "globalize" their horizons, their major disciplines, and their career paths. (Same as HUM 200). One semester; three credits

GS 300-301. SPECIAL TOPICS IN GLOBAL STUDIES
Special topics courses of interest which include some study abroad. Offered as needed. One semester; one to three credits

GREEK COURSES
The following foreign language courses will be offered on the campus of Rhodes College under the instruction of Rhodes faculty. See Dean of the School of Arts concerning these courses.

GREK 101-102. ELEMENTARY GREEK
This series of courses introduces students to the fundamentals of the ancient Greek language. Although the primary goal of the elementary sequence of courses through Greek 201 is to prepare students to use ancient Greek documents in a wide variety of academic contexts, students will develop all four language skills: reading, writing, listening, and speaking. Offered in sequence in Fall and Spring. Two semesters; eight credits

GREK 201. INTERMEDIATE GREEK
This course concludes the elementary language sequence and prepares students for more advanced work in the language. During this course students will make the transition from graded selections in the elementary texts to authentic ancient texts primarily from the fifth and fourth centuries BCE. In addition to developing their ability to comprehend and interpret ancient texts, students will continue to work on their aural-oral proficiency. Prerequisite: Greek 102 or the equivalent. Offered in Fall. One semester; four credits

GREK 265. TOPICS IN GREEK LITERATURE
In this course advanced students of ancient Greek will read and analyze texts from major works of literature. It will feature materials organized thematically, generically, by period, or by author. Texts in this course will generally represent significant documents for the study of the cultural and literary history of the Greek society and may also be the subjects of study in other courses offered at Rhodes both by GRS and other disciplines. The course will help students develop greater reading fluency and expand their understanding of interpretative approaches. The course will generally be taught as a four-credit course. Students in special circumstances may take the course for one, two, or three credits with the permission of the instructor. The course may be repeated for credit if the topic differs. Prerequisite: Greek 201 or the equivalent. Offered in Fall. One semester; one to four credits

GREK 291/391. HOMERIC POETRY
This course, making extensive use of resources available via the internet, focuses on the earliest literary documents in the Greek language, the poems attributed to Homer. Readings will come primarily from the Iliad and Odyssey, but students should expect to do some work with the Hymns and the Hesiodic corpus as well. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the Archaic Period of Greek history as well as the issues of composition and transmission. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

GREK 292/392. GREEK LYRIC POETRY
This course, making extensive use of resources available via the internet, focuses on the evolution of major types of Greek poetry, including elegy, monodic lyric, and choral lyric. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context of the Archaic Period. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history and Homeric poetry is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

GREK 293/393. GREEK COMEDY
This course, making extensive use of resources available via the internet, focuses on the work of the Athenian comic playwrights. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the 5th and 4th centuries BCE. Students will also become familiar with the current
interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

GREEK 294/394. LITERATURE OF THE 4TH CENTURY BCE
This course, making extensive use of resources available via the internet, focuses on the work of the Athenian historians, orators, and philosophers who were active in the 4th century BCE. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at their home institutions. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the 4th century BCE. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

GREEK 295/395. HELLENISTIC LITERATURE
This course, making extensive use of resources available via the internet, focuses on the evolution of Greek literature during the Hellenistic period, which begins with the conquest of Alexander the Great and the founding of the Museum at Alexandria by Ptolemy I Soter. Students will read and study the works of the major authors of the period: Callimachus, Theocritus, and Apollonius of Rhodes as well as epigrams from other writers including Meleager, Philodemus, and Posidippus. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context of the Hellenistic Period. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

HISTORY COURSES
Requirements for the degree are found on Page 41.

HIST 107. WORLD CIVILIZATIONS TO 1500
This course is an introduction to origins and development of the major world civilizations through the post-classical period. Major topics include the changing status of women, the origins and spread of world religions, the nature and results of cross-cultural encounters, different approaches to understanding the human relationship to the natural world, and the various factors behind the decline and collapse of civilizations. One semester; three credits

HIST 108. WORLD CIVILIZATIONS SINCE 1500
This course is an introduction to the histories of Asia, Europe, Africa, and Latin America since 1500. Major topics include the changing status of women, the origins and effects of Imperialism, the origins and spread of nationalism, the Industrial Revolution, the World Wars, decolonization, the Cold War, and globalization. One semester; three credits

HIST 151. AMERICAN SOCIETY TO 1877
A survey of Colonial America; the Revolution; Confederation and Constitution; Ante-Bellum Period; the Civil War and Reconstruction. One semester; three credits

HIST 152. AMERICAN SOCIETY SINCE 1877
A survey of post-Civil War Industrialization and Reform; the Progressive Era; World War I; the Depression and the New Deal; World War II; the Cold War; Recent Developments. One semester; three credits

HIST 200-210. TOPICS IN HISTORY
Topics vary with instructor. Prerequisite: History majors and minors must receive the permission of the department chair and are permitted a maximum of 3 credit hours in this 200 level topics area. One semester; three credits

UPPER DIVISION COURSES ARE OPEN TO STUDENTS WHO HAVE MET SPECIFIC COURSE PREREQUISITES.

HIST 301. ANCIENT CIVILIZATION
A study of the origins of civilizations in the Near East and the Mediterranean area: Mesopotamia, Egypt, Israel, Persia, Greece, Rome. Prerequisite: permission of the instructor. One semester; three credits

HIST 304. ENGLAND 1760-1950
This course is a survey of British history from the reign of George III to the establishment of a social welfare state under Clement Atlee. Major topics include the American Revolution, Irish relations, the Napoleonic Wars, Industrial Revolution, Imperialism, and the World Wars. Prerequisite: HIST 108 or permission of instructor. One semester; three credits

HIST 305. THE MIDDLE AGES
A political, economic, social, and intellectual history of medieval western civilization. Among other things, the course will cover topics such as the transition from Roman to Medieval civilization, monasticism, feudal society, the religious and intellectual revival of the High Middle Ages, the Papal Monarchy and the Crusades, the Black Death and the transition from Medieval to early modern European civilization. Prerequisite: permission of the instructor. One semester; three credits

HIST 306. SOCIAL HISTORY OF BRITISH ROCK
This course will use readings, lectures, movies, and discussions to examine the connections between British society and the innovative rock music it spawned from the 1950s to the 1990s. Students will discuss the historical context surrounding the creation of music by bands such as The Beatles, The Rolling Stones, The Clash, The Smiths, Joy Division, Oasis, Blur, and Radiohead. Prerequisite: HIST 152, 108 or permission of instructor. One semester; three credits.
HIST 313. BRITISH INDIA
The history of British India from the founding of the East India Company in 1600 to partition and the transfer of power in 1947. The main focus will be on the encounter between the British and the Indians, but we will also explore the process of British conquest, the development of colonial policy and imperial ideology, the various forms of Indian reaction and resistance, and the origins and growth of the independence movement. Prerequisite HIST 108 or permission of the instructor. One semester; three credits

HIST 315. MODERN EAST ASIA
This course examines the history of China and Japan since 1800. Particular attention is given to the reaction to Western Imperialism and each country's development into a modern nation. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 324. SCIENTIFIC REVOLUTION
This course is an examination of the origins and development of the scientific revolution in Europe from 1450 to 1750. The course focuses on the social and cultural forces that shaped the scientific revolution as well as the revolution's broad impact beyond the world of science. The lives and accomplishments of famous scientists, such as Galileo and Newton, will also be covered. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 336. EUROPE AND AFRICA, 1830-1970
This course explores the motivations behind European imperialism in Africa, colonization, decolonization, and the impact of these events on European and African society, politics, and culture. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 339. EUROPE AND THE GREAT WAR
This course details the history of World War One with a focus on the war's causes and its cultural and social impact within Europe. It will also examine the course of the fighting and major military and political personalities. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 340. WEIMAR REPUBLIC AND NAZI GERMANY
This course covers the history of Germany from 1919 to 1945. It will examine the collapse of the Weimar Republic and the rise of Nazi power. It will also cover the life of Adolf Hitler, the Holocaust, and Nazi ideology, policy, and war aims. Prerequisite: Any Political Science or History course or permission of the instructor. One semester; three credits

HIST 341. REVOLUTIONARY CHANGE IN MODERN EUROPE
This course explores the history of modern Europe through a comparative study of the French and Russian Revolutions. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 342. COLONIAL AMERICA
A study of primarily British North America from settlement to 1763 with some discussion of Spanish, French and Indian cultures. Prerequisite: HIST 151 or permission of the instructor. One semester; three credits

HIST 343. THE AMERICAN REVOLUTION AND EARLY NATIONAL PERIOD
A study of the origins, causes, and results of the American Revolution; the Confederation Period; the Constitutional Convention; the early years of the new nation; emphasis on the emergence of political parties and the Jefferson Presidency. Prerequisite: HIST 151 or permission of the instructor. One semester; three credits

HIST 345. THE ANTEBELLUM SOUTH
The study of social, cultural, economic, and political developments in the antebellum South. Prerequisite: HIST 151 or permission of the instructor. One semester; three credits

HIST 346. THE CIVIL WAR AND RECONSTRUCTION
An examination of the causes of the Civil War; a comparison of the Union and the Confederacy; military phases of the War; emphasis on Lincoln and Davis; aftermath of the Civil War and the role of the Radical Republicans. Prerequisite: HIST 151 or permission of the instructor. One semester; three credits

HIST 347. EMERGENCE OF MODERN AMERICA
A political, economic, social, and diplomatic history of America from the end of Reconstruction to the Great Depression. Prerequisite: HIST 152 or permission of the instructor. One semester; three credits

HIST 348. MODERN AMERICA
A political, economic, social, and diplomatic history of America from the Great Depression to the present. Prerequisite: HIST 152 or permission of the instructor. One semester; three credits

HIST 349. THE SOUTH SINCE RECONSTRUCTION
A survey of the political, economic, social, and cultural history of the former Confederate and slave states since 1877. Prerequisite: HIST 152 or permission of the instructor. One semester; three credits

HIST 350. HONORS AFRICAN-AMERICAN HISTORY
Social, cultural, economic, and political role of African-Americans in the United States from 1619 to the present. Prerequisite: HIST 151, 152, Membership in Honors Program or permission of the instructor. One semester; three credits

HIST 351. HISTORY OF THE AMERICAN WEST
This course covers the history of the trans-Mississippi West during the nineteenth century, examining the region's geography, as well as, describing its impact on American history until the symbolic “closing of the frontier” in the 1890s and beyond. As an examination of this distinctive part of
American history and culture, this course will also focus on the mythology of the West and the creation of some of America’s most lasting and important imagery, especially in movies, music, and literature. Prerequisite: HIST 151, 152, or permission of the instructor. One semester; three credits

HIST 375. UNITED STATES FOREIGN POLICY
This course will examine the history and practice of U.S. foreign policy. It will examine current issues in U.S. foreign policy, the organization and function of institutions, how decisions are made, and the politics of foreign policy making. Prerequisite: any political science or history course or permission of the instructor. Recommended but not required, one of the following: HIST 152 or POLS 112 or POLS 113. (Same as POLS 375) One semester; three credits

HIST 376. MEXICO, CENTRAL AMERICA, AND THE CARIBBEAN
A political, military, and cultural history of three important regions of Latin America. This course will examine the course and impact of European conquest, the role of colonial institutions, and independence movements. The greatest attention will be paid to twentieth-century events and trends, in order to analyze their influence on contemporary societies in these areas. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 377. REVOLUTIONARY LATIN AMERICA
This course will examine the role of revolutions throughout nineteenth and twentieth century Latin America. The focus of the course will be on political and military events, as well as the theory behind revolutionary activity. Careful attention will be paid to revolutions in Mexico, Guatemala, Cuba, Nicaragua, and El Salvador. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits

HIST 385-389. SPECIAL TOPICS IN NONWESTERN HISTORY
Topics vary with instructor. Prerequisite: permission of the instructor. One semester; three credits

HIST 390-399. HONORS SPECIAL TOPICS
Special topics in history open to members of the Honors Program or by permission of instructor and Honors Director. One semester; one to four credits

HIST 401-402. INTERNSHIP
Content varies with specific internship program. Prerequisites: permission of History Internship Director and Junior standing. One semester each; one to three credits

HIST 490-497. TOPICS IN HISTORY
Topics vary with instructor. Prerequisite: permission of instructor. One semester; three credits

HIST 498. NON-US HISTORY RESEARCH SEMINAR
Non-US topics vary with instructor but will focus on research methods and the completion of a major research project. Each course will be based on a common theme or time period, with students developing their own research project related to the common course theme or period. As part of the writing and research process students will deliver 20 minute presentations of their research. All history majors are required to pass this course or HIST 499 with a minimum grade of a C. Prerequisites: 12 hours of history credit and Senior standing, or Junior standing with permission of the instructor. One semester; three credits

HIST 499. US HISTORY RESEARCH SEMINAR
US topics vary with instructor but will focus on research methods and the completion of a major research project. Each course will be based on a common theme or time period, with students developing their own research project related to the common course theme or period. As part of the writing and research process students will deliver 20 minute presentations of their research. All history majors are required to pass this course or HIST 498 with a minimum grade of a C. Prerequisites: 12 hours of history credit and Senior standing, or Junior standing with permission of the instructor. One semester; three credits

HOSPITALITY AND TOURISM MANAGEMENT COURSES

HTM 410. INTRODUCTION TO TOURISM
In this course students are introduced to the basic dimensions of tourism on the basis of concrete practical examples, especially the various levels of tourism, the various perspectives from which it can be viewed, as well as the basic steps in creation of touristic products. Additional topics are the connection between supply and demand within the context of different parameters, such as regional culture; legal and political frameworks; economic and financial systems, the current financial climate, and climate change, energy concerns and environmental protection. Finally management approaches in keeping with these issues will be discussed, which will then be built upon in later stages of the students’ studies. One semester; four credits

HTM 420. APPLIED PROJECT IN TOURISM
Students will work independently in teams of 4-5 members to organize and complete a specific project. The topics will be interdisciplinary so as to interconnect the study program’s subject areas and promote interdisciplinary know-how. The teams will be supported by an interdisciplinary faculty tandem. This didactic method is designed to maximize interdisciplinary interactions and support. Students will draw from the theoretical background they have received in previous courses in order to apply their knowledge of tourism and management. Project topics will vary from year to year. One semester; four credits

HTM 430. FOUNDATION IN HOSPITALITY MANAGEMENT
Hospitality management is a key area in tourism, around which most other touristic products are clustered. For this reason a basic knowledge of the field is crucial to any tourism program. In this course the basic elements of hospitality management will be explained, including personnel management, strategic and operative elements, legal frameworks and quality control measures. One semester; three credits

HTM 440. EVENT MANAGEMENT
In this course the psychological, organizational and social foundations necessary for staging events will be covered. New trends in the event sector
will be explained on the basis of these foundations. Basic technical knowledge needed to stage events will be discussed, such as 1) legal and business parameters; 2) the main technical and organizational considerations in mounting events; 3) entrepreneurial approaches to planning events, including budgeting of supplies, personnel, time and costs on the basis of concrete examples; 4) important risks connected with the mounting of events, such as accidents, as well as strategies to minimize these risks through the use of checklists and other means. *One semester; one credit.*

**HTM 450 - 451. SPECIAL TOPICS**  
Special topics in the Hotel, Restaurant, Tourism curricula.

**HTM 455. PRACTICUM**  
This course is designed to explore and put to practical use the entire body of knowledge gained in previous HTM courses. A comprehensive project will assess the student's ability to apply classroom principles and skills to specific problems in hospitality and tourism management. Prerequisite: Permission of the Instructor. Offered in the Fall and Spring semesters. *One semester; three credits*

### HUMANITIES COURSES

**HUM 150. PERSPECTIVES ON PUBLIC LIFE**  
This course will examine what it has meant throughout history and in different cultures to be a member of a society. Students will learn about and critically analyze the role of the individual in civil society from depictions in history, literature, religion, philosophy, and the fine arts. A key aim of the course is to provide students with essential insight into the opportunities and justification for lives of community involvement. *One semester; three credits*

**HUM 160. HONORS PERSPECTIVES ON PUBLIC LIFE**  
This honors seminar will examine what it has meant throughout history and in different cultures to be a member of society. The primary focus will be on the role of the individual in civil society as depicted in history, literature, religion, philosophy, and the fine arts. Students will be required to complete a service learning project and follow-up paper/class presentation in which opportunities and justifications for lives of community involvement are explored. Prerequisite: Membership in the Honors Program. *One semester; three credits*

**HUM 200. FOUNDATIONS OF GLOBAL STUDIES**  
In this course we will explore the diverse and often conflicting meanings associated with the concept of globalization. We will examine world geography with respect to major regions and consider political, economic, and cultural systems with an eye to what it means in the 21st century to be or become a "global citizen." The course will be interdisciplinary and will offer the students the opportunity for students to examine ways to “globalize” their horizons, their major disciplines, and their career paths. (Same as GS 200) *One semester; three credits*

**HUM 210. INTRODUCTION TO SUSTAINABILITY**  
This class will use common texts, discussions, collaborative activity, and field trips to explore the meanings of environmental and community sustainability from multiple cultural and academic perspectives. Guest speakers from local community organizations and businesses as well as CBU professors from different departments will engage students with what sustainability means in their professional and civic activity. Students will collaborate as a class or work in groups to design a project that achieves sustainability-related outcomes. *One semester; three credits.*

**HUM 254. CHRISTIANITY AND PEACE (Formerly HUM 354)**  
(Same as RS 254) *One semester; three credits*

**HUM 295, 395. COMMUNITY SERVICE**  
A structured opportunity for students to select and participate in a community service project in the Memphis area. Includes regular meetings with the faculty advisor, group meetings for reflection and discussion. Normally involves a minimum of 60 hours of service. *One semester; three credits*

**HUM 306. COMPUTERS AND SOCIETY**  
An examination of the social implications of computer technology and of the special social and ethical issues raised by the growing use of computers in all aspects of human life, including business and finance, science, education, government, etc. Among topics considered will be privacy and security, quality of work life, the potentials and problems of computer modeling, information systems and artificial intelligence, and the responsibilities of computer professionals and others for the use of computers. *One semester; three credits*

**HUM 498. HONORS CAPSTONE**  
As a required capstone experience, each Honors student will participate in the Honors Capstone in either the Junior or Senior year. Using an interdisciplinary approach and drawing upon a special topic or theme that can vary from year to year, students will critically reflect upon their academic major and previous Honors courses in the context of broader moral visions and public commitments. *One semester; three credits*

### LATIN COURSES

The following foreign language courses will be offered on the campus of Rhodes College under the instruction of Rhodes faculty. See Dean of the School of Arts concerning these courses.

**LATN 101-102. ELEMENTARY LATIN**  
An introduction to the fundamentals of the Latin language. Although the primary goal of the elementary sequence of courses through Latin 201 is to prepare students to use Latin documents in a wide variety of academic contexts, students will develop all four language skills: reading, writing, listening, and speaking. Offered in sequence in Fall and Spring. *Two semesters; eight credits*

**LATN 201. INTERMEDIATE LATIN**  
This course concludes the elementary language sequence and prepares students for more advanced work in the language. During this course students will begin making the transition from graded selections in the elementary texts to authentic ancient texts from a variety of Latin authors and genres.
from antiquity to the modern period. In addition to developing their ability to comprehend and interpret ancient texts, students will continue to work on their aural-oral proficiency. Prerequisite: Latin 102 or the equivalent. Offered in Fall. One semester; four credits

LATN 202. LATIN RHETORIC
In keeping with the pedagogy of the ancient schools of rhetoric, this course will provide an analytic and comprehensive review of the structures of the language. Students will work toward fluency in reading, composition, and conversation. Prerequisite: Latin 201 or the equivalent. Offered in Spring. One semester; four credits

LATN 232. LATIN IN ROME
An intensive reading course examining works of Latin literature pertinent to the study of the topography of Rome. Selections will come from Roman historians, poets, orators, and inscriptions. Class meetings will take place in the city of Rome. Students will visit and analyze sites described in the primary literature; inscriptions review in situ where possible, and study the textual tradition through available manuscripts. Prerequisite: Latin 201 or the equivalent. Offered in Summer. One semester; four credits

LATN 265. TOPICS IN LATIN LITERATURE
In this course advanced students of Latin will read and analyze texts from major works of literature. It will feature materials organized thematically, generically, by period, or by author. Texts in this course will generally represent significant documents for the study of the cultural and literary history of Roman society and may also be the subjects of study in other courses offered at Rhodes both by GRS and other disciplines. The course will help students develop greater reading fluency and expand their understanding of interpretative approaches. The course will generally be taught as a four-credit course. Students in special circumstances may take the course for one, two, or three credits with the permission of the instructor. The course may be repeated for credit if the topic differs. Prerequisite: Latin 201 or the equivalent. Offered in Fall and Spring. One semester; one to four credits

LATN 291/391. LATIN LITERATURE FROM THE EARLY REPUBLIC
This course, making extensive use of resources available via the internet, focuses on the earliest literary documents in the Latin language. Readings will come primarily from the comedies of Plautus and Terence, but students should expect to study other examples of archaic Latin such as the fragments of Ennius’ Annales. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the early Republic. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

LATN 292/392. LATIN LITERATURE FROM THE LATE REPUBLIC
This course, making extensive use of resources available via the internet, focuses on the literature of Rome during the Late Republic. Readings will come primarily from the works of Cicero, Catullus, Caesar, and Sallust. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the Late Republic. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

LATN 293/393. LITERATURE OF THE NEROIAN PERIOD
This inter-institutional collaborative course, making extensive use of resources available via the internet, explores the literature of the early Roman Empire, with a particular emphasis on the works of authors who were active during the period of Nero’s reign. These authors include Seneca, Lucan, and Petronius. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the early Principate. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

LATN 294/394. ROMAN LITERATURE, 70-180 CE
This course, making extensive use of resources available via the internet, explores the society of the Roman Empire through the works of authors who were active during the period beginning with the reign of Vespasian and extending to the death of M. Aurelius. These authors include Martial, Statius, Tacitus, Pliny the Younger, Juvenal, and Apuleius. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will require extensive reading in more than one genre of Latin literature and a rigorous study of the cultural and historical context of Rome in the late first and second centuries CE. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits

LATN 295/395. LATIN LITERATURE FROM LATE ANTIQUITY AND THE MIDDLE AGES
This course examines the literature produced during and after the dissolution of the Roman empire, beginning approximately with the reforms of Diocletian and Constantine and concluding with the renaissance of secular education in the twelfth century. Texts will include selections from the work of Jerome, Augustine, Prudentius, Alcuin of York, Einhard, Hrotsvitha of Gandersheim, Abelard, Heloise, Hildegard of Bingen, and Walter of Chatillon. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will require extensive reading in more than one genre of Latin literature and a rigorous study of the cultural and historical context of Rome and the Latin-speaking world after 180 CE. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in Fall. One semester; four credits
LEARNING COMMUNITIES COURSES

LCOM 410-419, PEER TUTORING TRAINING I (School of Arts)
This is a special training program for selected volunteers chosen as Peer Tutors in the School of Arts. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Arts. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 420-429, PEER TUTORING TRAINING II (School of Arts)
This is a special training program for selected volunteers chosen as to serve a second semester as Peer Tutors in the School of Arts. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. The student will also serve as a mentor to first-time Peer Tutors. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Arts. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 430-439, PEER TUTORING TRAINING I (School of Business)
This is a special training program for selected volunteers chosen as Peer Tutors in the School of Business. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Business. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 440-449, PEER TUTORING TRAINING II (School of Business)
This is a special training program for selected volunteers chosen as to serve a second semester as Peer Tutors in the School of Business. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. The student will also serve as a mentor to first-time Peer Tutors. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Business. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 450-459, PEER TUTORING TRAINING I (School of Engineering)
This is a special training program for selected volunteers chosen as Peer Tutors in the School of Engineering. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Engineering. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 460-469, PEER TUTORING TRAINING II (School of Engineering)
This is a special training program for selected volunteers chosen as to serve a second semester as Peer Tutors in the School of Engineering. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. The student will also serve as a mentor to first-time Peer Tutors. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Engineering. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 470-479, PEER TUTORING TRAINING I (School of Science)
This is a special training program for selected volunteers chosen as Peer Tutors in the School of Science. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Science. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

LCOM 480-489, PEER TUTORING TRAINING II (School of Science)
This is a special training program for selected volunteers chosen as to serve a second semester as Peer Tutors in the School of Science. The trainee participates in an intensive training program emphasizing content matter expertise as well as teamwork and leadership. The student will also serve as a mentor to first-time Peer Tutors. During the course of the semester, the student will have scheduled tutoring sessions with students enrolled in one or more classes in the School of Science. Prerequisite: Junior or senior standing and approval of the Director of Learning Communities. Offered in the Fall and Spring. One Semester; three credits

MANAGEMENT COURSES

Requirements for the concentration are found on page 68.

MGMT 250. LEADERSHIP AND DIVERSITY
The intensive, year-long program is designed to develop leadership and interpersonal skills with the goal of informing positive social attitudes regarding the desirability and value of diversity in the community and the importance of community action. Topics include: leadership, civic responsibility, trust, problem-solving, critical thinking, communication, conflict resolution and human relations. Prerequisite: Admission to the Bridge Builders Junior Leadership Conference. Students will register for the course in the Spring semester. Three credits

MGMT 251. LEADERSHIP AND SERVICE
The intensive, year-long program will provide students with an opportunity to design and implement a major service project at a local high school. Students will provide leadership for the project by: conducting a needs assessment; identifying a specific need to address in their project; design, staff and implement the project; evaluate the effectiveness of the project; and, present their results to the community. Prerequisite: Admission to the Bridge Builders Senior Leadership Conference. Students will register for the course in the Spring semester. Three credits
MANAGEMENT COURSE DESCRIPTIONS

MGMT 290. HONORS LEADERSHIP
Using a multidisciplinary approach to leadership, this class will include both theoretical and practical material from fields such as management, psychology, literature, history and religion. Students will develop their own philosophy of leadership and prepare themselves for leadership roles based on a thorough understanding of case studies and theoretical models. Prerequisite: membership in the Honors Program or permission of Honors Program Director and instructor. Offered as needed. One semester; three credits

MGMT 291-299. HONORS SPECIAL TOPICS
Special topics in management open to members of the Honors Program or by permission of Honors Program Director and instructor. One semester; one to four credits

MGMT 300. INTERNATIONAL BUSINESS & CULTURAL EXPERIENCE
This course introduces students to the business, political, economic, and cultural environments of a selected country. Experiential study, classroom lectures, and activities including site visits, guest lectures, and cultural experiences are integrated to develop a comprehensive understanding of the country selected. The course content includes a visit to the country selected for study. Open to all students. Students must have a valid passport. Course may be repeated for different countries. One semester; three credits

MGMT 320. INTERNATIONAL BUSINESS
An introduction to the field of international business and the implications of international trade and globalization upon American business. Topics include the comparison of political economies and cultures, global trade and investment strategies, foreign investment, regional economic integration, foreign exchange markets, strategic alliances and global marketing. Prerequisite: ECON 214 & 215 or ECE/CH E/CE/ME 314. Offered in both the Fall and Spring semesters. One semester; three credits

MGMT 339. OPERATIONS MANAGEMENT
An in-depth look at the production/operations functions of organizations. Topics will include product and process strategies, quality programs, location and layout strategies, inventory control techniques, and a comparison of the operational strategies used by both manufacturing and service organizations. The course will integrate quantitative modeling with business problem solving. Prerequisites: Junior standing and MGMT 352 and grade of “C” or better in STAT 222. Offered in the Fall semester. One semester; three credits

MGMT 352. ORGANIZATIONAL BEHAVIOR AND MANAGEMENT
The psychology of organizations and their effect on individuals and groups. Topics include motivation theory, power and authority, communication, teamwork, leadership, job design and organizational structures. Other issues include globalization, cultural diversity, ethics and technology. Offered in both the Fall and Spring semesters. One semester; three credits

MGMT 400. MANAGEMENT INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Pass/Fail Grading. One semester; three credits

MGMT 412. HUMAN RESOURCES MANAGEMENT
Personnel administration principles and philosophy. Man as employer and employee. Major topics include recruiting, hiring, training, promotion, health and welfare, and employee safety. In addition, the legal environment surrounding human resource issues will be studied. Prerequisite: MGMT 352. Offered in the Fall semester. One semester; three credits

MGMT 430 ETHICAL DECISION MAKING IN BUSINESS
This course is an applied course in business and managerial ethics. Various ethical theories will be applied to contemporary business situations. In addition, the course will focus on raising the awareness of the student to ethical issues, principles and arguments by examining the social and corporate environment in which they will be living and working. Prerequisite: PHIL 220 (or equivalent), MGMT 352, MKTG 311 and PIN 327. Offered in both the Fall and Spring Semesters. One semester; three credits

MGMT 450. ORGANIZATION STAFFING AND DEVELOPMENT
Addresses the organizational staffing cycle from job analysis through recruitment, selection, employee development, career planning, retirement and downsizing. Legal issues pertaining to staffing are covered as well as the training process, including learning theory and technology as applied to training. Prerequisite: MGMT 412. Offered as needed. One semester; three credits

MGMT 451. ORGANIZATIONAL REWARD SYSTEMS
Analyzes the components of reward systems, including base pay, incentive pay, and employee benefits. Development of pay plans, performance appraisal systems, various types of individual, group and organization-wide incentive programs, and outlines the various types of employee benefits. Prerequisite: MGMT 412. Offered as needed. One semester three credits

MGMT 452. EMPLOYEE AND LABOR RELATIONS/EMPLOYMENT AND LABOR LAW
Evolution of and current practices related to effective workplace relations between employer and employee in both union and non-union environments. The establishment and maintenance of a safe, healthy, diverse and secure workplace. Legal issues related to Human Resources, including EEO, FLSA, ADA, ERISA, and federal and state labor laws are explored. Prerequisite: MGMT 412. Offered as needed. One semester three credits

MGMT 453. SEMINAR IN GLOBAL BUSINESS
This course requires an international trip which provides students an opportunity to explore firsthand the international dimensions of business, to identify and pursue strategic issues in international business and trade, and to gain an awareness of how the cultural, economic, political, and legal environments influence business practices. Students study and conduct research on the country and prepare a report detailing business and cultural
practices, political and economic environments. Other business and cultural research/analysis will be based on the emphasis of the course. Students bear the costs of airfare, lodging and meals. Prerequisite: ECON 214 and ECON 215. Offered as needed. One semester; three credits

**MGMT 455. PRACTICUM AND PROJECT IN MANAGEMENT**
This course is designed to explore and put to practical use the entire body of knowledge gained in previous MGMT courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student's ability to apply classroom principles and skills to specific management problems. Prerequisite: Permission of the Instructor. Offered in both the Fall and Spring semesters. One semester; three credits

**MGMT 460-466. SPECIAL TOPICS IN MANAGEMENT**
These courses are designed to permit intensive study into topics of special interest and timeliness in the area of Management. Prerequisite: MGMT 352. Offered as needed One semester; three credits

**MGMT 490. SEMINAR IN LEADERSHIP**
Readings, critical evaluation and analysis of selected topics in current management literature, research and practice. Individual and group analyses and presentations of assigned topics. Major research project to be presented to faculty and senior students. Prerequisites: MGMT 352, MKTG 311, and FIN 327. Offered in the Spring semester. One semester; three credits

**MGMT 498. BUSINESS POLICY/STRATEGIC PLANNING**
This course will consist of a series of lectures and practice exercises in research methods and case analysis. The study of corporate and business level policy and strategy making is developed using a top-management perspective. A research report along with case analysis papers will be prepared by each member of the class. In-class case assignments will be used for discussion and evaluation. Prerequisites: FIN 327; MGMT 352; MKTG 311. Offered in both the Fall and Spring semesters. One semester; three credits

**MANAGEMENT INFORMATION SYSTEMS COURSES**

Requirements for the concentration are found on Page 68.

**MIS 153. INTRODUCTION TO COMPUTER BUSINESS APPLICATIONS** (Formerly ITM 153)
This course is intended to provide to students a working knowledge of modern computation and business information processing via the common tools of word processing, presentation, spreadsheet, and data base management. Information coverage will include text, numerical, graphical, and functional representations via common business applications such as break-even analysis, present value determination, depreciation schedules, loan amortization tables, etc. Depending upon the course section (day or evening, MWF or TT), all or a portion of this course may be offered in a distance education format. Offered in the Fall and Spring. One semester; three credits

**MIS 231. INTRODUCTION TO MIS** (Formerly ITM 231)
This purpose of this course is to introduce the fundamentals of Management Information Systems. This course discusses components of information systems (hardware, software, databases, and data communication technologies) and uses examples and cases to demonstrate important uses of information systems in organizations. Topics include transaction processing, e-commerce, supply chain systems, customer relationship management systems, marketing information systems, decision support systems, knowledge management systems, and ethics and security issues. Depending upon the course section (day or evening, MWF or TT), all or a portion of this course may be offered in a distance education format. Prerequisite: MIS 153 (or passing of challenge exam) and MATH 105. Offered in the Fall and Spring. One semester; three credits

**MIS 271-279. MIS SEMINARS**
Through contractual arrangements with companies, government agencies, and/or organizations, the School of Business will offer courses on selected MIS topics. Students may take up to nine seminars as long as titles and content are clearly distinctive. Credit awarded may be used as free electives hours only. Enrollment is limited and requires permission of the Director of the associated program or Dean of the School of Business. Offered as needed. One semester; one, two, or three credits

**MIS 295. DATA COMMUNICATION, NETWORKS, AND CYBER SECURITY**
This purpose of this course is to introduce the fundamentals of systems software, telecommunications, and network designs. It covers basic telecommunications concepts such as data transmission methods, signals encoding, transmission media characteristics, and the hybrid TCP/IP-OSI architecture, Ethernet LAN’s, wireless LAN’s and wide area networks as well as cyber security issues and standards. Prerequisite: MIS 231 and Math 105. Offered as needed. One semester; three credits

**MIS 351. SYSTEMS ANALYSIS AND DESIGN** (Formerly ITM 351)
This course presents methods for analyzing and designing business IT systems. The course emphasizes the Systems Development Life Cycle (SDLC) methodology. Classical and object oriented methods and tools are applied to business analysis and problem solving situations with adjustments as required to today's business environment. Included are requirements analysis and use case analysis, process models, data models, consistency of process and data models, justification and costing techniques, conversion and implementation procedures. A case study is employed to provide a practical “hands-on” approach. Prerequisite: MIS 231 or permission of instructor. Offered as needed. One semester; three credits

**MIS 400/401. MIS INTERNSHIP**
Under the supervision of a faculty member, students work on a real world project (“on-the-job-training”) either for a company, for CBU, or for a charity organization. Procedures and deliverables are defined on the School of Business Web site. Special CBU approval forms must be completed. A student may take two internships, but only one per organization. Prerequisite: MIS 231, MIS 295, MIS 351. Offered as needed. One semester; three credits
MIS 455. INFORMATION SYSTEMS PRACTICUM AND PROJECT MANAGEMENT (Formerly ITM 455)
This course is designed to explore and put to practical use the entire body of knowledge gained in previous MIS courses. Topics will principally focus upon the managerial aspects of effective information technology deployment. Project Management concepts will be covered, including use of project management tools. A comprehensive project will test student’s ability to apply technology and business skills to develop a workable, manageable, and effective information systems solution. Prerequisite: MIS 231, MIS 295, MIS 351, MIS 470, MIS 471 or permission of instructor. Offered as needed. One semester; three credits

MIS 460-466 SPECIAL TOPICS IN MIS
Course designed to permit intensive study into topics of special interest and timeliness in the area of Management Information Systems Management. Prerequisites depend upon topics and approval of instructor. Offered as needed. One semester; three credits

MIS 470. APPLICATION AND WEB DEVELOPMENT (Formerly ITM 470)
This course familiarizes students with the modern web based application development and programming environment. It also teaches students the basics of key Internet technologies (HTML, JavaScript, Dynamic HTML, CSS, ASP, PHP, AJAX, and XML), and trains students into the application and usage of key Internet tools. Upon completion of this course, students will be able to create and maintain modern advanced dynamic Web sites. Prerequisites: MIS 231, MIS 351, MIS 471, or permission of instructor. Offered as needed. One semester; three credits

MIS 471. DATA BASE DESIGN AND BUSINESS INTELLIGENCE (Formerly ITM 471)
The course presents database design and management and emphasizes the relational model and Structured Query Language. Topics include database models, query languages, query optimization, database implementation, distributed processing, data mining, and business intelligence. Prerequisite: MIS 153 and MIS 231, or permission of the instructor. Offered as needed. One semester; three credits

MARKETING COURSES

Requirements for the concentration are found on Page 68.

MKTG 311. PRINCIPLES OF MARKETING
Addresses the marketing-management functions directed toward organizational customers and prospects who buy goods and services necessary for the operation of their own businesses. Concepts of purchasing strategy, material management, and organizational buying behavior are integrated into electronic developments, strategic alliances and partnerships, and just in time. Prerequisite: Junior standing and ECON 214. Offered in both the Fall and Spring semesters. One semester; three credits

MKTG 324. MARKETING RESEARCH AND INTELLIGENCE
The study of techniques and principles for systematically monitoring environments-collecting, recording, analyzing, and interpreting data that can aid decision makers who are involved with marketing of goods, services, or ideas. The application of intelligence and research findings in the development of marketing strategy is emphasized. The class employs research cases and projects to enhance students’ practical research and intelligence skills. Prerequisite: MKTG 311 and a grade of “C” or better in STAT 222. Offered in the Spring semester. One semester; three credits

MKTG 334. MARKET AND CONSUMER BEHAVIOR
This investigation into consumer behavior brings together relevant research and applications from the behavioral sciences and other fields of marketing. The course will evaluate the decision process that individuals use as they obtain and use goods and services. The course will investigate the factors employed to identify and measure market segments. Emphasis is placed on an analysis of consumer behavior as a basis for marketing strategy. Prerequisite: MKTG 311. Offered in the Fall semester. One semester; three credits

MKTG 338. SELLING AND SALES MANAGEMENT
This course will provide a detailed investigation of that portion of the Marketing Mix pertaining to promotion with specific emphasis on Personal Selling. While some discussion will be given to sales techniques, the major emphasis will be concerned with the management of the outside sales force and the activities of that sales force. Prerequisite: MKTG 311. Offered in both the Fall and Spring semesters. One semester; three credits

MKTG 348. BUSINESS TO BUSINESS MARKETING
Addresses the marketing functions directed toward organizational customers and prospects who buy goods and services necessary for the operation of their own businesses. Concepts of purchasing strategy, material management and organizational buying behavior are integrated into electronic environments, strategic alliances and partnerships, and JIT. Prerequisite: MKTG 311. Offered in both the Fall and Spring semesters. One semester; three credits

MKTG 400. MARKETING INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Pass/Fail Grading. One semester; three credits

MKTG 411. MARKETING POLICY AND STRATEGY
This course is designed to introduce students to the activities that are necessary for the organization to provide the products and/or services necessary to meet the company’s goals. The operations and supply chain managers are challenged to improve productivity while reducing costs, creating flexible processes that will meet the ever changing customer needs, and improving product and service quality. Emphasis will be placed on process strategies and analysis, quality and performance, inventory controls and lean systems, supply chain development and integration, location, and transportation analysis. The tools used will include forecasting, decision making, linear programming, inventory models, waiting line analysis, and project management models. This course is offered in the fall and spring semesters. One semester; three credits
**MKTG 418. GLOBAL SUPPLY CHAIN MANAGEMENT.**
This course is designed to introduce students to the activities that are necessary for the organization to provide the products and/or services necessary to meet the company's goals. The operations and supply chain managers are challenged to improve productivity while reducing costs, creating flexible processes that will meet the ever changing customer needs, and improving product and service quality. Emphasis will be placed on process strategies and analysis, quality and performance, inventory controls and lean systems, supply chain development and integration, location, and transportation analysis. The tools used will include forecasting, decision making, linear programming, inventory models, waiting line analysis, and project management models. Prerequisite: MKTG 311. Offered in both the Fall and Spring semesters. One semester; three credit hours

**MKTG 433. PROMOTIONAL STRATEGY**
This course is designed to provide the student with the communication processes used in marketing. The course builds on the base of understanding of consumer behavior by treating the fields of advertising, sales promotion, personal selling, reseller stimulation, and other communications skills as part of the overall promotional mix. The course develops fundamental considerations as a background to a focus on managerial issues and problems. The various communication methods are treated as variables to communicate the want satisfying attributes of products and services. Prerequisite: MKTG 311. Offered in both the Fall and Spring semesters. One semester; three credits

**MKTG 438. INTERNATIONAL MARKETING.**
This course provides the framework for marketing on a global basis. Topics include: globalization and implications for marketing managers; international market entry decisions; partnering and alliances; pricing, product policy, and branding in the global market; standardization versus adaptation decisions in international marketing; and marketing research applications in global marketing. Prerequisite: MKTG 311 and MGMT 320. Offered in the Fall semester. One semester; three credit hours

**MKTG 440. ENTREPRENEURSHIP**
This course provides a foundation for an understanding of the variables and functions in the start-up of new business ventures. More and more businesses are being started, and the opportunities are there for such actions. The development of strategic plans and feasibility studies are essential for successful introduction of new businesses. It includes the study of theory; while developing a practical knowledge of the marketing management system and key concepts for new ventures. This course is designed to enable new enterprises a stronger opportunity to achieve a higher quality of success. Prerequisites: MGMT 352 and MKTG 311. Offered in the Spring semester. One semester; three credits

**MKTG 455. PRACTICUM AND PROJECT IN MARKETING**
This course is designed to explore and put to practical use the entire body of knowledge gained in previous MKTG courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student's ability to apply classroom principles and skills to specific marketing problems. Prerequisite: Permission of the Instructor. Offered in the Fall and Spring semesters. One semester; three credits

**MKTG 460-466. SPECIAL TOPICS IN MARKETING**
Courses are designed to permit intensive study into topics of special interest and timeliness in the area of marketing. Prerequisite: MKTG 311. Offered as needed. One semester; three credits

**MATHEMATICS COURSES**
Requirements for the degree are found on Page 100-101.
Note: Most Mathematics courses require the use of a graphing calculator.

**MATH 103. FUNDAMENTALS OF ALGEBRA**
The course is designed to give the student fundamental quantitative and algebraic skills needed in other mathematics and science courses. Topics include: equations and inequalities, absolute value, linear systems, exponents, factoring, rational expressions, quadratic equations, and functions. The course does not supply any portion of the mathematics credits required in any CBU degree program. Students may not receive credit for MATH 103 after completing any mathematics course numbered above 103. Prerequisite: One year of high school algebra and passing a placement exam. Offered in the Fall and Spring. One semester; three credits

**MATH 105. FINITE MATH**
This course contains introductory topics in mathematics for students in arts and business. Topics include lines, linear systems, matrices, linear programming, functions, polynomial, exponential and logarithmic models, and financial math. Prerequisites: MATH 103, ALG 120, or passing a placement exam. See Math Center Web page. Offered in the Fall and Spring. One semester; three credits

**MATH 106. APPLIED MATH WITH AN INTRODUCTION TO CALCULUS**
This course contains introductory topics in mathematics for students in arts and business. Topics include: functions; graphs; linear, polynomial, rational, exponential, and logarithmic models; introduction to differential and integral calculus. A student can receive credit for only one of MATH 106 or MATH 131. Prerequisite: MATH 105 or MATH 117. Offered in the Fall and Spring. One semester; three credits

**MATH 107. FUNCTIONS**
The course covers the basic concepts of college algebra, polynomial, rational, exponential and logarithmic functions as well as their graphs. The course emphasizes a comprehensive understanding of the language and uses of functions. Through the study of functions and their inverses, the course stresses algebraic skills and problem solving. Prerequisite: ALG 120 or Math 103 or equivalent. Two credits

**MATH 110. TRIGONOMETRY**
The goals of the course are to teach the student basic concepts of trigonometry and trigonometric functions and its applications. Topics include: Review of functions and their inverses, right triangle trigonometry; trigonometric functions and their inverses; trigonometric identities; Law of Sines
MATH 117. PRECALCULUS
The goals of the course are to teach the student the basic concepts of college algebra, linear equations, quadratic equations, word problems, functions, graphs, exponential and logarithmic functions, trigonometry and trigonometric functions. The course stresses problem solving by the student with the use of a graphing calculator. A student can receive credit for only one of MATH 110, 117 or 129. A grade of “C” or better in this course is required to proceed to MATH 131. Prerequisite: MATH 107 or equivalent. Two credits

MATH 129. FUNCTIONS AND ENGINEERING CALCULUS I
The goals of this course are to teach the student basic concepts of college algebra and trigonometry and important concepts of calculus and its applications. Topics include: linear and quadratic equations; algebraic, exponential, and logarithmic functions and their graphs; right triangle trigonometry; trigonometric functions; the derivative and its interpretations; the definite integral and its interpretations; the Fundamental Theorem of Calculus; rules of differentiation and integration; and applications of derivatives and integrals. The course requires a graphing calculator and stresses problem solving. A student can receive credit for only one of MATH 110, 117 or 129 and for only one of MATH 129 or MATH 131. Six lectures and two recitation periods per week. Prerequisite: MATH 103 or 107 or equivalent. Offered in the Fall and Spring. One semester; six credits

MATH 131. CALCULUS I
The goals of the course are to teach the student important concepts of calculus and its applications. Topics include functions, the derivative and its interpretations, the definite integral and its interpretations, the Fundamental Theorem of Calculus, rules of differentiation, applications of the derivative and antiderivatives. Three lectures and one laboratory period per week. A student can receive credit for only one of MATH 129 or 131. Prerequisite: MATH 110 with a grade of “C” or better, or MATH 117 with a grade of “C” or better. This prerequisite is waived for a student who passes a departmental placement test. A grade of “C” or better in this course is required to proceed to MATH 132. Offered in the Fall and Spring. One semester; six credits

MATH 132. CALCULUS II
The goals of the course are to teach the student additional important concepts of calculus begun in MATH 131. Topics include techniques of integration, applications of integration, differential equations and modeling, approximations using Taylor and Fourier polynomials and series. Prerequisite: MATH 129 or MATH 131 with a grade of “C” or better. Offered in the Fall and Spring. One semester; three credits

MATH 141. INTRODUCTION TO DISCRETE MATHEMATICS
This course considers a variety of discrete mathematical themes and subjects. These themes include problem solving, abstraction, representation, mathematical reasoning and proof, recursion, induction, modeling and synthesis. Topics include logic, graphs, sets, algorithms and combinatorics. Prerequisite: MATH 105 or 106 or 117 or 129 or 131. Offered in odd numbered Spring semesters. One semester; three credits

MATH 151. NUMERICAL CONCEPTS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics for elementary school teaching candidates. Topics include: set theory, numbers and numeration, number theory, rational numbers, and problem solving. This course does not meet the CBU General Education Math requirement. Prerequisite: ALG 120 or equivalent. Offered in the Spring semester. One semester; three credits

MATH 152. MATH TOPICS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics for elementary school teaching candidates. Topics include: informal geometry, measurement, problem solving, descriptive statistics, and elementary probability. This course does not meet the CBU General Education Math requirement. Prerequisite: ALG 120 or equivalent. Offered in the Fall semester. One semester; three credits

MATH 162. HEALTH SCIENCE APPLICATIONS OF ALGEBRA AND STATISTICS
The course uses models appropriate to the health sciences to motivate the study of algebra and statistics. Topics are chosen from algebraic expressions, symbol manipulation, linear and quadratic equations, descriptive statistics, exploratory data analysis, the normal distribution, functions, graphs, and linear, polynomial, rational, exponential, and logarithmic models. The course stresses interpretation of the mathematical model in its diverse applications. Prerequisite: MATH 103 or equivalent and admission to RN to BSN program. One semester; three credits

MATH 201. APPLIED STATISTICS
The course concerns the use of statistical methodology in planning, presentation, analysis and interpretation of scientific experiments and field observations. Topics are chosen from elements of probability and statistical inference, including estimates of parameters, confidence intervals, tests of hypotheses for quantitative and qualitative observations, correlation, nonparametric methods. Its goal is to allow science majors to analyze real data in a correct statistical manner. Offered in the Spring semester. Prerequisite: MATH 106, 129 or 131. One semester; three credits

MATH 231. DIFFERENTIAL EQUATIONS
This course is an introduction to the concepts and methods of ordinary differential equations. Topics include: first-order equations, elementary numerical methods, qualitative analysis, second-order homogeneous linear equations, the methods of undetermined coefficients and variation of parameters for nonhomogeneous equations, Laplace transforms, and models in science and engineering. Prerequisite: MATH 132. Offered in the Fall and Spring semesters. One semester; three credits
MATH 232. CALCULUS III
Algebra of vectors in a plane and in space; the calculus of vectors; vector functions; basic concepts of multivariable calculus; partial derivatives; multiple integrals. Prerequisite: MATH 231. Offered in the Fall and Spring. One semester; three credits

MATH 301. GEOMETRY AND HISTORY OF MATHEMATICS
The course contains topics in geometry and the history of mathematics. Topics include Euclidean and non-Euclidean geometry, mathematical structures and the historical development of mathematical concepts. Prerequisite: MATH 132. Offered in odd numbered Spring semesters. One semester; three credits

MATH 308. STATISTICS
The course considers statistical methods with applications in engineering and science. Topics are selected from an introduction to probability, descriptive statistics, sampling methods, design of statistical experiments, concepts of hypothesis testing and confidence intervals, correlation, linear regression and analysis of variance. Offered in the Spring semester. Prerequisite: MATH 232. One semester; three credits

MATH 309. PROBABILITY
The course considers fundamental topics in probability with applications in engineering and science. Topics are selected from: basic concepts in probability, random variables, expectation, variance, covariance, moment generating functions, common distributions such as binomial, hypergeometric, Poisson, geometric, uniform, normal, exponential, chi-square, T and F distributions, probability models, central limit theorem and functions of a random variable, bivariate, marginal, and conditional distributions. Offered in the Fall semester. Prerequisite: MATH 232. One semester; three credits

MATH 329. APPLIED NUMERICAL ANALYSIS
The course teaches the student the basic techniques of modeling and numerical computation with emphasis on applications and the use of numerical software. Topics will be chosen from the following: modeling of physical systems with algebraic, differential and integral techniques; algorithms for approximation; fitting functions to data; algorithms for the solution of linear systems and for finding eigenvalues and eigenvectors; algorithms for the solution of differential and integral equations; Fourier transforms. Offered in the Fall semester. Prerequisite: MATH 232 and a computer language. One semester; three credits

MATH 401. LINEAR ALGEBRA
This course contains an introduction to the basic concepts of linear algebra; namely Gaussian elimination, the theory of simultaneous linear equations, determinants, vector spaces, eigenvalues, eigenvectors and linear transformations. The course includes applications of linear algebra to selected topics from engineering, biology and business. Prerequisite: MATH 232. Offered in odd numbered Fall semesters. One semester; three credits

MATH 402. ABSTRACT ALGEBRA
The course contains an introduction to some basic concepts of abstract algebra, namely groups, rings, and fields and includes applications. Prerequisite: MATH 232. Offered in the Spring semester of even numbered years. One semester; three credits

MATH 405. DISCRETE MATHEMATICS
This course is an introduction to graph theory and combinatorics. The topics will be chosen from the following: the basic properties of graphs and digraphs, graphs as models, Eulerian and Hamiltonian circuits, graph coloring, trees, network algorithms, generating functions, and recurrence relations. Prerequisite: MATH 231. Offered in the Spring semester. One semester; three credits

MATH 413. COMPLEX ANALYSIS (Formerly MATH 403)
This course concerns itself with the rudiments and techniques of complex analysis. Topics that are covered include: complex sequences, the derivative of a complex function, the Cauchy-Riemann equations, integration in the complex plane and the Cauchy-Goursat theorem, Cauchy's integral formula, Morera's theorem, Taylor and Laurent series, residue theory, and the evaluation of definite integrals. Prerequisite: MATH 232. Offered in the Fall semester of even numbered years. One semester; three credits

MATH 414. REAL ANALYSIS (Formerly MATH 302)
The course develops the theory of calculus. It stresses the proofs of the theorems for functions of one variable. Topics include sequences, series, functions, limits, continuity, differentiation and integration. Prerequisite: MATH 232. Offered in the Spring semester of odd numbered years. One semester; three credits

MATH 470-479. TOPICS IN MATHEMATICS
This course is designed to meet the current needs of the students and to express the particular interests of the instructor. Prerequisites: Junior standing, MATH 232 and Permission of instructor. One semester; one to three credits

MATH 481-482. SENIOR SEMINAR I AND II
The student conducts an independent investigation in some field of mathematics. The course requires both written and oral reports. In addition, the student must pass a comprehensive assessment test in mathematics. Prerequisites: Junior or Senior standing and approval of the department head. Offered in sequence in the Fall and Spring. One semester each; one and two credits respectively.

ME 112. SCIENTIFIC PROGRAMMING
This course covers fundamental programming techniques used to solve engineering problems that require repetitive or iterative calculations. Emphasis is placed on writing structured, portable, efficient, and understandable MATLAB and Excel programs. Corequisite: MATH 131. Offered in the Fall semester. One semester; three credits

Requirements for the degree are found on Page 80.
ME 121. SOLIDS MODELING
Emphasis on visual aspects of engineering communications, expression of ideas, developing spatial concepts as related to design. Design is taught using 3-D modeling and parametric design. CAD applications. Offered in the Fall and Spring. One semester; three credits

ME 201. MANUFACTURING PROCESSES
Production of common engineering materials. Heat treatment theory and processes. Study of machining, casting, metal forming, fabrication of plastics, ceramics, composites, welding, inspection, material testing, automation. Plant tours. Reports. Demonstrations. Two lectures and one three-hour lab each week. Prerequisite: ME 121. Offered in the Spring semester. One semester; three credits

ME 202. DYNAMICS
Kinematics and kinetics of particles and rigid bodies in two dimensions. Force-mass-acceleration, work-energy, and impulse-momentum methods will be covered. Prerequisites: CE 201. Offered in the Fall and Spring. One semester; three credits

ME 301. ENGINEERING INSTRUMENTATION LABORATORY
A laboratory course designed to instruct the student in the theory and use of various engineering instruments and transducers. Emphasis is placed on appropriate error analysis in the reduction, analysis, and reporting of data. Technical report preparation is emphasized. Two lecture periods and one laboratory period of three hours. (Same as ECE 201) Prerequisite: ECE 221. Offered in the Fall semester. One semester; two credits

ME 302. ENERGY SYSTEMS LABORATORY
Experimental study of basic fluid flow and heat transfer phenomena, flow-measurements, impulse turbine, centrifugal pump, fluid circuit systems, electrical analogies, basic heat conduction experiments, free and forced convention, thermal radiation, temperature measurements, subsonic wind tunnel model studies, lift and drag measurements. Technical report preparation and presentation is emphasized. One laboratory period of three hours and lecture. Prerequisites: ME 301, 313. Corequisite: ME 306. Offered in the Spring semester. One semester; two credits

ME 305. ENGINEERING THERMODYNAMICS I
Fundamental laws and concepts of the macroscopic approach to the thermodynamics of pure materials. Properties of pure materials from tables, charts and ideal-gas equation. Heat and work. First and second law analysis of open and closed systems. Introduction to heat engines and heat pumps. (Same as CHE 231) Prerequisites: MATH 132 and CHEM 113 or 115. Corequisite: PHYS 150. Offered in the Fall and Spring. One semester; three credits

ME 306. HEAT TRANSFER
An introductory treatment of conduction, convection, and radiation heat transfer. Analysis of steady and unsteady heat conduction in simple geometries, boundary layer analysis and empirical correlations for convection, and basic theory of radiation heat transfer. Prerequisite: ME 313. Offered in the Spring semester. One semester; three credits

ME 312. MECHANICS OF DEFORMABLE SOLIDS
Axial load, shear, and bending moment diagrams. Differential equations of beams. Study of stresses due to axial, bending, torsional loads, and combined loading. Mohr's circle of stress. Design techniques, Column design equations. Prerequisite: CE 201. Offered in the Fall semester. One semester; three credits

ME 313. FLUID MECHANICS

ME 314. ENGINEERING ECONOMY

ME 316. ENGINEERING THERMODYNAMICS II
Concepts of reversibility, irreversibility, and availability. Power and refrigeration systems. First Law analysis of gas-vapor mixtures. Introduction to psychrometry. Thermochemical reactions including combustion processes, fuel properties, and equilibrium composition. Prerequisite ME 305 or CHE 231. Offered in the Fall semester. One semester; three credits

ME 317. KINEMATICS
A study of relative motion and geometry of machine parts and mechanisms without reference to force or mass. Graphical and analytical solutions for the displacement, velocity, and acceleration of planar mechanisms. General case of acceleration including Coriolis component. Computer programming and numerical techniques applied to velocity and acceleration analysis of cycles. Prerequisites: ME 112, 121, 202. Offered in the Fall semester. One semester; three credits

ME 318. DYNAMICS OF MACHINES
The dynamic analysis of machine parts by use of the principles of linear and angular momentum and the work-energy relationships. Graphical and analytical methods. Analysis and balancing of shaking forces in machines, flywheel analysis, basic gear analysis, gyroscopic forces in machines. Three lectures each week. Prerequisite: ME 317. Offered in the Spring semester. One semester; three credits

ME 319. PRINCIPLES OF PACKAGING
Overview of the historical development of packaging, the system of packaging science, along with information about economic importance, social
implications and packaging as a profession. Study of the functions of packaging and materials, container types, processes, technology and equipment employed to protect goods during handling, shipping and storage. Introduction of package development process, packaging testing and evaluation methods, standards, and equipment. Brief review of governmental regulations affecting packaging. Prerequisites: MATH 131 and CHEM 113 or 115. (Same as CH E 319 and PKG 319). One semester; three credits

**ME 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING**

Overview of physical distribution systems, various distribution hazards imposed to products/packages in transit, rules and regulations governing distribution packaging, and common industry guidelines and practices on distribution packaging. Study of the package design process, protective packaging theories and applications, selection and design, other distribution packaging related materials and applications. Introduction to package testing and evaluation methods, standards, and equipment/systems. Introduction to basics of packaging materials, packaging design and development, and sterilization methods used in biomedical industry. (Same as CH E 320 and PKG 320) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits

**ME 400. THE COMPLEAT ENGINEER**

This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics; regulatory issues; health, safety, and environmental factors; reliability, maintainability, producibility, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy. (Same as CH E 400, ECE 400, and CE 400). Prerequisite: Permission of the department and MATH 232. One semester; three credits

**ME 401. MECHANICAL SYSTEMS LABORATORY**

Laboratory experiments are performed in stress analysis and experimental mechanics on a project team basis. Emphasis is placed on experimental technique, data analysis and report preparation and presentation. Each student also prepares a state of the art report on a topic selected by the department faculty. Prerequisite: ME 301. Corequisite: ME 420. Offered in the Fall semester. One semester; two credits

**ME 407-408. MECHANICAL ENGINEERING PROJECT**

Industry sponsored projects are initiated early in the first semester of the student's senior year and are completed and formally presented in a report (written and oral) to the sponsor, faculty and students in the following semester. Prerequisite: Permission of the department, ME 407 prerequisite for ME 408. Taken in sequence in the Fall and Spring. Two semesters; six credits

**ME 416. THERMAL ENVIRONMENTAL ENGINEERING**

Refrigeration, vapor compression and absorption. Psychrometrics, basic air-conditioning processes, physiological effects, heat load calculations. Air conditioning system design will be emphasized. Three lectures each week. Prerequisites: ME 306, 316. One semester; three credits

**ME 419. MECHANICAL VIBRATIONS**

Fundamentals of vibration theory applied to mechanical systems. Undamped and damped, single and multiple degree of freedom, vibrating systems. Steady state analysis of free and forced vibrations; critical speeds and balancing, vibration isolation, instrumentation. Three lectures each week. Prerequisites: ME 202 and MATH 231. One semester; three credits

**ME 420. MACHINE DESIGN**

An integrated treatment of the design of mechanical systems combining static and dynamic load analysis, stress analysis, material selection, and failure analysis. Includes many advanced topics in stress analysis. Three lectures each week. Prerequisites: ME 312 and 318. Corequisite: ME 401. Offered in the Fall semester. One semester; three credits

**ME 421. THERMAL SYSTEMS ANALYSIS AND DESIGN**

An integrated treatment of the analysis and design of thermal systems. Primarily concerned with industrial thermal processes, cycles and associated equipment. Prerequisite: ME 306. Offered in the Fall semester. One semester; three credits

**ME 422. CONTROL SYSTEMS ENGINEERING**

Analysis and design of linear control systems. Transfer functions, block diagrams, and state-variable representation. Feedback concepts and stability analysis in both the frequency and time domain. Design by Root locus, Bode plots, and State variable methods. Emphasis on use of computational software for complex cases. (Same as ECE 322 Linear Control Systems) Prerequisites: MATH 231, ME 202 and ECE 221. Offered in the Spring semester. One semester; three credits

**ME 428. MATERIALS SCIENCE**

Material classification, behavior, properties and selection. The internal structures of metals, ceramics, polymers and electronic materials are examined to develop understanding of their mechanical, physical, chemical, electrical properties. Develop some insight to controlling of properties and behavior of materials by manipulating internal structures. (Same as CHE 328) Prerequisites: CHEM 113 or CHEM 115 and Junior standing. One semester; three credits

**ME 429. SELECTION OF MATERIALS**

Importance of materials selection as part of the design process will be discussed. Fundamental relationships that govern the properties of materials will be examined and used to optimize the selection of engineering materials. Materials covered will include metals, plastics, ceramics, and composites. Prerequisite: ME 312. One semester; three credits

**ME 432. PRINCIPLES OF GAS DYNAMICS**


**ME 435. INTERMEDIATE MANUFACTURING**

Introduction to advanced parametric computer-aided design and manufacturing (CADM) techniques. Students learn to design parts and as-
Assemblies using tools that enable parametric design. A design project is carried through from “blank screen” to production of computer numerical control (CNC) code and fabrication. Also provided is an introduction to structural and thermal analysis tools that are integrated with the CADM program. An oral report on advanced manufacturing technology is required. Occasional field trips to local manufacturing facilities. Prerequisites: ME 201 and permission of instructor. One semester; three credits

ME 442. INTERNAL COMBUSTION ENGINES
Principles of spark ignition and compression engines. Both two and four-stroke engines are considered. Fuel combustion, cooling, and turbocharging effects. Experimental methods of determining engine performance. Guest lecturers and plant tours. Prerequisites: ME 306, 316. One semester; three credits

ME 495. INTERNSHIP IN MECHANICAL ENGINEERING
Students majoring in mechanical engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior standing and Permission of the department. Pass/Fail Grading. One semester; three credits

ME 496-498. TOPICS IN MECHANICAL ENGINEERING
Lectures, readings, discussions and research on special areas and advancements in mechanical engineering. Problems or projects of an interdisciplinary nature are encouraged. A written report may be required. Prerequisites: Senior standing and Approval of department. One semester; one to three credits

MUSIC COURSES
MUSC 111. MUSIC APPRECIATION
Open to all students. Required for all music minors. An introduction to perceptive music listening through study of melody, harmony, rhythm, texture, etc. Extensive listening to characteristic selections and major forms from different periods of music. One semester; three credits

NATURAL SCIENCE COURSES
Requirements for the degree are found on Page 102-103.

NSCI 111. INTRODUCTION TO ASTRONOMY
The course introduces non-science students to astronomy. It includes naked-eye astronomy and a brief history of astronomy, the present-day tools of the astronomer, the solar system, the sun and stars, and finally the galaxy, the universe, and extraterrestrial life. Three lectures per week. Prerequisite: MATH 105 or higher. Corequisite: NSCI 111L. Offered in the Fall semester. One semester; three credits

NSCI 111L. INTRODUCTION TO ASTRONOMY LAB
Laboratory to accompany NSCI 111. Corequisite: NSCI 111. Offered in the Fall semester. One semester; one credit

NSCI 115. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS
This course is intended mainly for liberal arts and business students. It will combine readings and experiments using selections from the classical writings from the Greeks to the 20th century. Authors who will be read in part include Hippocrates, Copernicus, Newton, and Darwin. Prerequisite: MATH 105 or higher. Corequisite: NSCI 115L. Offered in the Spring semester. One semester; three credits

NSCI 115L. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS LAB
Laboratory to accompany NSCI 115. Corequisite: NSCI 115. Offered in the Spring semester. One semester; one credit

NSCI 122. THE NATURE OF LIGHT
An introduction to the field of optics for non-science majors. The question for the course is “What is light?” Different theories that model light as rays, waves, and photons are discussed to explain phenomena ranging from the formation of rainbows and mirages to the operation of lenses, lasers, holograms, and optical fibers. Prerequisite: MATH 105 or higher. Corequisite: NSCI 122L. One semester; three credits

NSCI 122L. THE NATURE OF LIGHT LAB
Laboratory to accompany NSCI 122. Corequisite: NSCI 122. One semester; one credit

NSCI 126. FORENSIC ANTHROPOLOGY
Prerequisite: MATH 105 or higher. Corequisite: NSCI 126L. (Same as ANTH 126) One semester; three credits

NSCI 126L. FORENSIC ANTHROPOLOGY LAB
Laboratory to accompany NSCI 126. Corequisite: NSCI 126L. (Same as ANTH 126L) One semester; one credit

NSCI 128. PHYSICAL ANTHROPOLOGY
Corequisite: NSCI 128L. (Same as ANTH 128). One semester; three credits

NSCI 128L. PHYSICAL ANTHROPOLOGY LAB
Laboratory to accompany NSCI 128. Corequisite: NSCI 128L. (Same as ANTH 128L). One semester; three credits

NSCI 190-199. SPECIAL TOPICS IN NATURAL SCIENCE
Courses in different areas of the natural sciences that are not offered on a regular basis. These include courses taught by visiting faculty members with special or unique qualifications or new courses taught by existing faculty members. Prerequisite: MATH 105 or higher. Corequisite: Corresponding lab course. One semester; three credits
NATS 190L-199L. SPECIAL TOPICS IN NATURAL SCIENCE LABORATORIES
Laboratories to accompany NATS 190-199. Corequisite: Corresponding NATS 190-199 course. One semester; one credit

NATS 390-399 ADVANCED SPECIAL TOPICS
Advanced courses in different areas of the natural sciences that are not offered on a regular basis. These include courses taught by visiting faculty members with special qualifications or new courses taught by existing faculty members. Prerequisites: MATH 105 or higher and BIOL 112 Corequisite: NATS 390L-399L. One semester; three credits

NATS 390L-399L. ADVANCED SPECIAL TOPICS LABORATORY
Laboratories to accompany NATS 390-399 courses. Prerequisites: MATH 105 or higher and BIOL 112 Corequisite NATS 390-399. One semester; one credit.

NATS 410, SENIOR SEMINAR
Students will read current primary literature and will present those papers to the class each week and lead discussion. Required of Natural Science majors. Prerequisite: Senior standing. One semester; one credit

NATS 412, SENIOR Research
Students conduct research under the mentorship of an established scientist. The students will actively participate in the design, implementation and presentation of the research project. Prerequisite: NATS 410 and permission of the instructor. One semester; two credits

■ NAVY ROTC COURSES
Navy ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

■ NURSING COURSES
NURS 301. TRANSITION TO PROFESSIONAL NURSING
This course bridges the gap between associate degree or diploma nursing education and professional nursing practice. Topics include current trends and issues in nursing; philosophies and theories influencing nursing; role transition; and review of the mission, values, philosophy, outcomes and goals of the CBU program. An introductory discussion of the basis of CBU nursing includes: generous listening, QSEN, AACN baccalaureate essentials and BENNER NOVICE to expert theory. Corequisite: NURS 303 and NURS 305. Pass/Fail grading. One semester; one credit

NURS 303. PROFESSIONAL ROLE DEVELOPMENT I
This course emphasizes the theoretical basis for nursing theory, professional development and socialization, scope of safe practice, the application of electronic records and effective communication. An integration of transcultural awareness will be made through patterns of knowing in critical thinking, creativity, empathy, and personal expression. Students will have an opportunity to explore the complexities of healthcare and interdisciplinary team concepts while providing optimal care with specific application to the professional role of nursing. Corequisite: NURS 301 and NURS 305. One semester; three credits

NURS 305. HEALTH ASSESSMENT
Two hours of lecture and content/week and one 3 hour lab/wk (Total clinical contact hours 45.) This course is designed to help the registered nurse develop the necessary skills to perform a holistic assessment of diverse clients across the lifespan. Skills addressed that are needed for the systematic assessment of health status include critical thinking, interviewing, obtaining a health history, performance of a physical examination and documentation. One semester; three credits

NURS 307. SPECIAL TOPICS IN NURSING
This course is designed to offer directed work on a special topic or project in nursing with approval of the director. Prerequisites: NURS 301, 303 and NURS 305. One semester; one credit

NURS 402. PROFESSIONAL ROLE DEVELOPMENT II
This course explores issues and trends of the professional nursing role. The focus will be on global, legal and ethical principles that guide health care policies with specific application to nursing while developing a mind set that facilitates positive change and incorporates evidence based clinical practices into current health care strategies. Students will have an opportunity to explore current health care delivery systems with particular emphasis on high-risk groups and the underserved community. Prerequisite: NURS 303. Corequisite NURS 406 and NURS 404. One semester; three credits

NURS 404. COMMUNITY HEALTH NURSING
This course emphasizes the concept of the global community in meeting the needs of client and client centered systems through applications of Health Promotion-Disease Prevention embedded in community/public health nursing principles. Prerequisite NURS 301, 303, 305. Corequisite: NURS 406 and 402. One semester; three credits.

NURS 406. COMMUNITY HEALTH NURSING CLINICAL
This course includes application of the concepts of the global community and client centered care in multiple settings through service-based care delivery to underserved/vulnerable populations locally, regionally, and internationally. The clinical may include participation in public health, occupational health, school-health nursing, and simulation experiences. Prerequisite: NURS 301, 303, 305. Corequisite: NURS 404 and NURS 402. Pass/Fail grading. One semester; Two credits.

NURS 411. PROFESSIONAL PRACTICE AND LEADERSHIP
This course emphasizes the principles of nursing leadership and management to meet the needs of clients and client-centered systems/facilities for the delivery of cost-effective health care. An overview of leadership and management theories which will enhance the student's knowledge of the legal and ethical implications of the role of professional nursing including conflict management, group process, delegation, staffing, budgeting,
quality improvement, effective communication, informatics and other issues. Management concepts and skills are stressed to enhance student career development. Prerequisite: NURS 402, 404, 406. Corequisite: NURS 413 and 415. One semester; three credits

NURS 413. PROFESSIONAL PRACTICE AND LEADERSHIP CLINICAL
This capstone course includes application of the concepts and principles of nursing leadership and management in multiple settings to promote individual and group satisfaction within the work environment through a student/preceptor designed practicum. This course includes synthesis of didactic theory and content in the practicum project including application of current issues and trends in nursing leadership and management and the interdisciplinary and interprofessional role of the nurse in health-care delivery in the 21st century. Corequisite: NURS 411 and NURS 415. Pass/Fail grading. One semester; two credits

NURS 415, NURSING RESEARCH
This course emphasizes the significance of evidence-based practice; introduce research methodology principles, evaluation of current research, data collection, discrimination, and ethical conduct in research. Synthesis is monitored through intensive written assignments. Prerequisite: NURS 402, 404, 406. Corequisite: NURS 411 and 413. One semester; three credits

NURS 417. SPECIAL TOPICS IN NURSING
This course is designed to permit intensive study into topics of special interest and timeliness in the area of nursing with approval of the director. Prerequisites: NURS 301, NURS 303, NURS 305. One semester; one to four credits

■ ORIENTATION COURSE
ORIN 100. ORIENTATION
Orientation is normally held in the Fall semester for all first year students. The purpose of the course is to bring about the best possible transition from high school to university life at Christian Brothers University. Successful completion of the Orientation 100 course is required for graduation from Christian Brothers University. Older Students may apply for an exemption from this class after conferring with the Director of Counseling and the Dean of Academic Services. Pass/Fail Grading. One semester; zero credit

■ PACKAGING COURSES
PKG 101. INTRODUCTION TO PACKAGING
Introduction to various areas of packaging industry, including distribution packaging, medical device packaging, food packaging; materials, including plastic and paper; and skills, including business, science/engineering, and graphic design. Offered in the Fall semester. One semester; one credit

PKG 200. MECHANICS OF SOLIDS
Principles of statics; coplanar and non-coplanar force systems. Equilibrium of force systems. Centroids and moment of inertia. Axial load, shear and moment diagrams. Study of stresses due to axial, bending, and torsional loading. Design applications. Prerequisite: PHYS 150. One semester; three credits

PKG 201. PACKAGING SEMINARS
Current practice and issues in packaging industry. Presentations by packaging professionals. One semester; one credit

PKG 319. PRINCIPLES OF PACKAGING
Overview of the historical development of packaging, the system of packaging science, along with information about economic importance, social implications and packaging as a profession. Study of the functions of packaging and materials, container types, processes, technology and equipment employed to protect goods during handling, shipping and storage. Introduction of package development process, packaging testing and evaluation methods, standards, and equipment. Brief review of governmental regulations affecting packaging. (Same as ChE 320 and ME 320) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits

PKG 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING
Overview of physical distribution systems, various distribution hazards imposed to products/packages in transit, rules and regulations governing distribution packaging, and common industry guidelines and practices on distribution packaging. Study of the package design process, protective packaging theories and applications, selection and design, other distribution packaging related materials and applications. Introduction to package testing and evaluation methods, standards, and equipment/systems. Introduction to basics of packaging materials, packaging design and development, and sterilization methods used in biomedical industry. (Same as ChE/ME 320) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits

PKG 490. PACKAGING PROJECTS
Individual projects related to packaging. Reports are presented in both oral and written form. Prerequisites: PKG 319 and 320. One semester; two credits

PKG 495. PACKAGING INTERNSHIP
Students are placed in packaging related facilities under the supervision of qualified packaging professionals. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior or senior standing and permission of the department. One semester; three credits
### PHILOSOPHY COURSES

Requirements for the Religion & Philosophy degree are found on Page 43-44.

**PHIL 201. INTRODUCTION TO LOGIC**
A study of valid and fallacious reasoning, deductive and inductive. Formal logical structures such as the syllogism will be examined, as well as the logic of ordinary discourse and the avoidance of “informal” fallacies. *One semester; three credits.*

**PHIL 219. SOCIAL AND POLITICAL PHILOSOPHY**
A philosophical investigation into basic questions of politics and society and the moral foundations of human social existence. Topics may include human rights, equality, distributive justice, authority, punishment and coercion, and the nature of the good or just society. (Same as CJ 219) (PHIL 219 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 220. CONTEMPORARY MORAL ISSUES**
A philosophical examination of a number of significant and controversial contemporary moral problems. Topics will vary but may include abortion, capital punishment, sexual morality, animal rights, environmental ethics, freedom of speech, discrimination, and affirmative action. The treatment of these topics will develop in the context of the tradition of philosophical ethics. (PHIL 220 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 223. BUSINESS ETHICS** (formerly PHIL 323)
An analysis of business ethics, the responsibilities of business firms to employees, owners, consumers, and society. PHIL 223 satisfies the “Moral Values” general education requirement. *One semester; three credits*

**PHIL 224. THEORIES OF HUMAN NATURE**
An examination of several major theories of human nature with special emphasis on the ethical implications of these theories. A consideration of such questions as whether humans are by nature either good or evil, individual or social, free or determined in their actions, and whether they have some natural purpose or end. (PHIL 224 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 234. HONORS THEORIES OF HUMAN NATURE**
An intensive study of classical, modern, and postmodern theories of human nature through the reading of original texts. There will be an emphasis on the philosophical concepts and the ethical implications of the theories. Prerequisite: Membership in Honors Program. (PHIL 234 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 280-289. HONORS SPECIAL TOPICS IN PHILOSOPHY**
Special topics in philosophy open to members of the Honors Program or by permission of the instructor. *One semester; one to four credits.*

**PHIL 317. ANCIENT PHILOSOPHY**
An in-depth treatment of selected philosophers from the ancient and medieval periods including Plato and Aristotle. Prerequisites: sophomore standing or higher. *One semester; three credits*

**PHIL 318. MODERN PHILOSOPHY**
An in-depth treatment of selected philosophers from the 17th to the 19th centuries, beginning with Descartes. Does not presuppose PHIL 317. Prerequisites: sophomore standing or higher. *One semester; three credits*

**PHIL 320. CONTEMPORARY PHILOSOPHY**
An introduction to the major currents of 20th Century philosophical thought in America and Europe. The focus will be on the question of the meaning of subjective existence. Answers to this question will be examined from the perspectives of analytic philosophy, pragmatism, existentialism, and contemporary continental thought. Prerequisites: sophomore standing or higher. *One semester; three credits*

**PHIL 321. MEDICAL ETHICS**
A review and evaluation of various theories of moral philosophy and an investigation into some of the current moral issues in the fields of biology and medicine. Prerequisite: sophomore standing or higher. (PHIL 321 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 324. TECHNOLOGY AND HUMAN VALUES**
A philosophical examination of social and ethical issues relating to technology. Topics include: ethical responsibilities of engineers; the ethical of risk assessment and cost-benefit analysis, environmental sustainability and technology; technology and human nature; technology and globalization; and the impact of modern technology on human values. Prerequisite: sophomore standing or higher. (PHIL 324 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 325. ENVIRONMENTAL ETHICS**
A study of ethical and social issues concerning the relation of humans to the natural environment. Topics include the history of environmental ethics, the application of various ethical theories and concepts to environmental concerns, sustainability and ethical responsibilities to future generations, and the relevance of the scientific, technological, economic, legal, and socio-political considerations in the analysis of current issues in environmental ethics. Prerequisite: sophomore standing or higher. (PHIL 325 satisfies the “Moral Values” general education requirement). *One semester; three credits*

**PHIL 335. PHILOSOPHY OF RELIGION**
An examination of philosophical issues relating to religion, the concept of God, arguments for and against God’s existence, the nature of religious experience, knowledge, faith, the problem of evil and free will. (Same as RS 335). Prerequisite: any RS 200 course or higher. *One semester; three credits*
PHIL 340. ETHICAL THEORY
An examination of various philosophical theories, including those of Aristotle, Kant, and Mill, concerning moral values. Questions discussed include the following: whether morality is best defined in terms of rights, duties, consequences, authenticity of commitment, or models of virtue, and whether morality can be judged by some absolute standard or is always relative (and if so, to what?). Prerequisites: sophomore standing or higher. (PHIL 340 satisfies the “Moral Values” general education requirement). One semester; three credits

PHIL 350. PHILOSOPHY OF THE ARTS
A study of various philosophical responses to questions concerning art. Topics include the nature of art, the relation between different arts, the nature of artistic creation, and the problem of evaluating works of art. Examples from literature, music, and the visual arts. Prerequisite: Sophomore standing or higher. One semester; three credits

PHIL 380-389. HONORS SPECIAL TOPICS IN PHILOSOPHY
Special topics in philosophy open to members of the Honors Program or by permission of the instructor. One semester; one to four credits

PHIL 391-396. SPECIAL TOPICS IN ETHICS
Selected philosophical topics in the area of meta-ethics, normative ethics, or applied ethics; content variable with instructor. Prerequisite: Sophomore standing or higher. (PHIL 395 satisfies the “Moral Values” general education requirement). One semester; three credits

PHIL 491-496. SPECIAL TOPICS IN PHILOSOPHY
Selected philosophical topics; content variable with instructor. Prerequisite: Sophomore standing or higher. One semester each; one to three credits each

PHIL 497. SENIOR SEMINAR (formerly PHIL 499)
This seminar, for Religion & Philosophy majors in their Senior year, introduces students to philosophical, theological, and scriptural research methods to prepare students for satisfactory completion of their Senior Projects (PHIL/RS 498). During this semester long seminar, each student will develop a research program for his or her senior thesis, with the semester culminating in a presentation of each student’s project proposal and outline. Offered in the Fall semester. One semester; one credit

PHIL 498. SENIOR PROJECT
The senior project is a capstone independent study requirement for Senior Religion & Philosophy majors. Under the supervision of a senior project faculty advisor, each student will assemble a committee of three departmental faculty members to evaluate a research paper related to the student’s previous studies in religion and/or philosophy. The final project will also be presented to the faculty of the Religion & Philosophy Department. Prerequisite: either PHIL 497 or RS 497. Offered in the Spring semester. One semester; two credits

PHYSICAL EDUCATION COURSE
PE 201. RHYTHMIC ACTIVITIES AND GAMES
Activities and games designed for teaching of elementary students. Offered in the Fall and Spring semester. One semester; one credit

PHYSICIAN ASSISTANT COURSES
PHAS 400. INTRODUCTORY CLERKSHIP I
This six hour course is an opportunity for the discerning student to obtain valuable first-hand experience by witnessing the activities of a practicing Physician Assistant or other medical professional in a clinical setting. The experience will allow the student to develop greater insight into the role and practice of a Physician Assistant. Students will have set assignments that will be evaluated for the development of critical thinking skills required for education and practice. Students wishing to take this course must apply and be approved by the faculty of the Department of Physician Assistant Studies. This is a mandatory course for students following the MSPAS Pathway for CBU Natural Science Majors. One semester; six credits

PHAS 401. INTRODUCTORY CLERKSHIP II
This is a continuation of PAS 400. Students who have satisfactorily completed PAS 400 will be assigned to shadow a practicing PA to develop greater insight into the role and practice of a Physician Assistant. The will continue to have set assignments that would be presented to the Course Instructor and evaluated for evidence of critical thinking skills necessary to successfully complete PA education. Upon successful completion students will be awarded 6 semester hours credit. Students wishing to take this course must apply and be approved by the faculty of the Department of Physician Assistant Studies. This is a mandatory course for students following the MSPAS Pathway for CBU Natural Science Majors. One semester; six credits

PHAS 402. INTRODUCTION TO THE HEALTH PROFESSIONS
Health care in the United States is provided by a variety of professional and paraprofessional entities. This course will introduce the student to many of the entities that constitute the healthcare workforce. Students will appreciate the complexity of the health care system and the interrelationship of the roles in providing care to patients across the life span and in a variety of socioeconomic environments. This course will build upon the exposure the student has experienced in PAS 400. One semester; two credits

PHAS 403. MEDICAL TERMINOLOGY
This course will introduce the student to the “language of medicine”. Students will gain an appreciation for the prefix, root and suffix of terminology and the application in the medical arts. This course will also focus on the spelling and common abbreviations used in medical settings. This course has similar content to that of Bio213 and will not be offered if available. One semester; one credit
PHYSICS COURSES
Requirements for the degree are found on Page 105.

PHYS 150. PHYSICS I
A beginning course in physics covering the topics of kinematics, dynamics, gravitation, work, energy, momentum, rotational kinematics and dynamics. Prerequisite: MATH 129 or 131. Corequisite: PHYS 150L. Offered in the Fall and Spring. One semester; three credits

PHYS 150L. PHYSICS I LABORATORY
Laboratory to accompany PHYS 150. Corequisite: PHYS 150. Offered in the Fall and Spring. One semester; one credit

PHYS 201. INTRODUCTORY PHYSICS I
A general physics course covering the topics of mechanics, heat, and sound. Designed primarily for biology majors. Prerequisite: High school algebra and trigonometry or MATH 117. Corequisite: PHYS 201L. Offered in the Fall semester. A student can receive credit for only one of PHYS 150 and PHYS 201. One semester; three credits

PHYS 201L. INTRODUCTORY PHYSICS I LABORATORY
Laboratory to accompany PHYS 201. Corequisite: PHYS 201. Offered in the Fall semester. One semester; one credit

PHYS 202. INTRODUCTORY PHYSICS II
A continuation of PHYS 201 covering the topics of electricity and magnetism, light, and modern physics. Prerequisite: PHYS 150 or PHYS 201. Corequisite: PHYS 202L. Offered in the Spring semester. One semester; three credits

PHYS 202L. INTRODUCTORY PHYSICS II LABORATORY
Laboratory to accompany PHYS 202. Corequisite: PHYS 202. Offered in the Spring semester. One semester; one credit

PHYS 251. PHYSICS II
A second course in physics covering electric forces, electric fields, voltage, capacitance, current, resistance, magnetic forces, magnetic fields, induction, oscillations, and waves. Prerequisite PHYS 150. Corequisite: PHYS 251L. Offered in the Fall and Spring. One semester; three credits

PHYS 251L. PHYSICS II LABORATORY
Laboratory to accompany PHYS 251. Corequisite: PHYS 251. Offered in the Fall and Spring. One semester; one credit

PHYS 252. PHYSICS III
A third course in physics covering geometrical optics, interference, diffraction, quantum theory, waves and particles, atomic physics, special relativity, radioactivity, and nuclear physics. Prerequisite: PHYS 251. Offered in the Fall and Spring. One semester; three credits

PHYS 252L. PHYSICS III LABORATORY
Laboratory to accompany PHYS 252. Prerequisite or corequisite: PHYS 252. Offered once per year. One semester; one credit

PHYS 340. ELECTROMAGNETIC FIELDS
An advanced course in classical electric and magnetic fields that expands upon the topics introduced in Physics II. Electrostatics, magnetostatics, Laplace's equation, the methods of images, and electric and magnetic fields in matter will be covered. Electrodynamics including electromotive force, Faraday's law, and Maxwell's equations will finish out the course. Intended for Physics and Engineering Physics majors and minors. Prerequisites: PHYS 251 and MATH 232. One semester; three credits.

PHYS 347. SPECIAL RELATIVITY
A study of the theory of special relativity including the experimental background of special relativity, relativistic kinematics including the Doppler effect, and relativistic dynamics including the equation \( E=mc^2 \). Prerequisite: PHYS 252. Offered once every two years. One semester; two credits

PHYS 353. SOLID STATE PHYSICS
An introductory study of the physics of solids including crystal lattice vibrations and waves, the free electron model, electron energy bands, semiconductor electrical properties, junctions, and optical properties. Prerequisites: PHYS 252 and MATH 232. Offered in every other even numbered Fall semester. One semester; three credits

PHYS 380. ADVANCED MECHANICS I
Primarily an advanced study of the kinetics and dynamics of single particles; Newton's laws; concepts of momentum, work, energy; and conservation principles. Prerequisites: PHYS 251 and MATH 232. Offered in the Fall semester of odd numbered years. One semester; three credits

PHYS 381. ADVANCED MECHANICS II
A continuation of the study of mechanics including accelerated reference frames, Lagrangian and Hamiltonian mechanics, and generalized coordinates. Prerequisite: PHYS 380. One semester; one credit

PHYS 400. INTERNSHIP IN PHYSICS
Students majoring in physics, engineering physics, or natural science receive on-the-job training in the offices or laboratories of cooperating firms. To receive credit, the student must submit periodic reports and a detailed final report of the work done. The authorized supervisor of the firm must verify these reports. Prerequisites: Junior standing and approval of the Physics faculty. Pass/Fail Grading. One semester; one to three credits

PHYS 415. OPTICS
A study of electromagnetic radiation, with emphasis on the visible portion of the spectrum. Topics include optical detectors, superposition of waves,
interference, far-field and near-field diffraction, polarization, waveguides and optical fibers, and laser theory. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of even numbered years. One semester; three credits

PHYS 415L. OPTICS LABORATORY
Laboratory to accompany PHYS 415. Corequisite: PHYS 415. Offered in the Fall semester of even numbered years. One semester; one credit

PHYS 430. THERMAL PHYSICS
The first part of the course focuses on a classical treatment of thermodynamics from the perspective of physics. The second part of the course examines thermodynamics from the modern statistical mechanics viewpoint. Topics include the fundamental laws of thermodynamics, entropy, ideal gasses, the Boltzmann distribution, the partition function and applications to real systems. Prerequisites: PHYS 252 and MATH 232. One semester; three credits

PHYS 447. QUANTUM MECHANICS I
A detailed introduction to quantum mechanics including thermal radiation, deBroglie's postulate, Schrödinger's equation, one-electron atoms, spin and transition rates. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of odd numbered years. One semester; three credits

PHYS 448. QUANTUM MECHANICS II
A continuation of the study of quantum mechanics including statistical mechanics, time-independent and time-dependent perturbation theory, and scattering. Prerequisite: PHYS 447. Offered in the spring semester of even numbered years. One semester; three credits

PHYS 452. ADVANCED PHYSICS LABORATORY
A laboratory course in advanced selected experiments. A written report on each experiment is required. Prerequisite: PHYS 252L. Offered in the Spring semester of odd numbered years. One semester; one credit

PHYS 491. RESEARCH I
An independent investigation in some field of physics. A choice of topic for research is made, and a written description of the proposed research including bibliographical references is required. Prerequisite: Departmental approval or Senior standing. Offered in the Fall semester. One semester; zero credit

PHYS 492. RESEARCH II
The research proposed in PHYS 491 is carried out. A formal written report plus an oral presentation to the class and the departmental faculty is required. Prerequisite: PHYS 491. Offered in the Spring semester. One semester; two credits

PHYS 495. SPECIAL TOPICS IN PHYSICS
Directed work on a special topic in physics approved by the department. One semester; one to three credits

PHYS 499. SENIOR COMPREHENSIONS
Second semester seniors are required to take a comprehensive examination on selected fields of physics as prepared and administered by the department faculty. A passing score is required for graduation. Offered in the Spring semester. One semester; zero credit

POLITICAL SCIENCE COURSES

POLS 112. AMERICAN GOVERNMENT
This course is a survey of the American political system. Topics include the Constitution, federalism, interaction between the three branches of the federal government (legislative, executive, and judicial), political actors outside government (interest groups, media, political parties), state and local government, political culture, civil liberties, civil rights, and public policy. Offered in the Fall and Spring. No prerequisite. One semester; three credits

POLS 113. WORLD POLITICS
This course examines how politics unfold at the global level. Special attention will be paid to global actors and institutions: nations-states, international organizations, non-governmental organizations, and multi-national corporations. Topics include: conflict and cooperation, terrorism, the world economy, the environment, international law, and the interplay of culture, ideology, technology, and geography. No prerequisite. One semester; three credits

POLS 115. NATIONS AND STATES (Comparative Politics) (Formerly POLS 210)
Comparing nation-states from different regions of the world through an examination of their politics, governments, economic systems, and cultures. The course will include discussion of democratic and non-democratic regimes, and different constitutional models. It shall also explore the role of culture, history, ideology, religion, and geography in shaping political systems. No prerequisite. One semester; three credits

POLS 200-205. SPECIAL TOPICS IN POLITICAL SCIENCE
Topics vary with instructor. No prerequisite. One semester; one to three credits

POLS 215. INTRODUCTION TO THE LAW
This course is intended to introduce the student to the American legal system and to various practice areas of the law. Topics discussed include: how (and why) the American legal system is organized, including how the legislative process and executive branch are involved in this system; the focus on the role of ethics, procedure, and jurisdiction in the law; and an introduction to the primary substantive areas of the law that first year law students encounter, including torts, family, estate, property, contracts, business, and criminal law. (Same as PREL 215). No prerequisite. One semester; three credits

POLS 220. SCIENCE FICTION AND POLITICS
The examination of political and social themes in works of science fiction and fantasy. The focus of the course will be the critical reading of texts, both written works and film. Issues discussed include: identity, the Self and the Other, conflict and war, the organization of society, utopia/anti-utopia, and the relationship between technology and culture. No prerequisite. One semester; three credits
POLS 230. SURVEY OF POLITICS ON FILM
A survey of film as a vehicle for the communication of ideas and as an art form. The critical analysis of film as a political text. The way in which political and social issues are depicted in film. Other issues discussed include prejudice and stereotyping in film, propaganda, and film censorship. No Prerequisite. One semester; three credits.

UPPER DIVISION COURSES ARE OPEN TO STUDENTS WHO HAVE SOPHOMORE STANDING AND MEET SPECIFIC COURSE PREREQUISITES, IF ANY.

POLS 330. ADVANCED POLITICS ON FILM
A concentrated critical analysis of the political aspects of film, the politics of film production, and the interpretation of film. This course shall focus on a particular political or social issue, topic, or film genre. Prerequisite: Any Political Science or History course or permission of the instructor Recommended but not required: POLS 230. One semester; three credits.

POLS 340. WEIMAR REPUBLIC AND NAZI GERMANY
This course covers the history of Germany from 1919 to 1945. It will examine the collapse of the Weimar Republic and the rise of Nazi power. It will also cover the life of Adolf Hitler, the Holocaust, and Nazi ideology, policy, and war aims. Prerequisite: Any Political Science or History course or permission of the instructor. (Same as HIST 340) One semester, three credits.

POLS 370. INTERNATIONAL LAW
The history, formation and application of international law. Issues discussed include the sources of international law, the law of treaties, and rules regarding diplomacy, human rights, war/peace, war crimes, nationality, territory, and the global commons. Course readings shall include both secondary sources and legal texts. Prerequisites: Any political science or history course, or GS/HUM 200 or permission of the instructor. Recommended, but not required: POLS 113. One semester; three credits.

POLS 375. UNITED STATES FOREIGN POLICY
(Same as HIST 375). Prerequisite: any political science or history course or Permission of the instructor. Recommended, but not required, one of the following: HIST 152 or POLS 112 or POLS 113. One semester; three credits.

POLS 390-399. HONORS SPECIAL TOPICS
Special topics in political science open to members of the Honors Program or by permission of the instructor and Honors Director. Topics vary with instructor. One semester; three credits.

POLS 401. U.S. CONSTITUTIONAL LAW
An examination of the structure of U.S. government and the limits on governmental power through detailed analysis of the U.S. Constitution and Supreme Court decisions interpreting it. The course will also examine the appropriate scope of judicial review in a democratic society. Prerequisite: POLS 112 or HIST 151 or permission of the department head. One semester; three credits.

POLS 470-479. TOPICS IN POLITICAL SCIENCE
Topics vary with instructor. Prerequisite: Any political science or history course, or permission of instructor. One semester each; one to three credits each.

POL 490-499. INTERNSHIPS
Content varies with specific internship program. Prerequisite: Permission of Political Science Internship Director. One semester each; one to three credits each.

PRE-LAW COURSES

PREL 215 INTRODUCTION TO THE LAW
This course is intended to introduce the student to the American legal system and to various practice areas of the law. Topics discussed include: how (and why) the American legal system is organized, including how the legislative process and executive branch are involved in this system; the focus on the role of ethics, procedure, and jurisdiction in the law; and an introduction to the primary substantive areas of the law that first year law students encounter, including torts, family, estate, property, contracts, business, and criminal law. (Same as POLS 215). No prerequisite. One semester; three credits.

PREL 216. PRE-LAW PRACTICUM
The Pre-Law Practicum will prepare students for the challenges of law students. The emphasis will be on personal statement preparation, LSAT preparation, and the application process. No prerequisite. One semester; one credit.

PSYCHOLOGY COURSES

Requirements for the degree are found on Page 42.

PSYC 105. GENERAL PSYCHOLOGY
An introduction to the discipline of psychology as a science of behavior. Areas of study include biological aspects of psychology, learning, sensation, perception, personality, abnormal behavior, psychological testing and research, social and developmental psychology. Psychology and Applied Psychology majors must complete the course with a grade of “C” or better. One semester; three credits.

PSYC 106. PSYCHOLOGY SEMINAR
An introduction to the psychology major, this course will focus on how to make the most of a psychology degree. Topics will include careers, skill development, resumes, research, graduate school, internships, and options within the major. Students will meet once a week. Each session will be led by a Behavioral Sciences faculty member. Offered in the Spring semester. One semester; zero credit.
PSYC 218. HUMAN DEVELOPMENT
An examination of developmental trends, principles, and processes through the lifespan. This course investigates human development at all stages and ages with attention to biological, social, and cognitive development. Prerequisite: PSYC 105. One semester; three credits

PSYC 219. PERSONALITY
A survey of major personality theories and perspectives in terms of conceptions, applications, and research. Emphasis is placed on the dispositional, biological, motivational, social, and cultural perspectives of personality. Also discussed are personality assessment, stress, and personality disorders and adjustment. Prerequisite: PSYC 105. One semester; three credits

PSYC 223. FOUNDATIONS OF FORENSIC PSYCHOLOGY
An examination of the field of forensic psychology including professional training, forensic work settings, and the application of psychological knowledge to forensic issues like risk assessment, custody evaluations, assessment of sanity, competency, eyewitness testimony, jury decision making, police stress, and criminal profiling. Prerequisite: PSYC 105. One semester; three credits

PSYC 225. BIOLOGICAL PSYCHOLOGY
Views the study of human and animal behavior within the context of biological principles. Areas covered include brain-behavior relationships, sensory processes, and biological bases for emotional behavior, sexual behavior, and psychological disorders. Prerequisite: PSYC 105. One semester; three credits

PSYC 226. PSYCHOLOGY IN THE CINEMA
In this course we look at understanding movies as a psychological process through the use of film technique. We study the influential role of movies in society. Prerequisite: PSYC 105. One semester; three credits

PSYC 227. SPORT PSYCHOLOGY
Examines psychological theories and research related to sport and exercise behavior. The course is designed to introduce students to the field of sport and exercise psychology and to provide an overview of basic research and practical implementations in this applied specialization of psychology. Prerequisite: PSYC 105. One semester; three credits

PSYC 228. PSYCHOLOGY OF MEDIA
This course investigates the media construction of reality by examining media representations of different social constructs. Students examine how reality is created from a cognitive psychological and social-cognitive approach and from different media theories. Prerequisite: PSYC 105. One semester; three credits

PSYC 229. HONORS PSYCHOLOGY OF MEDIA
This course investigates the media construction of reality by examining media representations of different social constructs. Students examine how reality is created from a cognitive psychological and social-cognitive approach and from different media theories. Prerequisite: Membership in the Honors Program or special permission of the instructor. One semester; three credits

PSYC 230. PSYCHOPATHOLOGY
A survey of various types of mental disorders including their causes, symptoms, diagnosis, and treatment. Prerequisite: PSYC 105. One semester; three credits

PSYC 231. HONORS PSYCHOPATHOLOGY
This course will critically examine current and historical views of mental illness. Emphasis will be placed on understanding the social stigma of mental illness and placing mental illness in economic, historical, and socio-political frameworks. Prerequisite: Membership in the Honors Program. One semester; three credits

PSYC 235. FUNDAMENTALS OF APA WRITING STYLE AND ETHICS
Students will learn to write an APA-style research paper. They will write an APA-style research proposal with the potential of completing the research in the Correlational or Experimental Methods course. Students will also learn other research reporting methods including Powerpoint and poster presentations. Students will complete certification in APA ethics. Open to other students by instructor permission only. Prerequisite: PSYC 105. One semester; three credits

PSYC 240. ANIMAL COGNITION
A study of the mental processes of animals with a comparative emphasis on human-animal cognitive processes viewed within an evolutionary context. Topics include language learning and communication, concept formation, problem solving, intelligence, emotion, and construction of artifacts. Similarities in animal-human developmental processes will be examined as well as current research on animal cognition. Prerequisite: PSYC 105. One semester; three credits

PSYC 270. DYNAMICS OF GENDER
This class will critically examine how norms, beliefs, ideologies, language, culture and institutions influence gender behavior, traditional conceptions of masculinity and femininity, and socialization for masculine and feminine roles. (Same as SOC 270) Prerequisite: PSYC 105 or SOC 101. One semester; three credits

PSYC 275. GRADUATE SCHOOL & PROFESSIONAL CAREERS IN PSYCHOLOGY
A survey of various professional careers in psychology and a thorough examination of the graduate school application and admissions process. Careers examined may include but are not limited to clinical/counseling, forensic, consumer, sports, educational, industrial/organizational, and academics. This course is intended primarily for those students who plan to pursue a graduate education in psychology. Prerequisite: PSYC 105 and Sophomore standing. One semester; three credits
PSYC 280-287. SELECTED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. One semester; one to three credits

PSYC 290-299. HONORS SPECIAL TOPICS
Special topics in psychology open to members of the Honors Program or by permission of instructor and Honors Director. One semester; one to four credits

PSYC 301. ENGINEERING PSYCHOLOGY
Engineering psychology, also called human factors, ergonomics or usability engineering, deals with the importance of designing for human use. Equipment that is not ergonomically sound will be operated a little more slowly and be a little more prone to error. Our goal in this class is to provide a solid foundation in the principles of human performance and a broad overview of the field of human factors. This class provides the student with an understanding of the variables that influence human performance and the ways in which the human factors experts draw on this knowledge. The analysis of human performance requires frequent contact with real-world situations in which people actually perform. This course provides an integrated approach to the study of human factors, embedding the principles of human factors within a foundation based on contemporary views of human performance. Topics include the following: perception, cognition, movement, and environment. Prerequisite: PSYC 105. One semester; three credits

PSYC 303. POST TRAUMATIC STRESS DISORDER
The attack on the World Trade Center, Hurricane Katrina, the wars in Iraq and Afghanistan, the BP oil spill, trapped Chilean miners, earthquakes in Haiti, floods in Pakistan, tsunamis in Indonesia, murder and displacement in Darfur, massacre in Tiananmen Square. Survivors of these events experienced extreme trauma. Sometimes the consequences of these traumatic experiences cause the person to have trouble dealing with life for months or years. We call this extreme reaction post traumatic stress disorder (PTSD). Knowledge of PTSD may help an individual become more resilient after experiencing extreme stress. The goal of this course is to familiarize the student with the disorder in order to understand the consequences of severe trauma. Understanding PTSD is necessary not just for mental health providers, but also for the individual who may experience, or knows someone who experiences, severe trauma, and the citizen concerned about the well-being of war veterans. In this course we will examine PTSD in depth; anxiety disorders; history and prevalence of PTSD; specific traumas (including combat and sexual assault); symptoms, biology, consequences, impact and treatment of PTSD. Prerequisite: PSYC 105. One semester; three credits

PSYC 305. PROBLEM SOLVING AND DECISION MAKING
The objective of this course is to improve people’s ability to solve problems and make decisions using psychological material discussed in class. Students will learn to improve their practical problem solving skills by learning to recognize and overcome conceptual blocks to problem solving. Topics to be covered include creativity, methods of problem solving, memory aids, decision-making tools, avoiding biases of judgment, etc. Students will be given assignments revolving around practical problems and decisions (e.g., how to improve time management). Prerequisite: PSYC 105. One semester; three credits

PSYC 310. DEATH AND DYING
A course considering relevant topics relating to death and the dying process from a multi-disciplinary perspective. Course content includes the meaning of death, the dying process in historical context and in contemporary culture, bereavement, grief, and mourning, approaches to terminal care, death and childhood, violent death, suicide, death industries, the right to die, and surviving death. Prerequisite: PSYC 105. (Same as SOC 310) One semester; three credits

PSYC 315. EDUCATIONAL PSYCHOLOGY
This course focuses on the application of psychology to the school setting. It is intended to assist students in mastering an organized sampling of scientific knowledge about human development, learning, motivation, individual differences, and evaluation. Prerequisite: PSYC 105. One semester; three credits

PSYC 320. HONORS SEMINAR DEATH AND DYING
This seminar focuses on critically examining and understanding death, the dying process, grief, the ethics of life/death, and a variety of related issues. It integrates a number of multidisciplinary perspectives and resources, emphasizes the exercise of critical thinking and implements the philosophy of writing as an integral means of learning. Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as SOC 320) One semester; three credits

PSYC 325. TOPICS IN AGING
This course focuses on the following issues in aging: the impact of aging on the individual, the family, and society; the quality of later life; societal attitudes toward old age; problems and potentials of aging; retirement; living environments in later life; societal policies, programs and services for older Americans. The diversity in the aging process due to differences in gender, race, and social class is emphasized. (Same as SOC 325) Prerequisite: PSYC 105 or SOC 101. One semester; three credits

PSYC 340. FUNDAMENTALS OF COUNSELING
This course presents counseling in a broad manner covering its history, theories, processes, issues, specialties, and trends. In addition, this course concentrates on the importance of the personhood of counselors and of the multicultural, ethical, and legal environments in which counselors operate. Prerequisites: PSYC 105. One semester; three credits

PSYC 343. APPLIED CRISIS INTERVENTION STRATEGIES
This course presents the fundamental concepts, theories, strategies, and skills needed to understand and conduct effective crisis intervention. By studying case illustrations, it focuses on applying intervention strategies to several of the currently most prevalent types of crisis in the human experience. In addition, this course considers the importance of the personhood of the worker and crises that may occur in the human service workplace. Prerequisite PSYC 105. One semester; three credits
PSYC 345. HUMAN SEXUALITY
A survey of topics in human sexuality. Topics included are basic reproductive anatomy, hormonal influences on behaviors, attraction, relationships, sexual variations, birth control, and sexually transmitted diseases. Self-assessment surveys on sexual attitudes are discussed in class. (Same as SOC 345) Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 350. INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY (Formerly PSYC 352)
This course examines the contributions of psychology to effective human resources development and management. The course content is designed for Psychology and Business majors and focuses on the practical applications of psychology in the business world. Topics include the psychology of organizations, motivation and supervision, employee selection and development, legal considerations, evaluation, and organizational development. Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 351. ADOLESCENT PSYCHOLOGY (Formerly PSYC 350)
This course is an exploration of theory and research relevant to the physical, psychological, and social transitions associated with early, middle, and late adolescence. Developmental issues examined include the formulation of identity establishing autonomy, moral development, social interaction, and the transformations associated with puberty, as well as the identification and understanding of problems and psychopathology in adolescence. Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 353. SOCIAL PSYCHOLOGY
A study of the social-psychological aspects of human interactions. Areas of study include: affiliation, social perception, attribution processes, interpersonal attraction, aggression, attitude formation, attitude change, conformity, compliance, cooperation, competition, group structure, and group dynamics. (Same as SOC 353) Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 355. CORRELATIONAL RESEARCH METHODS AND STATISTICS
An introduction to the fundamentals of research methods and statistical analysis in the Behavioral Sciences. Students will learn and apply basic research methodology and basic statistical techniques with an emphasis on correlational methods. Students will conduct a correlational research project which will be presented to other students and faculty. Prerequisite: PSYC 235 and ALG 110 and 120 or ALG 115 or higher. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. \textit{One semester; three credits}

PSYC 355. EXPERIMENTAL RESEARCH METHODS AND STATISTICS
An introduction to basic experimental research design and related statistical analyses. Students will be required to design and conduct an experimental research project which will be presented to other students and faculty. Prerequisite: Grade of “C” or better in PSYC 354. Required for all Psychology majors. Open to other students by instructor permission only. \textit{One semester; three credits}

PSYC 364. STEREOTYPING AND PREJUDICE
This course will analyze and discuss issues related to stereotyping and prejudice, including psychological theory and empirical research on the topic. We will examine the origins, functions, and consequences of stereotyping and prejudice as well as measurement strategies. We will examine issues surrounding the persons both engaging in and targeted by stereotyping and prejudice and discuss historical and contemporary social and political issues relevant to the course. Prerequisite: PSYC 105. (Same as SOC 364). \textit{One semester; three credits}

PSYC 365. DEVIANT BEHAVIOR
An exploration of theoretical perspectives on deviance, problems in defining deviance and specific categories of deviance. Deviant behaviors discussed may include but are not limited to prostitution, gambling, transgenderedness, pornography, mental illness, sexualities, and physical disability. (Same as CJ 365 and SOC 365). \textit{One semester; three credits}

PSYC 370. APPLICATIONS OF MEMORY
An examination of the application of memory in such diverse areas as courtroom testimony (e.g., factors influencing witnesses, hypnosis, repressed memory, false memory), memory for everyday events, memory aids, and advertising. The relevant theories and research in each area are examined. Prerequisite: PSYC 105. (Same as CJ 370) \textit{One semester; three credits}

PSYC 380-387. SELECTED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. \textit{One semester; one to three credits}

PSYC 390-399. HONORS SPECIAL TOPICS IN PSYCHOLOGY
Special topics in psychology open to members of the Honors Program or by permission of the Instructor and Honors Director. \textit{One semester; three credits.}

PSYC 416. PSYCHOLOGY OF LEARNING
An in-depth examination of concepts, theoretical issues, and research findings involving the psychology of learning. Areas of study include classical and instrumental conditioning, principles of reinforcement and punishment, and other factors affecting learning. This course has a service-learning component. Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 440. COGNITIVE PSYCHOLOGY
This course is designed to investigate the nature of the thinking mind. Cognitive psychology involves understanding how we gain information of the world, how it is transformed into knowledge, stored in memory, and accessed when needed. Prerequisite: PSYC 105. \textit{One semester; three credits}

PSYC 450, 451. INDEPENDENT RESEARCH IN PSYCHOLOGY
These courses are a two semester sequence intended for advanced (junior status or higher) students who wish additional experience in research design and statistical analysis. In PSYC 450 the student will investigate in depth a specialized topic in psychology resulting in a proposal that will include a literature review, hypotheses and proposed research design. In PSYC 451 the student will further investigate the topic by engaging in empirical research that is then analyzed, interpreted, and presented in a manuscript. These courses are recommended for students intending to continue their education in a graduate program. Prerequisites: PSYC 354, 355 and permission from the chair of Behavioral Sciences. \textit{Two semesters; two credits each}
PSYC 453. PSYCHOLOGY OF PERSUASION
This course examines the scientific and social psychological processes that underlie persuasion. Attitude formation and measurement as well as resistance to persuasion will also be examined. Persuasion as it applies to political campaigns, propaganda, and advertising and consumer behavior will be addressed, along with other relevant topics. Prerequisite: PSYC 105. One semester; three credits.

PSYC 455. CORRECTIONAL COUNSELING
(Same as CJ 455) One semester; three credits

PSYC 460. PRACTICUM IN PSYCHOLOGY
The practicum offered for majors with senior status includes several options. The first is a formal internship consisting of 100 hours of professional in-field experience. It is a well-structured program in which students will be required to meet a number of objectives related to their goals, their developing competence, and their interests in psychology and related fields. A 2.5 GPA is required to pursue this option. The second option involves a research assistantship in which seniors will assist practicing graduate-level and professional-level researchers in conducting their projects. Sound performance in the statistics and research courses is a prerequisite for this option. A third option involves the opportunity to be a learning facilitator mentored by a full-time faculty member. In this capacity, the student provides support services to a faculty member in a specific course. These services include preparation of presentation materials, development of study guides, the convening and leading of study groups, peer editing, and the compilation of course-related research. This option may be particularly valuable to students seeking careers in academic fields. The guidelines and requirements for this option have been developed and are made available to interested students upon request. A final option is an individually-designed project suited to the needs, interests, and academic strengths of the student. The project will be conducted under the direction of a full-time faculty member. Guidelines for the formal proposals are available. Plans for any of these options should be developed and approved by the Practicum Director the semester before the course is taken. Prerequisite: Senior standing. One semester; three credits

PSYC 480-487. ADVANCED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. One semester; one to three credits

PSYC 490. SENIOR CAPSTONE
Readings, evaluation and analysis of selected topics in the discipline. May require a comprehensive individual empirical research project or other final project to be presented to and approved by departmental faculty. Prerequisite: Senior Standing. One semester; three credits

PSYC 497. PSYCHOLOGY COMPREHENSIVES
Seniors will be required to take a comprehensive examination on selected areas of psychology. Students are required to have completed or be currently enrolled in their final psychology courses before taking the exam. This course commences through email and requires monitored email access, so students are responsible for contacting the instructor at the beginning of the semester to confirm enrollment and schedule the exam. Prerequisite: PSYC 105, PSYC 219, PSYC 230, PSYC 353, PSYC 354, PSYC 440. Pass/Fail Grading. One semester; zero credit

PSYC 499. ADVANCED INTERNSHIP
This course is intended for students who have completed the requirements for PSYC 460 at an exemplary level and either (a) wish to pursue further opportunities or directed field research at their original field placement or (b) wish to pursue an additional field placement consistent with the goals of the internship program and the developing interests of the students. Permission of the Practicum Director is required. One semester; three credits

RELIGIOUS STUDIES COURSES
Requirements for the Religion & Philosophy degree are found on Page 43-44.
Students are required to take one course at the 200 level before taking courses at the 300 level or above.

RS 200. UNDERSTANDING RELIGION
An introduction to religion through a comparative study of all aspects of religious experience in Christianity and other religious traditions. This course will address existential and theological questions through a study of scriptures, sacred reality, symbol, ritual, and ethics. One semester; three credits

RS 217. OLD TESTAMENT (HEBREW SCRIPTURES)
Using the Old Testament as a text and a guide, the course explores the origins and early history of the Jewish people to the Maccabean revolt and encompasses concepts such as Covenant, Prophecy, Messiah. One semester; three credits

RS 218. NEW TESTAMENT
A discussion of the Christian scriptures from literary, historical, and theological points of view concentrating on the life and teachings of Christ and the spread of Christianity after His death and resurrection. One semester; three credits

RS 220. CLASSICAL CHRISTIAN THOUGHT
An examination of major themes and issues in Christian history and theology from the time of the early Church through the Reformation. Major theologians such as Augustine, Aquinas, Luther, and Calvin will be studied among others, along with the expression of Christianity through art, architecture, and religious practice. One semester; three credits

RS 221. MODERN CHRISTIAN THOUGHT
An examination of major themes and issues in Christian theology after the Reformation to the early twentieth century. The focus will be on responses within Christian theology to modern science and to the emergence of democracy and capitalism. One semester; three credits

RS 230. CHRISTIAN ETHICS
A critical investigation of the theological convictions grounding Christian understandings of doing what is right and being a good human person. This will include approaches to ethics from within both Catholic and Protestant Christianity, along with analysis of selected moral issues. One semester; three credits
RS 240. THE RELIGIOUS DIMENSION OF WORK (Formerly RS 315)
A study of the relationships between work and religion in western society. Career, studied from several perspectives, will be viewed ultimately as a vocation—a call from God. One semester; three credits

RS 245. HONORS RELIGION AND SCIENCE
This interdisciplinary course focuses on the way religion and science jointly contribute to our knowledge. It is based on the premise that no one source of knowledge, theological or otherwise, can alone provide a complete description of reality. Readings and guest lecturers from other disciplines will cover a wide-ranging dialogue dealing with issues in astronomy, physics, biology, and ecology. A spectrum of possibilities for the relation between religion and science will be considered, including the options of conflict, independence, dialogue, and interaction. Prerequisite: Membership in the Honors Program or permission of the instructor. One semester; three credits

RS 254. CHRISTIANITY AND PEACE
An analysis of historical Christian attitudes toward war and peace. Theological and moral arguments for the pacifist and just war traditions will be analyzed, along with their application to forms of state sanctioned violence such as war and capital punishment and the new challenges to these traditions such as military intervention and terrorism. (Same as HUM 254) One semester; three credits

RS 260. PERSON, WORLD, AND GOD
This course will focus phenomenologically on ways to recognize God’s presence in our everyday lives. How does one person’s religious experience compare/contrast with another’s? Personality types, prayer forms, biblical references, and theological studies will be examined in tandem with lived experiences. One semester; three credits

RS 270. WORLD RELIGIONS
A survey of the great eastern and western religious traditions. The course covers the history, beliefs, practices, symbols, and sacred scriptures of select religions, including indigenous religions, Hinduism, Buddhism, Judaism, Christianity, Islam, and new religious movements. The course will include visits to religious sites in Memphis. One semester; three credits

RS 271. SOCIOLOGY OF RELIGION (formerly RS 371)
The study of the beliefs, practices, and organizational forms of religion using the tools and methods of sociology. Topics covered may include the relation of beliefs to social conditions, the role of religion in cultural formation and public life, religious pluralism and conflict, the nature of religious cults and sects, the influence of religion on racial, gender, and sexuality issues, and the affect modernity has on religious belief and practice. (same as SOC 271). Prerequisite: SOC 101. One semester; three credits

RS 280. CATHOLICISM
An examination of the teachings, structures, and cultural influence of Roman Catholicism with emphasis on the development of the American Catholic community after the influence of Vatican II. One semester; three credits

RS 285. THE CHURCH IN THE WORLD
A study of the theology and organization of various major Christian churches in terms of their relation with the world and each other. Different models of being church will be analyzed, including approaches to authority, worship, and religious pluralism. One semester; three credits

RS 290-294. SELECTED TOPICS IN RELIGION
Selected topics of special interest at an introductory level. Topics vary with instructor. One semester; three credits

RS 295-299. HONORS SPECIAL TOPICS IN RELIGION
Selected topics of special interest in Religious Studies open to members of the Honors Program or by permission of the instructor. One semester; three credits

RS 300. JESUS CHRIST
An investigation into the historical features of Jesus’ ministry and message and His importance in the world today. The course will examine Christian doctrine about Jesus and probe the reasons for His appeal through the centuries. Prerequisite: any RS 200 level course. One semester; three credits

RS 320. RELIGION IN AMERICA
An examination of the various religious communities of the United States, how they were shaped by and helped shape the American culture. Prerequisite: any RS 200 level course. One semester; three credits

RS 324. CHRISTIAN SPIRITUALITY
An examination of key figures and themes in Christian spirituality in terms of their different approaches to living the Christian life. Analysis will be made of each approach to spirituality in relation to Christian beliefs and values, the manner in which the spirituality is expressed in the daily practice of Christian life and the time period in which the spirituality developed. Prerequisite: any RS 200 level course. One semester; three credits

RS 326. SOCIAL AND POLITICAL THEOLOGIES
A critical examination of contemporary social and political theologies, such as liberation theology, black theology, feminist theology and womanist theology. Special attention will be given to the importance of social context in developing such theologies and their ways of drawing from and critiquing traditional Christian theological views. Prerequisite: any RS 200 level course. One semester; three credits

RS 330. JUSTICE AND SOCIETY
A study of issues relating to justice and human rights in contemporary social life (economic, political, cultural), focusing on the contributions of developing social justice teachings of the churches. Prerequisite: any RS 200 level course. One semester; three credits
RS 331. THE SPIRITUALITY AND ETHICS OF EATING
This course examines the role of food and eating in the sacred texts and rituals of Judaism and Christianity in order to explore the thesis that food is not primarily a commodity but a relationship linking people to one another, to God, to the land, plants, and animals. Students additionally examine the contemporary environmental, ethical, and spiritual dimensions of food and the way these are reflected in our eating practices. Students are required to complete a service project for this course. Prerequisite: any RS 200 level course. One semester; three credits

RS 335. PHILOSOPHY OF RELIGION
(Same as PHIL 335) Prerequisite: any RS 200 level course. One semester; three credits

RS 340. AFRICAN AMERICAN THEOLOGY
This course is a survey of black theology in the United States from its roots in Africa and Christian missions through the period of slavery to the present day with special emphasis on contemporary works of Black Liberation Theology. The course will introduce students to the significant development of Christian theology by African Americans. Prerequisite: any RS 200 level course. One semester; three credits

RS 345. GOD, EVIL AND SUFFERING
A consideration of the question of religious faith in the face of evil and seemingly senseless pain and suffering, as well as some of the more carefully-reasoned responses proffered within the history of Christian thought, both traditional and modern. Prerequisite: any RS 200 level course. One semester; three credits

RS 355. JUDAISM
Introduction to the history, religion, literature, and practices of rabbinic Judaism. This course will examine how the foundational heritage of the Hebrew Bible and the Israelite people transformed into the institutions and rituals of modern Jewish experience. Course will also examine issues such as Jewish-Christian dialogue, the Holocaust, and the modern state of Israel. Prerequisite: any RS 200 level course. One semester; three credits

RS 360. ISLAM
An analysis of the Islamic faith, its history, major beliefs, contribution to civilization around the world, and relationship with Judaism and Christianity. Course topics include the five pillars of Islam. Jihad, male/female, relations, worship and celebrations, community life, and contemporary global and geopolitical issues in relation to Islam. Prerequisite: any RS 200 level course. One semester; three credits

RS 372. WOMEN AND CHRISTIANITY
A historical and theological survey of the role of women in Christianity. Beginning from Christian origins, this course examines representations of women as apostles, prophets, martyrs, nuns and beguines, mystics, mothers, and wives. Special attention will be paid to theological discussions of the position of women, as well as contemporary reevaluations. Prerequisite: any RS 200 level course. One semester; three credits

RS 375. THE PROPHETS
The movement that began with the 8th century BCE prophets of Israel marked a clear departure from the social and religious world view prevalent in the ancient Near East. This course will examine the background and literature of the prophetic movement with its agenda for social, religious, and political reforms. It will stress how prophets such as Amos, Jeremiah, and Isaiah were able to have a lasting impact on Western thought and religion through their views of Israel's relationship with neighboring nations, God, and future humanity. Prerequisite: any RS 200 level course. One semester; three credits

RS 377. APOCALYPTIC IMAGINATION
A critical examination of apocalyptic texts and traditions in the ancient and modern worlds, with special attention to the book of Revelation. The course also explores modern appropriations of apocalyptic literature in theology, art, and film, and will give attention to more recent movements with apocalyptic overtones. Prerequisite: any RS 200 level course. One semester; three credits

RS 380. PAUL: HIS LIFE AND HIS LETTERS
An historical and theological examination of the Apostle Paul and the Pauline letters, especially as they reflect the concerns of developing Christianity, including such issues as apocalypticism and the relation of Christian communities to the Jewish faith and the Roman Empire. Prerequisite: any RS 200 level course. One semester; three credits

RS 385. THE GOSPELS
A study of the four Gospels using contemporary techniques of biblical interpretation with particular emphasis on the developing Jewish tradition in the early Christian Community. Prerequisite: any RS 200 level course. One semester; three credits

RS 390-394. SPECIAL TOPICS IN RELIGIOUS STUDIES
Selected topics of special interest at an advanced level. Topics vary with instructor. Prerequisite: any RS 200 level course. One semester; three credits

RS 395-399. HONORS SPECIAL TOPICS IN RELIGIOUS STUDIES
Special topics in religious studies open to members of the Honors Program or by permission of the instructor. Prerequisite: any RS 200 level course. One semester; three credits

RS 400. CATHOLIC THOUGHT AND CULTURE THROUGH THE AGES
An interdisciplinary exploration of the wisdom of the Catholic tradition expressed through works of intellect and imagination, from the beginning of the Church up to contemporary times. Classics in literature, art, theology, philosophy, music, the sciences, and/or architecture are discussed. Emphasis is placed on recognizing the integrity of the grounding Catholic vision and on tracing the unified development and expansion of that vision over time. (Note: meets with MACS 600). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits
RS 402. CONTEMPORARY RELIGIOUS THought
A serious study of one or more selected theologians and religious thinkers from the twentieth century. Prerequisite: any RS 200 level course. One semester; three credits

RS 405. HONORS CONTEMPORARY RELIGIOUS THOUGHT
This course is designed to study 20th century theologians and their theologies concerning scripture, tradition, and human experience. Prerequisite: any RS 200 level course and membership in the Honors Program. One semester; three credits

RS 410. CATHOLIC BIBLICAL STUDIES
What is a Catholic approach to the study of the Bible? The course will begin with the Church's teaching on biblical interpretation as contained in such documents as Divino Afflante Spiritu, Dei Verbum, and “The Interpretation of the Bible in the Church.” Selected texts from the Old and New Testaments will then be studied using the Catholic Church's approach to biblical interpretation in contrast to fundamentalism. (Note: meets with MACS 610). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 420. CATHOLIC SPIRITUALITY
An exploration of the relationship between religious experience and theological reflection as seen in the works of outstanding spiritual writers of the Catholic tradition, including St. Benedict, St. Francis and St. Clare, St. John Baptist de La Salle. This will include attention to prayer, forms of spirituality, and asceticism. (Note: meets with MACS 620). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 430. GOD AND HUMAN PERSON
An investigation of the Catholic doctrine of the human person in relation to God, including topics such as creation and fall, sin and grace, justification and sanctification, and eschatological fulfillment. (Note: meets with MACS 630). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 440. CHRISTOLOGY
Understanding the person, presence and mission of Christ in Scripture, doctrine and dogma and in contemporary theology. (Note: meets with MACS 640). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 450. THEOLOGY OF SACRAMENTS AND WORSHIP
An examination of the historical development of sacramental life in the Church and theological reflection on the sacraments. This will include contemporary approaches to the theology of sacraments, especially in relation to Christology and ecclesiology. (Note: meets with MACS 650). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 460. MORAL THEOLOGY
A study of the foundations of the Christian moral life, including freedom and moral agency, moral norms and moral reasoning, the place of scripture, tradition, and authority in the moral life, virtues and development of moral character. (Note: meets with MACS 660). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 470. CATHOLIC SOCIAL ETHICS
Critical analysis of the Biblical and theological foundations for Catholic social teaching and the teachings of the Catholic Church on matters such as war and peace; the rights and duties of states and citizens; the rights, duties, and obligations of members of a family; the rights, duties, and obligations of parents with respect to their children. (Note: meets with MACS 670). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 480. CATHOLICISM AND OTHER FAITH TRADITIONS
Drawing upon the teachings of Vatican II and other ecclesial documents, this course will explore the relationship between Catholicism and other faith traditions, both Christian and non-Christian. (Note: meets with MACS 680). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 485. INTERNSHIP
Combines work in a professional field with academic consideration of the relationship of that work to Religious Studies. Prerequisite: Permission of the Religious Studies Internship Director. One semester; one to three credits

RS 490. ECCLESIOLOGY AND MINISTRY
A consideration of the nature and structure of the Catholic Church, including its apostolic origins, the Church as communion and sacrament, magisterium and authority, the relation of the local and universal Church, evangelization, ministry and mission. Students will reflect upon their ministry plans/work in relation to the Church’s mission. (Note: meets with MACS 690). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 491-496. SPECIAL TOPICS IN RELIGION
Selected topics of interest to individual students or small groups. Prerequisite: Approval of instructor. One semester; one to three credits

RS 497. SENIOR SEMINAR (formerly RS 499)
This seminar, for Religion & Philosophy majors in their Senior year, introduces students to philosophical, theological, and scriptural research methods to prepare students for satisfactory completion of their Senior Projects (PHIL/RS 498). During this semester long seminar, each student will develop a research program for their senior thesis, with the semester culminating in a presentation of each student’s project proposal and outline. Offered in the Fall semester. One semester; one credit
RS 498. SENIOR PROJECT
The senior project is a capstone independent study requirement for Senior Religion & Philosophy majors. Under the supervision of a senior project faculty advisor, each student will assemble a committee of three departmental faculty members to evaluate a research paper related to the student's previous studies in religion and/or philosophy. The final project will also be presented to the faculty of the Religion & Philosophy Department. Prerequisite: either PHIL 497 or RS 497. Offered in the Spring semester. One semester; two credits

RUSSIAN COURSES
The following foreign language courses will be offered on the campus of Rhodes College under the instruction of Rhodes faculty. See Dean of the School of Arts concerning these courses.

RUSS 101-102. ELEMENTARY RUSSIAN
Elementary grammar, reading, and conversation, supplemented by materials on Russian culture. Offered in sequence in Fall and Spring. Two semesters; eight credits

RUSS 201-202. INTERMEDIATE RUSSIAN
Intermediate grammar and continued training in conversation and composition, supplemented by assignments in the Language Center. Reading of Russian texts of graded difficulty. Prerequisite: Russian 102 or the equivalent. Offered in sequence in Fall and Spring. Two semesters; eight credits

RUSS 209/309. RUSSIAN IN RUSSIA
A 3-4 week guided encounter with the language and culture aimed at solidifying vocabulary and grammar previously acquired. A significant cultural component is part of the course. Takes place in May-June. Offered in Summer. One semester; four credits

RUSS 301-302. ADVANCED RUSSIAN
Advanced grammar, with greater emphasis on the refinement of conversation and composition skills. Discussion of topics related to contemporary life in Russia. Prerequisite: Russian 202 or equivalent. Offered in sequence in Fall and Spring. Two semesters; eight credits

RUSS 306. PHONETICS
Practice in Russian sounds, especially those that tend to be problematic for a non-native speaker. Emphasis on specific phonetic phenomena, such as palatalization and assimilation of consonants, and reduction of unstressed vowels. Examination of word stress, sentence-level stress, and intonation patterns. Corequisite: Course should be taken as early as possible in the study of Russian, but must be taken as a co-requisite with Russian 301. Offered in Fall. One semester; one credit

SOCIOLOGY COURSES
SOC 101. INTRODUCTION TO SOCIOLOGY
An introduction to the sociological perspective. Sociology seeks to explain the origin and functioning of social behavior as it appears in such areas as the family, religion, economic structures, political structures, schools, deviant behavior, cultural norms, and other areas of human social interaction. As part of the process, students will be introduced to basic sociological terms, concepts, and theories. One semester; three credits

SOC 160. CULTURAL ANTHROPOLOGY (Formerly ANTH 150 and SOC 150)
(Same as ANTH 160) One semester; three credits

SOC 202. CONTEMPORARY SOCIAL PROBLEMS
The course focuses on a "systems approach" to social reality and provides students with the opportunity to comprehend, analyze, and evaluate social conditions, problems, and alternative solutions. Seeks to explore the critical assumptions that inform clashing views on controversial social issues. Students develop and practice skills of social policy analysis. Prerequisite: SOC 101 and Junior standing. One semester; three credits

SOC 270. DYNAMICS OF GENDER
(Same as PSYC 270) Prerequisite: PSYC 105 or SOC 101. One semester; three credits

SOC 271. SOCIOLOGY OF RELIGION (formerly SOC 371)
The study of the beliefs, practices, and organizational forms of religion using the tools and methods of sociology. Topics covered may include the relation of beliefs to social conditions, the role of religion in cultural formation and public life, religious pluralism and conflict, the nature of religious cults and sects, the influence of religion on racial, gender, and sexuality issues, and the affect modernity has on religious belief and practice. (same as RS 271). Prerequisite: SOC 101. One semester; three credits

SOC 280-287. SELECTED TOPICS IN SOCIOLOGY
Directed research on a special topic or project in sociology. One semester; one to three credits

SOC 290-299. HONORS SPECIAL TOPICS
Special topics in behavioral sciences open to members of the Honors Program or by permission of the instructor. One semester; one to four credits

SOC 301. MEDICAL ANTHROPOLOGY (Formerly ANTH 305 and SOC 305)
(Same as ANTH 301) One semester; three credits

SOC 310. DEATH AND DYING
(Same as PSYC 310) One semester; three credits

SOC 320. HONORS SEMINAR: DEATH AND DYING
(Same as PSYC 320) Prerequisite: Membership in Honors Program or special permission of instructor. One semester; three credits
SOC 325. TOPICS IN AGING
(Same as PSYC 325) Prerequisite: PSYC 105 or SOC 101. One semester; three credits

SOC 345. HUMAN SEXUALITY
(Same as PSYC 345) Prerequisite: PSYC 105 or SOC 101. One semester; three credits

SOC 350. GLOBAL HEALTH
The course will introduce students to the main concepts of the public health field and the critical links between public health and social and economic development. Students will get an overview of the determinants of health, how health status is measured, and the influences of various factors, including social, economic, and political issues on the health of individuals and of communities. It will also introduce students to key concerns regarding nutrition, reproductive health, infectious diseases, and chronic diseases. Material will include key concepts, be practical in orientation, and global in coverage, but with an important focus on the developing world and on the health of the poor. (Same as ANTH 350). One semester; three credits

SOC 351. SOCIOLOGY OF THE FAMILY
A survey of changes in family systems over the years. Areas of study include courtship, love, mate selection, parenthood, and family problems. The course also examines cross-cultural comparisons and considers alternatives to traditional family forms. Emphasis is placed on the use of the empirical evidence to evaluate popular beliefs. Same as ANTH 351. One semester; three credits

SOC 353. SOCIAL PSYCHOLOGY
(Same as PSYC 353) Prerequisite: PSYC 105. One semester; three credits

SOC 362. SOCIOLOGY OF ADDICTION
A social scientific approach to the nature, role, and effects of chemical and psychological addiction in society. Explores a variety of addiction issues as they relate to the social institutions of family, education, politics, and medicine. Prerequisite: SOC 101. (Same as CJ 362) One semester; three credits

SOC 364. STEREOTYPING AND PREJUDICE
This course will analyze and discuss issues related to stereotyping and prejudice, including psychological theory and empirical research on the topic. We will examine the origins, functions, and consequences of stereotyping and prejudice as well as measurement strategies. We will examine issues surrounding the persons both engaging in and targeted by stereotyping and prejudice and discuss historical and contemporary social and political issues relevant to the course. Prerequisite: PSYC 105. (Same as PSYC 364). One semester; three credits

SOC 365. DEVIAN'T BEHAVIOR
An exploration of theoretical perspectives on deviance, problems in defining deviance and specific categories of deviance. Deviant behaviors discussed may include but are not limited to prostitution, gambling, transgenderedness, pornography, mental illness, sexualities, and physical disability. (Same as PSYC 365) One semester; three credits

SOC 380-387. SELECTED TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology. One semester; one to three credits

SOC 390-396. HONORS SPECIAL TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology open to members of the Honors Program or by permission of the instructor. One semester; one to three credits

SOC 450, 451. INDEPENDENT RESEARCH IN SOCIOLOGY
These courses are intended for advanced (junior status or higher) students who wish additional experience in research. In SOC 450 the student will investigate in depth a specialized topic in sociology or a related discipline (e.g., anthropology, criminal justice). In SOC 451 the student will further investigate the topic by engaging in empirical research that is then analyzed, interpreted, and presented in a manuscript. These courses are recommended for students who may intend to continue their education in a graduate program. Prerequisites: Permission of instructor and the Chair of Behavioral Sciences. One to two semesters; one to three credits each

SOC 480-487. ADVANCED TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology. One semester; one to three credits.

SPANISH COURSES
SPAN 101. ELEMENTARY SPANISH I
Fundamentals of grammar and syntax. Intensive drills in understanding, speaking and reading. Fluency of oral-aural skills is the main objective. Not open for credit to native speakers of Spanish. Offered in sequence in the Fall and Spring. One semester; three credits

SPAN 102. ELEMENTARY SPANISH II
Fundamentals of grammar and syntax. Intensive drills in understanding, speaking and reading. Fluency of oral-aural skills is the main objective. Not open for credit to native speakers of Spanish. Offered in sequence in the Fall and Spring. Prerequisite: SPAN 101. One semester; three credits

SPAN 201. INTERMEDIATE SPANISH I
Continued attention to essentials of grammar and composition. Readings in the short story and cultural texts. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 101, 102. Offered in sequence in the Fall and Spring. One semester; three credits

SPAN 202. INTERMEDIATE SPANISH II
Continued attention to essentials of grammar and composition. Readings in the short story and cultural texts. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 101, 102. Offered in sequence in the Fall and Spring. One semester; three credits
SPAN 301. COMPOSITION AND CONVERSATION I
Continued study of Spanish grammar and composition. Drill on difficult constructions and theme writing. Reports and discussions on selected aspects of Hispanic civilization. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 201, 202 or the equivalent. Offered in sequence in the Fall and Spring. One semester; three credits

SPAN 302. COMPOSITION AND CONVERSATION II
Continued study of Spanish grammar and composition. Drill on difficult constructions and theme writing. Reports and discussions on selected aspects of Hispanic civilization. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 201, 202 or the equivalent. Offered in sequence in the Fall and Spring. One semester; three credits

SPAN 313, 314. SPANISH LITERATURE AND CIVILIZATION
The study of the cultures of Spain and Latin America as reflected in their history, literature, and art from their origins to the present. Prerequisite: Two years of college Spanish or equivalent. Offered in sequence in the Fall and Spring. Two semesters; six credits

SPAN 316. BUSINESS SPANISH
An introduction to business and technology in the Spanish-speaking world from a personal, everyday life perspective. Study includes banking, telecommunications, computers, the Internet, corporate organization, interviewing, resume writing, and business correspondence. Prerequisite: Two years of college Spanish or the equivalent. Offered in the Spring semester. One semester; three credits

SPAN 380-389. SPECIAL TOPICS IN SPANISH.
Topics of special interest related to Spanish literature, language, or culture. Prerequisite: Spanish 302 or 314 and permission of instructor. Offered in Fall or Spring. One semester; one to three credits

SPAN 400-410. RESEARCH TOPICS IN SPANISH
Original writing projects or independent study and research in literature, pursued under the guidance of a member of the Spanish faculty. Syllabus and credit hours contracted by the student with the Spanish professor. One semester each; one to three credits

SPAN 480-489. SPECIAL TOPICS IN SPANISH.
Topics of special interest related to advanced study of Spanish literature, language, or culture. Prerequisite: Spanish 302 or 314 and permission of instructor. Offered in Fall or Spring. One semester; one to three credits

SPEECH COURSE
SPCH 125. SPEECH COMMUNICATION
A study of the principles of public speaking. Emphasis placed on differences between spoken and written language, organization, persuasive argument, and delivery skills. One semester; three credits

SPORT MANAGEMENT COURSES
Requirements for the concentration are found on Page 68.

SMGT 300. SPORT FACILITY AND EVENT MANAGEMENT
Designed as an in depth study of the managerial activities related to sport facilities and even operations. This course will focus on facility design, planning, personnel, marketing facilities and events, developing revenue streams, scheduling, and operating. An emphasis is placed on utilizing available resources to achieve organizational goals. Offered in the Fall semester. Prerequisites: MIS 153 and Junior standing. One semester; three credits

SMGT 301. SPORT SPONSORSHIP AND SALES
Designed as an exploration of strategies and tactics utilized to sell and generate revenue in the business cycle. This course will focus on sales proposal development, sponsor solicitations, licensing rights, new business development, endorsements and corporate partnerships. The course also provides an examination of ticket sales department structure, techniques, and strategies. Offer in the Spring semester. Prerequisites: MIS 153 and Junior standing. One semester; three credits

SMGT 410. MANAGEMENT OF SPORTS INDUSTRIES
Focuses on management concepts and business skills as they relate to the sports industry. An in-depth look at the organizational structure and method of operation of major sectors of the sports enterprise, examination of important contemporary issues in the sports industry and other administrative aspects of sports enterprises. Prerequisite: permission of the Dean of the School of Business. Offered in the Spring Semester. One semester; three credits

SMGT 420. MARKETING AND PUBLIC RELATIONS IN SPORTS
This course introduces students to marketing and public relations skills crucial to success in every sports business and examines the unique features of sports marketing that set sports apart from other industries. Prerequisite: permission of the Dean of the School of Business. Includes marketing sport as a product and marketing non-sport products using sport as a promotional tool. Offered in the Fall Semester. One semester; three credits

SMGT 430. SPORTS INDUSTRIES AND THE LAW
Focuses on an analysis of legal problems and issues confronting the sports manager including suits against the organization, safety, collective bargaining and arbitration. Includes contract law, tort law, labor law, and administrative law as they apply to the sports industry. Prerequisite: permission of the Dean of the School of Business. Offered in the Fall Semester, beginning 2009-2010.

SMGT 440. FINANCIAL MANAGEMENT FOR SPORTS ADMINISTRATION
An examination of financial methods and procedures as they apply to sports administration, taxation, purchasing cost analysis, budgeting, and the
financial problems associated with mass media. Topics covered include accounting principles, financial statements, industry ratios, securing funds and related concepts that help determine the viability and strength of businesses in the sports industry. Prerequisite: permission of the Dean of the School of Business. Offered as needed.

SMGT 455. PRACTICUM AND PROJECT IN SPORTS MANAGEMENT
This course is designed to explore and put to practical use the entire body of knowledge gained in previous SMGT courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student’s ability to apply classroom principles and skills to specific problems in the sports industry. Prerequisite: SMGT 410 and SMGT 420. Offered as needed.

■ STATISTICS COURSES
STAT 221. ELEMENTARY BUSINESS STATISTICS (formerly BUS 221)
A basic course in general statistical methods with applications in the field of business and economics. Content includes analysis of data in terms of measures of central tendency or averages, measures of dispersion and skewness, probability theory, and basic aspects of tests of hypotheses. Prerequisite: MATH 105, 117, or 131 and MIS 153. Offered in both Fall and Spring semesters. One semester; three credits

STAT 221L. ELEMENTARY BUSINESS STATISTICS LABORATORY
Laboratory experience to illustrate and explain the principles covered in STAT 221. Corequisite: STAT 222. One semester; zero credits

STAT 222. INTERMEDIATE BUSINESS STATISTICS (formerly BUS 222)
A further study in statistical methods and its application in the field of business and economics. The course content consists of additional analysis on testing hypotheses; basic quality control evaluation; time series analysis including trend, seasonal and cyclical computations; index numbers, linear regression and correlation with an introductory approach to non-linear, multiple, partial and rank correlation. Prerequisite: MATH 105, 106, 117, or 131, MIS 153, STAT 221 and STAT 221L. Corequisite: STAT 222L. Offered in both Fall and Spring semesters. One semester; three credits

STAT 222L. INTERMEDIATE BUSINESS STATISTICS LABORATORY
Laboratory experience to illustrate and explain the principles covered in STAT 222. Corequisite: STAT 222. One semester; zero credits

■ THEATRE COURSES
THEA 107-108; 207-208; 307-308; 407-408. THEATRE PRODUCTION WORKSHOP I
A set of practical courses which provide instruction and lab in five areas of theatre production: Costumes/Make-up; Acting/Directing; Scenery/Props; Light/Sound; and Publicity/Management. A minimum of 45 lab hours plus a written summary of the student’s experience is required. Offered in the Fall and Spring. Eight semesters; one credit each

THEA 115. INTRODUCTION TO THE THEATRE
A brief but comprehensive study of the theatre, designed to arouse a wide range of interests—critical, historical, artistic—needed for a well-rounded appreciation of the whole. Includes attendance at plays for evaluation. One semester; three credits

THEA 127-128; 227-228; 327-328; 427-428. THEATRE PRODUCTION WORKSHOP II
A set of practical courses which provide instruction and lab in five areas of theatre production: Costumes/Make-up; Acting/Directing; Scenery/Props; Light/Sound; and Publicity/Management. A minimum of 90 lab hours plus a written summary of the student’s experience is required. Offered in the Fall and Spring. Eight semesters; two credits each

THEA 221. ACTING
Introduction to the craft of acting with focus on elementary techniques and principles. Designed to meet the needs of those directly concerned with theatre production but valuable also for students seeking to make better use of imagination and poise in social and professional situations. Taught primarily through improvisation with exercises in relaxation and techniques of body and voice flexibility and control. Offered in the Fall semester. One semester; three credits

THEA 231-239. SPECIAL TOPICS IN THEATRE
Topics in the areas of speech or theatre, based on special interest of students or special expertise of faculty. No prerequisite. One semester; one to three credits

THEA 315. HISTORY OF THE THEATRE
An in-depth study of the theatre including samples of dramatic literature from ancient Greece to the present. (Same as ENG 315) One semester; three credits

THEA 317. FIELD STUDY IN LIVE THEATRE
A study of live theatre. The plays covered will be seen during the semester at local Memphis theatres. Emphasis will be placed on contact with the professional theatre as well as opportunities to analyze and discuss the productions seen. One semester; three credits

THEA 377. ORAL INTERPRETATION OF LITERATURE
The development of responsiveness to prose, poetry, and drama and the ability to communicate the logical, emotional, and aesthetic elements to others. Students certifying in elementary education will study children’s literature in the content of this course. One semester; three credits
THEA 401-402. INDEPENDENT STUDY IN THEATRE
An individual study project that will have as its end result the presentation of a well researched thesis or an approved project in Fine Arts. Syllabus and credit hours contracted by the student with the Chair of the Visual & Performing Arts program. Offered in the Fall and Spring. One semester each; one to three credits

THEA 421-426. SPECIAL TOPICS IN THEATRE
Topics in the areas of speech or theatre, based on special interest of students or special expertise of faculty. One semester each; one to three credits each

THEA 475. SENIOR RECITAL
Rehearsal of monologues or concert theatre piece culminating in performance before an audience. Program will be evaluated and approved by instructor prior to public performance. Written work includes script analysis, character profiles, and detailed written critiques of videotapes of performances. One semester; three credits
GRADUATE PROGRAMS & POLICIES
GRADUATE PROGRAMS

SCHOOL OF ARTS
Master of Education
Master of Arts in Catholic Studies
Master of Arts in Teaching
Master of Science in Educational Leadership

SCHOOL OF BUSINESS
Master of Business Administration

SCHOOL OF ENGINEERING
Master of Engineering Management
Master of Science in Engineering Management

GRADUATE ADMISSIONS POLICIES - DEGREE SEEKING STATUS

A bachelor's degree or its equivalent from an accredited American college or university or from a foreign institution of acceptable standing is required for admission. Each applicant is admitted on the presumption that a bachelor's degree or its equivalent will be earned by the time of graduate matriculation, or the student's admission is void.

Applicants for admission to a master's degree program at Christian Brothers University should demonstrate a high promise of success and should submit:

1. One official transcript of previous academic credits from each of the colleges or universities previously attended (official transcripts submitted that are not in English will require an official translation);
2. Two letters of recommendation from former teachers or immediate supervisors qualified to attest to the applicant's preparation for and ability to do graduate study; or, in the case of a licensure candidate, those who can attest to the individual's capability to become a teacher;
3. A completed Graduate School Application Form with application fee;
4. (Foreign Applicants Only) Proof of English proficiency if English is not their native language or was not the language of instruction for their baccalaureate degree. Proof of English proficiency may be shown by means of the TOEFL exams, IELTS, CAE or CPE. Minimum TOEFL scores are 500 for the paper version, 173 for the computer-based test, 61 for the internet-based tests, IELTS (score 5), CAE (grade C) or CPE (grade C).
5. • MBA - Official test score report from GMAT or GRE. Documentation of previously earned graduate degree or professional certification may be accepted as a waiver of this requirement at the discretion of the MBA Director.
   • MAT and Post-Baccalaureate Teacher Education Program - Acceptable score on the Praxis I, Graduate Record Examination (GRE), or Miller Analogies Test (MAT). Exemption granted for CBU 5th Year Program students with an acceptable ACT or SAT score or who hold a transitional or interim license but have passed all Praxis II tests required for licensure and have attained an acceptable GPA in their professional education coursework.
   • MED - Acceptable score on the Graduate Record Examination (GRE) or Miller Analogies Test. Exemption granted for those who hold an Apprentice or Professional teaching license and have attained an acceptable G.P.A. in their professional education coursework or hold a transitional or interim license but have passed all Praxis II tests required for licensure and have attained an acceptable G.P.A. in their professional education coursework.
   • MSEL and Fast Track Educational Leadership Program – Admissions testing not required for those who hold an Apprentice or Professional License and have at least three years of teaching experience. The Fast Track requires individuals to already possess a master's degree.
   • MEM and MSEM – Official test score from GRE
   • PA - Competition for entry into Physician Assistant Programs is very intense. Applicants must meet the general requirements for entry into a Graduate Program at Christian Brothers University as well as the standards for admission to the Master of Physician Assistants Studies Program. The admissions committee of the PA program bases all decisions upon the prospective student's overall and science grade point averages (GPAs), the personal interview, personal and professional references, GRE score, knowledge of the profession, the applicant's written personal statements, and prior health care experience or exposure. Prerequisite recent academic coursework for consideration of application includes:
   • Anatomy
   • Physiology
   • General Chemistry with lab (two semesters)
   • General Biology with lab (two semesters)
   • Biochemistry
   • Microbiology with lab
   • General Psychology
   • English (six semester hour or equivalent)
   • Coursework should be inclusive of intensive writing such as in English Composition
   • Mathematics (College Algebra or higher)
   • Medical Terminology
   • Academic exposure to the following courses will enhance the potential success of a candidate for entry into the program:
     • Statistics or biostatistics
     • Advanced or abnormal psychology
     • Cell biology or histology
• Embryology
• Epidemiology or pathogenic bacteriology
• Human sexuality
• Physics
• Technical writing
• Advanced chemistry and quantitative analysis
• Christian Brothers University has developed a pathway wherein matriculated undergraduate students wishing to pursue a career as a Physician Assistant may be considered for admission to the program after completion of their third year of undergraduate studies. To be eligible to apply, certain courses must be completed as documented in the MSPAS Pathway for CBU Natural Science Majors. Individuals within this pathway are awarded a Baccalaureate Degree in Natural Sciences following the Spring Semester of the first year of the program. Students accepted through this pathway will have successfully completed the following courses prior to entry into the program:
  • PAS 400 Introductory Clerkship I
  • PAS 401 Introductory Clerkship II
  • PAS 402 Introduction to the Health Professions
  • PAS 403 Medical Terminology (Bio 213 may be substituted if offered in Fall Semester.)
• Applicants should be aware that completion of all prerequisites does not guarantee an interview for or acceptance into the CBU PA Program. The PA Program does not provide advanced standing or transfer of academic credit from other Physician Assistant programs. The program has received provisional accreditation from ARC-PA, the national accrediting agency for Physician Assistant education.

6. And any other requirements set by a specific graduate program;

GRADUATE ADMISSIONS POLICIES - NON-DEGREE SEEKING STATUS
Applicants for admission for non-degree status are required to submit a completed Graduate School Application Form and one official transcript of all previous academic credits from each of the colleges and universities attended. Permission of the graduate director over the course area is required before the special graduate status will be granted. Because students admitted to this status are not officially admitted to a degree program, they are not eligible for federal financial aid. Students wishing to become degree seeking must reapply through the appropriate admission office and meet all the admission requirement for a regular, degree-seeking student. Requirements and regulations prevailing for the semester of formal admission to a graduate program will govern the student's program.

Students unable to submit an official transcript from each previous college or university attended have the first semester to submit the required documents if they submit the minimum requirements which follow:
1. Graduate Student Application
2. One official transcript providing evidence of a bachelor degree awarded from a regionally accredited college or university in the United States or have acceptable proof of an equivalent degree from a foreign institution
3. Any other materials required by the graduate department
   Students in this status must complete the admission process within the first semester by providing all official transcripts from every university attended along with any additional credentials specified by the graduate program director. If all the transcripts and specified credentials are not received by the end of the first semester, the student will not be allowed to continue.

Falsification of admission records by the student is grounds for immediate dismissal.

Each applicant will be notified officially of the results of their application by a letter from a Graduate Program Director. Official acceptance to the Graduate Program in a specific academic year is granted only by a Graduate Program Director.

GRADUATE ACADEMIC POLICIES

BASIC REQUIREMENTS
In addition to the following general graduate programs requirements, individual programs may have additional standards in their Graduate Program Publications.

Students are expected to know their program requirements. It is ultimately the student’s responsibility to follow the guidelines established in the catalog and brochures concerning the completion of their degree.

Once a student graduates from a master’s program and the graduation GPA is locked in, a grade change cannot be made.
Courses from one master’s earned at Christian Brothers University cannot satisfy the requirements for another master’s at Christian Brothers University unless the course requirements or courses overlap.

Graduating students only have three business days after the official graduation date to remove an incomplete grade. If this is not done, the student’s graduation date is postponed, and the student must refile for graduation. If a student fails to do this, his/her graduation date will be delayed. It will be the graduation date after the form is completed and all course work is completed.

CREDIT HOURS FOR GRADUATION
A minimum of 30 semester hours at or above the 600 level is required for a master’s degree. Students may earn up to six of these credit hours by completing a thesis.

TIME LIMITS FOR DEGREE ELIGIBILITY
A student normally completes all requirements for the master’s degree within three years of initial enrollment. The degree must be completed within five years of initial enrollment.

ADVISOR
Each graduate student will be assigned an academic advisor to coordinate the student’s studies toward the completion of the degree. The advisor is usually the Director of the program. The Director may, however, assign students to other faculty members.
COMPREHENSIVE EXAMINATION
A written and/or oral comprehensive examination may be required by individual degree programs.

CLASSIFICATION OF STUDENTS
An applicant may seek admission to a degree program or to the status as a special student. Degree students are those working for a master’s degree at Christian Brothers University. An applicant for special status may be admitted as a conditional student or as a visiting student.

Degree Student: A degree student is one who has been admitted to a graduate program.

Full-Time Student: One who registers for nine or more credit hours of course work in any semester.

Part-Time Student: One who does not qualify as a full-time student.

Special Student: A special student is one who is admitted conditionally or is a visiting student and is not eligible for financial assistance. No more than 15 hours may be accumulated as a Special Student. Credit earned under the special graduate status - but none that has been earned at another institution (transfer credit) - will be officially recorded. This credit may be applied toward degree requirements if a student later is admitted to a degree program and if the credit is appropriate to the degree objective. However, admission as a special graduate student in no way assures subsequent admission to a degree program.

Visiting: One who is normally a degree student at another college or university who enrolls for credit in selected courses at Christian Brothers University. A letter from the visitor’s college or university certifying official that the student is in good standing is required along with an official copy of a transcript. A visiting student is not eligible for financial assistance.

STUDENT RESPONSIBILITY
It is the student who is ultimately responsible for knowing and following the courses and graduation requirements published in this catalog. The student is also responsible for becoming familiar with the academic policies, curriculum requirements and associated deadlines as outlined in the catalog, whether it is in hard copy or posted to the University Web site. Although the academic advisor is there to aid the student with matters related to their program of study, it is ultimately the student’s responsibility for meeting all stated requirements for the degree and the policies associated with the degree. The student is also responsible for any changes that might occur that are posted in the CBU Connection, sent through the official CBU email address, or posted to the University Web site, as these are the primary forms of communication with all students.

COURSE NUMBERING
No credit for courses below the 600 level is allowed towards a graduate degree.

GRADUATE GRADERS
Listed below are the graduate grades and corresponding number of quality points per credit hour.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>QUALITY POINTS</th>
<th>MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>Excellent</td>
</tr>
<tr>
<td>B+</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>Good</td>
</tr>
<tr>
<td>C+</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>Pass</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>Failure</td>
</tr>
<tr>
<td>FA</td>
<td>0.0</td>
<td>Failure - Excessive Absences</td>
</tr>
<tr>
<td>FN</td>
<td>0.0</td>
<td>Failure - Never Attended</td>
</tr>
<tr>
<td>I</td>
<td>0.0</td>
<td>Incomplete (until removed)</td>
</tr>
<tr>
<td>AU</td>
<td>—</td>
<td>Unsatisfactory Audit</td>
</tr>
<tr>
<td>W</td>
<td>—</td>
<td>Withdraw</td>
</tr>
</tbody>
</table>

QUALITY POINTS are used to compute the student’s grade point average (GPA). The GPA is the ratio of accumulated quality points to accumulated earned semester credit hours.

Only graduate courses earned at the 600 level or above at Christian Brothers University are included in the computation for graduation.

The WITHDRAWAL GRADE “W” is given for a course taken by the student who is allowed to withdraw from the course after the add/drop period and before the end of the withdrawal period. The last day for withdrawing from a course is listed in the University Calendar posted on the CBU web site.

The INCOMPLETE GRADE “I”
Instructors will penalize a student for failing to submit required work. Alternatively, an instructor may agree to give a student a temporary grade of “I” if asked by the student in a timely fashion. Instructors are under no obligation to agree to give a grade of “I.” The grade of “I” can only be given after the student, the instructor and the dean of the particular school in which the incomplete grade is being given sign an “Incomplete Contract” specifying the work to be completed and return it to the Registrar’s Office for the posting of the incomplete grade. Incompletes can only be given if the paperwork is completed at least one week prior to the deadline for entering grades. Exceptions to this deadline may only be made by the Associate Registrar. These will only be granted for a documented illness, a serious family emergency, or another issue of comparable magnitude. Requests made by students for an exception to this deadline must be received by the Associate Registrar by the last day of exams. The “I” grade will not be computed in the GPA. When the “I” is changed to a grade, that grade will be calculated into the GPA, and the “I” will show next to the new grade. The “I” grade does not satisfy the prerequisite if the course is needed to continue to the next course. The grade is changed to and “I/F” if all the work is not completed by the midterm of the following semester for day courses or the end of the following term for evening courses. The “Incomplete Contract” form is located on the website at http://www.cub.edu/cbu/resources/RegistrarOffice/Forms/index.htm.

Failure to attend a class or ceasing to attend a class does not constitute a drop, and a grade of “F” will be recorded.
GRADE CHANGES
Grade changes for prior semesters submitted after the mid-point of the following semester will require the faculty member’s signature as well as the signature of the Graduate Program Director and Dean of the school before the grade change can be processed by the Registrar’s Office.

Students who are graduating may not have a grade changed once the graduation is finalized and the graduating GPA is locked in. Graduating students only have three business days after the official graduation date to remove an incomplete grade and graduate. If this is not done, the student’s graduation date is postponed, and the student must refile for graduation.

GRADE APPEALS
A student who has evidence that he or she has been assigned a final grade in a capricious, prejudicial, or arbitrary manner may appeal the assigned grade within two weeks after the beginning of the subsequent academic semester (or term). The student should file for a grade appeal formally in the Academic Affairs Office. Then, the student should discuss the grade in question with the instructor involved. If not satisfied, the graduate student should discuss the situation with his or her graduate director. The student should discuss the matter with the Graduate Director if s/he is still not satisfied. If no resolution is reached, the student should refer the matter to the Dean of the appropriate school. If the matter remains unresolved, the student may then appeal the case to the Grade Appeals Committee. The judgment of the Committee is final.

REPEATING COURSES
A graduate course may be repeated only once (a total of two enrollments) in an attempt to improve the grade. The last grade received in a course is used in the calculation of the student’s grade point average. A student may not repeat any course off-campus that has been previously attempted.

COURSE AUDITS
A student may earn the grade of “AU” for a satisfactorily completed course audit. The “AU” grade has neither quality points nor credit hour values.

MINIMUM GRADE REQUIREMENTS
Graduation from a graduate program requires a cumulative GPA of 3.0 or better.

CONTINUATION IN PROGRAM
All participants are expected to maintain a grade point average of 3.0 or higher on a 4.0 point grade scale. Persons who fail to attain and maintain the 3.0 GPA may be allowed to continue in the program on a probationary basis. Failure to remove the probationary condition within two semesters will cause the participant to be dismissed from the program. A person dismissed from the program may reapply after being out of the program for one academic year. Each graduate director will monitor the performance of students enrolled in the respective graduate program.

EXPERIENTIAL ASSESSMENT
Students may apply for and be granted college-level credit for knowledge and understanding related to the student’s degree program and gained from work-site or other experiences. Documentation is evaluated for credit by the department chair who teaches in the area in which credit is sought. The student must submit all appropriate documentation to the Director of Graduate and Professional Studies along with the “Experiential and Non-Credit Learning Assessment” application and the application fee. The department chair will complete the evaluation form detailing what, if any, credit should be awarded and then forward the material back to the Director of Graduate and Professional Studies. Upon payment of appropriate fees the Registrar’s Office will be notified to post the credit. The credit awarded will not be posted to the student’s transcript until the student has earned 12 hours of academic credit at Christian Brothers University.

GRADUATION
Christian Brothers University has only one Graduation Ceremony a year in May, although there are three official graduation dates. Students may graduate in May, August, or December. Only those students who can complete their course work in within the academic year of the graduating ceremony can walk. Graduating students also have three business days after the official graduation date to remove any Incomplete grades, send in any transcripts from other universities, or to have a grade changed in order to be graduated for a particular graduation date. Once a student is graduated, his or her cumulative graduating GPA is locked in and no grade change can be made. Once a student graduates and wants to come back to CBU to take additional courses or enter another program, he or she must contact the Graduate and Professional Studies Office and reapply for the new program. Students must file an online “Intent-to-Graduate” form on the Registrar’s Web page. If the deadline is not met, a $50.00 non-refundable late fee is assessed and the student will be graduated the next available graduation date.

ATTENDANCE
Any student who has missed a total of eight (8) hours of class time may be given a grade of “F” after the last day to withdraw from classes has passed. All students are expected to attend class beginning with the first class meeting. Students taking courses in the 8-week accelerated programs should plan to attend the first class meeting as each class is equivalent to one week of class time.

TRANSFER CREDITS
A student may transfer credits earned at another accredited college or university only if:

1. the student is a degree student,
2. the courses to be transferred are graduate courses appropriate to the Christian Brothers University graduate program,
3. prior courses were completed within five years before admission to the Christian Brothers University graduate program,
4. grade of “B” (3.0 on a scale of 4.0) or better was achieved, and
5. the transfer is recommended by the Graduate Director and notification sent to the Registrar’s Office.

A maximum of nine semester credit hours with grades of B or better may be transferred from another college or university.
EARLY ADMISSION
Undergraduate students may be admitted to the graduate program during the final semester of their senior year as CONDITIONAL STUDENTS subject to completion of the undergraduate requirements. The granting of graduate credit is given upon completion of the course. An undergraduate student wishing to use the graduate credit as part of their total number of hours for the undergraduate degree may not use that course as part of the master's program. Students in their last semester of undergraduate coursework may take up to six hours of graduate work.

Early admission to the M.A.T. Program will only be granted if the student has made an application including test scores and other items as outlined on page 192.

WITHDRAWAL FROM CLASS OR THE UNIVERSITY
All withdrawals, both complete and partial, must be submitted to the Office of the Registrar by the student. A student must notify the Office of the Registrar of the withdrawal by completing the online “Withdrawal” form on the Registrar’s Web page. Anyone requesting a “complete withdrawal” will be required to come to the Registrar’s office to secure the necessary signatures to complete the withdrawal process.

The date on the official form will count as the official date of notification for processing the withdrawal. The instructor will be contacted for the date of last attendance, but the official notification date for processing the withdrawal will be the date of notification. This is the date that will be used by all offices for processing the withdrawal and any possible refunds. See Withdrawal Policies on the CBU Business Office web page.

TUITION REFUND
Tuition refund policies are the same as given for the undergraduate program on Page 19-20.

OBTAINING A SECOND MASTER’S DEGREE AT CBU
Any student interested in completing a second master’s degree at CBU can do so (at the discretion of the Program Director of the particular program) by taking an additional 21-26 graduate credit hours.

Program directors of each program will specify which additional courses must be taken to fulfill additional credit hour requirements. Admission policies and procedures are the same as those for any student applying to the program, except that an application fee is not required.

Grades for the courses being credited toward the second degree program will be used to calculated the GPA for both degrees. Students must have at least a 3.0 cumulative graduate grade point average for the required courses in each of the programs. Students seeking a second degree are subject to the policies and procedures of each degree program.

For those students seeking a second degree in the MED and MSEL programs, a minimum of 21 hours must be completed in the second degree program.

GRADUATE EXPENSES PER SEMESTER 2011-12
Tuition
Master of Business Administration, per semester hour (includes books and meals) $670.00
Master of Engineering Management, per semester hour (includes books and meals) $670.00
Master of Education, per semester hour $520.00
Master of Arts in Teaching, per semester hour $520.00
Master of Science in Educational Leadership, per semester hour $520.00
Master of Science in Engineering Management (includes books and meals) $670.00
Master of Arts in Catholic Studies $375.00
Master of Science in Physician Assistant Studies, (per semester) $10,360.00

OTHER FEES
Application Fee, all programs excluding Graduate Education (payable only once) $50.00
Application Fee, Graduate Education (payable only once) $35.00
Late Registration, Non-Refundable $250.00
Technology Fee $70.00
Intern/Student Teaching Fee $150.00
Alternative Licensure Type I/II Fee $625.00
M.S.E.L. Administrative Internship Fee $100.00
M.S.E.L. Practicum Fee $625.00
Experiential Credit Assessment Fee $50.00
Experiential Credit Posting Fee $100.00
Experiential Credit Graduate, per credit hour fee $150.00
Returned Check Charge $30.00
Graduation Fee (payable once per degree, non-refundable) $75.00

For further information about each Master’s Program, please contact the Graduate and Professional Studies office at (901) 321-3291.

PHYSICIAN ASSISTANT PROGRAM FEES
Application Fee, (payable once, non-refundable) $50
Enrollment Fee, (tuition deposit, refundable through October 1) $300
Activity Fee, (per semester) $100
Technology Fee, (per semester) $175
Graduation Fee, (payable once, non-refundable) $75
Additional Required Fees and Expenses*

- Background check & Drug Screen ............................................................................................ $65
- Drug Screen, (annual) ............................................................................................................. $50
- Books, (for entire program) .................................................................................................... $2000-$2300
- Medical Equipment, (for entire program) ............................................................................. $700-$1000
- Basic Life Support Course Fee, (payable once) ...................................................................... incl.
- Advanced Cardiac Life Support Course Fee, (payable once) .................................................. incl.
- Pediatric Advanced Life Support Course Fee, (payable once) .................................................. incl.
- Uniforms, (for entire program) ............................................................................................ $125
- AAPA dues, (highly recommended) ....................................................................................... $75
- TAPA dues, (highly recommended) ....................................................................................... $75

*Additional required fees and expenses are estimated and/or subject to change. Students must show proof of health insurance at the beginning of each year.

All tuition and fees are subject to change at any time when circumstances so warrant. Information on indirect costs (books, transportation, etc.) is available in the Student Financial Assistance Office.
GRADUATE PROGRAMS IN EDUCATION

— SCHOOL OF ARTS —

ADMINISTRATION
DR. PAUL A HAUGHT, Dean
DR. RICHARD POTTS, Chair, Department of Education
DR. WENDY ASHROFT, Director of Field Experience
DR. SAMANTHA M. ALPERIN, Director of Graduate Education

FACULTY
SAMANTHA M. ALPERIN, Associate Professor
B.S.B.A., University of Tennessee; M.A.T., The University of Memphis; Ed.D., University of Memphis

WENDY ASHCROFT, Associate Professor
B.A., Rhodes College; M.E.D., Memphis State University; Ed.D., Memphis State University

CORT CASEY, Assistant Professor
B.B.A., University of Mississippi, M.A.T.; University of West Arkansas; Ph.D., University of Memphis

ELLEN S. FAITH, Professor
B.A., Regents College; M.A., Vermont College; Ed.M., Ed.D., Harvard University

RICHARD POTTS, Associate Professor

BROTHER MICHAEL A. SCHMELZER, Assistant Professor
B.A., Christian Brothers College; M.A.T., St. Mary’s College; Ph.D., The Ohio State University

NANCY WILDER, Visiting Assistant Professor
B.S., M.Ed., The University of Memphis

MISSION
GRADUATE PROGRAMS IN EDUCATION at Christian Brothers University aim to engage men and women in a self-reflective process of lifelong learning characterized by integrity, competence, compassion, creativity, and leadership. The goals of the graduate programs in education are to prepare individual educators to reflect the values and traditions of the Christian Brothers, to work effectively and collaboratively in rapidly changing schools and related settings, and to prepare educators and others for positions of leadership. Education programs at the graduate level include the Master of Arts in Teaching (M.A.T.) for initial teaching licensure with a choice of three concentrations; the Master of Education (M.Ed.) for advanced professional development; the Master of Science (M.S.) in Educational Leadership; and the LANCE program, a Catholic teacher-service program that combines graduate study, spiritual development, and community living for teachers in the Catholic schools.

GRADUATE PROGRAMS IN EDUCATION
Non-degree programs at the graduate level also include post-baccalaureate teaching licensure; post-master’s licensure in beginning and advanced school administration and supervision; second endorsement options; and the master’s plus 30, a post-master’s option for individuals wanting to take additional graduate credit hours to advance on their school’s salary scale. Performance Learning Systems (PLS) and Christian Brothers University have created a partnership to provide graduate level courses for classroom teachers. Students must register and pay fees directly to PLS. For more information about courses that are offered via this partnership, please go to the PLS website: www.plsweb.com

MASTER OF ARTS IN TEACHING (M.A.T.) PROGRAM
The Master of Arts in Teaching (M.A.T.) program is designed to provide initial teaching licensure at the following levels, Early Childhood (Pre-K - 3), Elementary (K-6), Middle School (4-8), Secondary (7-12), Special Education (K-12), and Visual Arts (K-12). The M.A.T. program admits only those individuals who wish to earn an initial teaching license and a graduate degree simultaneously.

Candidates for both degree and initial teaching licensure face additional requirements because of licensure. Tennessee requires that all individuals seeking initial teaching licensure must provide evidence of a strong general education and mastery of a major in the arts or sciences earned at the undergraduate level. State and national standards for initial teaching licensure may mandate that an individual complete undergraduate deficiencies in either general education or a major area in the arts or sciences in addition to required graduate credit hours.
**COMMON REQUIREMENTS FOR ALL M.A.T. PROGRAM CONCENTRATIONS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFD 600</td>
<td>Professional Foundations I and II</td>
<td>6 hours</td>
</tr>
<tr>
<td>EDDL 630</td>
<td>Educating Special Needs Learners</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 609</td>
<td>Classroom Management</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 671</td>
<td>Portfolio and Practicum I</td>
<td>1 hour</td>
</tr>
<tr>
<td>CIED 672</td>
<td>Portfolio and Practicum II</td>
<td>1 hour</td>
</tr>
<tr>
<td>CIED 673</td>
<td>Teaching Practicum III</td>
<td>4 hours</td>
</tr>
<tr>
<td>CIED 674</td>
<td>Professional Seminar and Portfolio III</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Total for Common M.A.T. Requirements: 19 hours

**ADDITIONAL COURSES REQUIRED FOR THE ELEMENTARY EDUCATION CONCENTRATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFD 615</td>
<td>Child Development and Learning</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 605</td>
<td>Curriculum and Methods in Reading/Language Arts, K-3</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 606</td>
<td>Curriculum and Methods in Reading/Language Arts, 4-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 622</td>
<td>Curriculum and Methods in Mathematics, Pre-K-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 611</td>
<td>Curriculum and Methods in Science, Pre-K-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 612</td>
<td>Curriculum and Methods in Social Studies, Pre-K-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 615</td>
<td>Rhythmic Activities and Games</td>
<td>1 hour</td>
</tr>
<tr>
<td>CIED 624</td>
<td>Creative Expression In Elementary Schools, Pre-K-6</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Total for Additional Elementary Concentration Courses: 20 hours

**ADDITIONAL COURSES REQUIRED FOR THE MIDDLE GRADES CONCENTRATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFD 617</td>
<td>Adolescent Development and Learning</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 606</td>
<td>Curriculum and Methods in Reading/Language Arts, 4-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 622</td>
<td>Curriculum and Methods in Mathematics, Pre-K-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 612</td>
<td>Curriculum and Methods in Social Studies, Pre-K-8</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 629</td>
<td>Literacy Across the Curriculum</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

Total for Additional Middle Grades Concentration Courses: 21 hours

**ADDITIONAL COURSES REQUIRED FOR THE SECONDARY CONCENTRATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIED 630</td>
<td>Curriculum and Assessment in Secondary Schools</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDFD 617</td>
<td>Adolescent Development and Learning</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 629</td>
<td>Literacy Across the Curriculum</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 633</td>
<td>Curriculum and Methods in Mathematics, 7-12</td>
<td>3 hours</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6 hours</td>
</tr>
</tbody>
</table>

Total for Additional Secondary Concentration Courses: 18 hours

**ADDITIONAL COURSES REQUIRED FOR THE SPECIAL EDUCATION CONCENTRATION**

*Note: all common requirements are the same except those seeking special ed licensure do not take CIED 609.*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFD 609</td>
<td>Classroom Management</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDDL 633</td>
<td>Direct Instruction to Exceptional Learners</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDDL 634</td>
<td>Models of Instruction for Exceptional Learners</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDDL 640</td>
<td>Special Education Assessment</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDDL 651</td>
<td>Family Consultation and Support</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDDL 631</td>
<td>Inclusion Strategies for Science and Social Studies</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

Total for Additional Special Education Concentration: 18 hours

**ADDITIONAL COURSES REQUIRED FOR THE VISUAL ART CONCENTRATION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFD 615</td>
<td>Child Development and Learning</td>
<td>3 hours</td>
</tr>
<tr>
<td>EDFD 617</td>
<td>Adolescent Development and Learning</td>
<td>3 hours</td>
</tr>
<tr>
<td>READ 629</td>
<td>Reading and Writing Across the Curriculum</td>
<td>3 hours</td>
</tr>
<tr>
<td>CIED 638</td>
<td>Teaching Visual Arts, K-12</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

Total for Additional Art Concentration Courses: 12 hours
**ADDITIONAL COURSES REQUIRED FOR THE EARLY CHILDHOOD CONCENTRATION**

ECED 630. Child Development and Learning .......................................................... 3 hours
READ 605. Curriculum and Methods in Reading/Language Arts, Pre-K-3 ................. 3 hours
ECED 631 Methods of Teaching Early Childhood Education .................................. 3 hours
CIED 622. Curriculum and Methods in Mathematics, Pre-K-8 ............................ 3 hours
CIED 611. Curriculum and Methods in Science, Pre-K-8 ..................................... 3 hours
CIED 612. Curriculum and Methods in Social Studies, Pre-K-8 ........................... 3 hours
CIED 615. Rhythmic Activities and Games ........................................................... 1 hour
CIED 624. Creative Expression, Pre-K-6 ............................................................... 1 hour
Total for Additional Early Childhood Concentration Courses ............................. 20 hours

**MASTER OF ARTS IN TEACHING (M.A.T.) TRANSITION LICENSURE OPTION**

The alternative licensure options for the M.A.T. degree at Christian Brothers University are not available to all candidates for the M.A.T. The individual applicant for a transition licensure program, as required by the State of Tennessee, is jointly selected for admission into the program simultaneous with an offer of employment as a teacher of record into a school district, system, or school with which Christian Brothers University has established a particular partnership. Those admitted to a transition licensure program are part of a cohort and must proceed at the same pace as other cohort members to maintain eligibility for the program. The M.A.T. program for transition licensure differs from the regular M.A.T. in that supervised field experience occurs over the whole of the program, rather than through a culminating experience. While all other common courses and requirements for a particular concentration are the same, M.A.T. candidates in a transition licensure program take a series of practical courses in conjunction with their status in the program. Each course holds zero credits, however a fee is attached to each course.

**MASTER OF EDUCATION (M.ED.) PROGRAM**

The Master of Education (M.Ed.) program is designed primarily for the advanced professional development of already-licensed teachers. Concentrations in the M.Ed. degree may be used to achieve additional endorsements in several licensure areas. Additional endorsements blend core M.Ed. degree requirements with the specific coursework required for the endorsement. A minimum of 32 graduate credit hours is required to award the M.Ed. degree.

**COMMON REQUIREMENTS FOR ALL M.ED. PROGRAM CONCENTRATIONS**

LEAD 601. The Teacher as Leader: Renewing the Profession .................................... 3 hours
LEAD 615. Strategies for Whole School Renewal ................................................... 3 hours
EDFD 602. Professional and Portfolio Development ............................................. 2 hours
EDFD 639. Mid-Point Assessment and Portfolio Development ............................. 2 hours
EDFD 640. or EDFD 641 Inquiry Course ............................................................... 3 hours
EDFD 675. Capstone Project ................................................................................. 4 hours
Subtotal ................................................................................................................ 17 hours
Any combination of CIED, EDDL, READ, LEAD, or EPLS ............................... 15 hours
**TOTAL FOR DEGREE** .................................................................................... 32 hours

**ADDITIONAL COURSES REQUIRED FOR ADDITIONAL ENDORSEMENTS**

Additional courses for additional endorsements are selected from among licensure requirements used for the M.A.T. initial licensure concentrations and are chosen with respect to the teacher’s previous coursework in professional education, professional goals, and the State of Tennessee’s guidelines for additional endorsements. Additional endorsement programs include the successful completion of content deficiencies, field experiences, and internal and external assessments, including the Praxis II tests. Completion of coursework for the M.Ed. must be complemented by successful completion of all additional requirements before CBU recommends for the additional endorsement.

**MASTER OF SCIENCE (M.S.) IN EDUCATIONAL LEADERSHIP**

The Master of Science (M.S.) degree in Educational Leadership prepares individuals for roles in administration, supervision, and school leadership in K-12 settings. The courses and modules in this degree program are designed to meet standards for the Tennessee Instructional Leadership Licenses in Tennessee. The program leading to the M.S. degree in Educational Leadership requires a minimum of 31 graduate credit hours.

**M.S. IN EDUCATIONAL LEADERSHIP**

LEAD 605. Policy Perspectives for Educators ....................................................... 3 hours
LEAD 607. School, Parent and Community Partnerships ...................................... 3 hours
LEAD 610. Exploring School Leadership .............................................................. 3 hours
LEAD 615. Strategies for Whole School Renewal ................................................. 3 hours
LEAD 620. Supervision and Teacher Development .............................................. 3 hours
LEAD 625. Managing the Modern School ............................................................ 3 hours
EDFD 640. Educational Research ......................................................................... 3 hours
EDFD 675 Capstone Project ................................................................................. 4 hours
Elective, chosen with advisor ............................................................................. 3 hours
LEAD 674 Administrative Internship ................................................................. 3 hours
LEAD 661 Leadership Practicum I ....................................................................... 0 hours
LEAD 662 Leadership Practicum II ..................................................................... 0 hours
TENNESSEE INSTRUCTIONAL LEADERSHIP LICENSURE PROGRAM (Fast Track Leadership Program)
The Tennessee Instructional Leadership Licensure program prepares individuals for roles in administration, supervision, and school leadership in K-12 settings. The courses and modules in this licensure program are designed to meet standards for the Beginning Tennessee Instructional Leadership License in Tennessee. The program requires individuals to already possess a masters degree. It requires 18 hours of graduate credit hours.

LEAD 605. Policy Perspectives for Educators ......................................................... 3 hours
LEAD 610. Exploring School Leadership ............................................................... 3 hours
LEAD 615. Strategies for Whole School Renewal ..................................................... 3 hours
LEAD 620. Supervision and Teacher Development .................................................. 3 hours
LEAD 625. Managing the Modern School .............................................................. 3 hours
LEAD 661 Leadership Practicum I .......................................................................... 0 hours
LEAD 662 Leadership Practicum II .................................................................... 0 hours
LEAD 674 Administrative Internship ................................................................. 3 hours
GRADUATE PROGRAM IN ARTS
— SCHOOL OF ARTS —

ADMINISTRATION
DR. PAUL A HAUGHT, Dean
DR. J.BURTON FULMER, Director of Catholic Studies Program

THE MASTER OF ARTS IN CATHOLIC STUDIES has as its major goal the broadening and deepening of the understanding of the Catholic faith through the study of Catholic theology and the interdisciplinary study of Catholicism’s influence in the world. The program offers systematic and critical exploration of the diverse ways in which the Catholic tradition informs theology, culture, institutions, and identity.

The study of the Catholic faith will help individuals develop an intellectual and academic approach to Catholicism which does justice to the richness and profound truth of Catholicism as a Christian religious tradition. An additional goal is that through the study of Catholicism, individuals will come to understand and deepen their knowledge and love of God, seek the well-being of humankind, and provide well-reasoned motives for the practice of Christian principles. This program will help prepare students for diverse ministries, such as primary and secondary school religion teaching, religious education in parish settings, pastoral leadership, and social service.

The degree is a 30-hour degree program with the courses being offered on the CBU campus on weekends. Students must take nine of the ten courses listed below as well as MACS 699 Thesis. Students are assigned a final paper or thesis that is based on one of the students’ nine term papers. The students are advised and graded jointly by the director and the professor for whom the paper was originally written.

CATHOLIC STUDIES CURRICULUM
MACS 600. Catholic Thought and Culture Through the Ages ........................................... 3 hours
MACS 610. Catholic Biblical Studies .................................................................................. 3 hours
MACS 620. Catholic Spirituality ....................................................................................... 3 hours
MACS 630. God and the Human Person ........................................................................... 3 hours
MACS 640. Christology ..................................................................................................... 3 hours
MACS 650. Theology of Sacraments and Worship ............................................................. 3 hours
MACS 660. Moral Theology .............................................................................................. 3 hours
MACS 670. Catholic Social Ethics .................................................................................... 3 hours
MACS 680. Catholicism and other Faith Traditions........................................................... 3 hours
MACS 690. Ecclesiology and Ministry .............................................................................. 3 hours
MACS 699 Thesis .............................................................................................................. 3 hours
GRADUATE PROGRAM IN BUSINESS
— SCHOOL OF BUSINESS —

ADMINISTRATION
DR. JOHN M. HARGETT, DEAN

DR. M. SCOTT LAWYER, Director of Master of Business Administration Program

FACULTY
JAMES ALLEN, Assistant Professor
B.S., University of Florida; M.S., Florida State University; Ph.D., University of Southern Mississippi

DANIEL M. BRANDON, JR., Professor of Management Information Systems
B.S., Case-Western Reserve University; M.S., Ph.D., University of Connecticut

BJOERN CLAASSEN, Associate Professor of Finance
B.B.A., University of Georgia; M.B.A. in Finance, Kennesaw State University; Ph.D., University of Mississippi

JAMES ECKLES, Adjunct Lecturer
B.A., Rhodes College; M.S., Pennsylvania State University; Ed.D., University of Memphis

KELLI E. HEFNER, Adjunct Assistant Professor
B.A., M.A., Ph.D., Louisiana State University

ANNE H. KENWORTHY, Adjunct Assistant Professor
B.S., M.S., Ed.D., The University of Memphis; M.B.A., Christian Brothers University

M. SCOTT LAWYER, Associate Professor of Law
B.P.A., J.D., University of Mississippi

DOUGLAS SCARBORO, Adjunct Lecturer
B.A., Morehouse College; M.B.A., Campbell University; Ed.D., University of Memphis

BEVALEE B. VITALI, Associate Professor of Management
B.B.A., M.B.A., University of Central Arkansas; Ph.D., University of Memphis

RICHARD VOSBURG, Adjunct Lecturer
B.A., Williams College; M.B.A., University of Michigan

FATHER PAUL WATKINS, O.P., Visiting Assistant Professor
B.A., Tulane University; M.A., Graduate Theological Union; M. Div., Dominican School of Philosophy and Theology; M.B.A., University of Virginia

JENNIFER WESKE, Visiting Assistant Professor
B.B.A., Stephen F. Austin State University; M.B.A., The University of Memphis

MASTER OF BUSINESS ADMINISTRATION PROGRAM
The School of Business offers a 35-hour course of study leading to the Master of Business Administration (MBA) degree. To differentiate this program from the former MBA program, the course designations for the new program carry the prefix CMBA, for Cohort MBA, as opposed to the prior designations of MMGT, MACC, MMKT, MFIN, MITM, and MECO. The core curriculum consists of eight courses, preceded by a two hour orientation course (which is a prerequisite for the remaining eight courses). In addition, a student must complete three elective courses. An applicant to the MBA program must demonstrate acceptable scores on either the GMAT or GRE examinations or proof of previously attained graduate work or completed professional examination by the discretion of the MBA Director. A student may be able to transfer up to nine hours of graduate level business-related course work into the program to meet the requirements of the elective course work, but under no circumstances will be permitted to transfer in any coursework to meet the requirements of the core curriculum coursework.

MBA CORE COURSES
CMBA 600. Orientation ..............................................................2 hours
CMBA 601. Business Ethics ......................................................3 hours
CMBA 602. Managerial Economics ..........................................3 hours
CMBA 603. Financial Statement Analysis ..............................3 hours
CMBA 604. Strategic Financial Management ..........................3 hours
CMBA 605. Strategic Management .........................................3 hours
CMBA 606. Analytical Business Research ..............................3 hours
CMBA 607. Strategic Marketing................................................................. 3 hours
CMBA 608. Capstone Project................................................................. 3 hours

**MBA ELECTIVE COURSES**
The successful completion of the three elective courses in the overall MBA sequence of courses will result in the awarding of a graduate concentration in the area the student has selected.

Current elective concentrations include but are not limited to Project Management, International Business, Finance, Marketing, General Management, Biomedical Management, Commercial Banking, Financial Planning, Leadership and Non-Profit Management. For more information on these concentrations, both now and as contemplated in the future, please contact the MBA Director.

As previously noted, a student may be able to transfer in graduate level business-related course work or experiential learning credit to fulfill the requirements of the elective courses with the advance approval of the MBA Director.

**TRANSFER OF GRADUATE CREDITS**
Every transfer of graduate credit from any institution must be approved, in advance, by the Director of the MBA program.
MISSION

Graduate Engineering offers the **MASTER OF SCIENCE IN ENGINEERING MANAGEMENT** and the **MASTER OF ENGINEERING MANAGEMENT** which build upon the bachelor's degree preparation in several engineering disciplines, other technical programs such as physics and chemistry, and quantitative management. The purpose of these degree programs is to prepare individuals to successfully address supervisory and managerial needs in a technical environment. Students will take courses in technical fields, finance and accounting for technical managers, computer applications for management, and systems simulation.
THE MASTER OF SCIENCE IN ENGINEERING MANAGEMENT is targeted toward the graduates of engineering, engineering technology, and science degrees. The program emphasizes the theories, concepts, and applications of the engineering management discipline. Students will conduct research to identify and propose solutions to engineering management problems. The Master of Science in Engineering Management degree consists of two options: Thesis and Non-Thesis.

The Non-Thesis option is recommended for the working engineer or technically prepared professional who has professional industrial experience and who will take an increasingly active role in the organization’s decision-making process. The Non-Thesis option consists of eight core and three elective courses. All classes utilize on-line and distance education technologies and are scheduled for those taking classes on a part time basis.

The Thesis option is recommended for those who either plan to continue on to Doctorial work or are employed at a research intensive organization. The Thesis option consists of nine core and two elective courses. Though most classes utilize on-line and distance education technologies, the program is designed for full time students.

CORE MSEM COURSES:
Non-Thesis Option
ENGM 600. Theory and Applications in Engineering Management
ENGM 603. Engineering Financial Management and Accounting
ENGM 605. Quality Assurance
ENGM 607. Operations Research
ENGM 610. Advanced Engineering Economy
ENGM 612. Technical Project Management
ENGM 616. Strategic Management in a Technical Environment
ENGM 690. Engineering Management Capstone Project

Thesis Option
ENGM 600. Theory and Applications in Engineering Management
ENGM 603. Engineering Financial Management and Accounting
ENGM 605. Quality Assurance
ENGM 607. Operations Research
ENGM 610. Advanced Engineering Economy
ENGM 612. Technical Project Management
ENGM 616. Strategic Management in a Technical Environment
ENGM 696. Engineering Management Thesis (Taken after ENGM695)

ELECTIVE MSEM COURSES:
ENGM 601. Applications in Engineering Management
ENGM 602. Engineering Accounting
ENGM 604. Social, Legal, and Ethical Considerations for Engineering
ENGM 606. Computer Applications
ENGM 611. Entrepreneurship for Engineering Managers
ENGM 613. Construction Equipment & Methods
ENGM 614. Construction Failure
ENGM 615. Engineering Construction Management
ENGM 621. Engineering Law
ENGM 624. Knowledge Engineering
ENGM 636. Computer Networks
ENGM 637. File Organization and Database Management
ENGM 640. Principles of Packaging
ENGM 641. Distribution and Medical Device Packaging
ENGM 642. Sustainability
ENGM 650. Regulatory Affairs and Quality Systems
ENGM 652. Quality Systems for the Medical Device Industry
ENGM 663. Project Risk Management &Contracting
ENGM 691. Special Topics
ENGM 698. Professional Seminar
ENGM 699. Research
THE MASTER OF ENGINEERING MANAGEMENT program was re-purposed for the Bachelor of Science or arts graduate of a quantitative business degree. The Master of Engineering Management degree consists of 33 semester hours of academic work, which consists of seven core and four elective courses.

**CORE MEM COURSES:**
- ENGM 600. Theory and Applications in Engineering Management
- ENGM 605. Quality Assurance
- ENGM 607. Operations Research
- ENGM 610. Advanced Engineering Economy
- ENGM 612. Technical Project Management
- ENGM 616. Strategic Management in a Technical Environment
- ENGM 690. Engineering Management Capstone Project

**ELECTIVE MSEM COURSES:**
- ENGM 601. Applications in Engineering Management
- ENGM 602. Engineering Accounting
- ENGM 603. Engineering Financial Management and Accounting
- ENGM 604. Social, Legal, and Ethical Considerations for Engineering
- ENGM 606. Computer Applications
- ENGM 611. Entrepreneurship for Engineering Managers
- ENGM 613. Construction Equipment & Methods
- ENGM 614. Construction Failure
- ENGM 615. Engineering Construction Management
- ENGM 621. Engineering Law
- ENGM 624. Knowledge Engineering
- ENGM 636. Computer Networks
- ENGM 637. File Organization and Database Management
- ENGM 640. Principles of Packaging
- ENGM 641. Distribution and Medical Device Packaging
- ENGM 642. Sustainability
- ENGM 650. Regulatory Affairs and Quality Systems
- ENGM 652. Quality Systems for the Medical Device Industry
- ENGM 663. Project Risk Management & Contracting
- ENGM 691. Special Topics
- ENGM 695. Research Methods In Engineering Management
- ENGM 698. Professional Seminar
- ENGM 699. Research
GRADUATE PROGRAM IN HEALTH SCIENCES

ADMINISTRATION
Dr. Mark J. Scott, Director

FACULTY

MARK J. SCOTT, PA-C, Assistant Professor
B.A., University of Cincinnati; M.S., California College for Health Sciences; Ph.D., Richmonds University

STUART M. POLLY, Professor
A.B., Dartmouth College; M.D., College of Medicine, University of Florida

MICHAEL R. RYAN, Professor
B.S., St. Louis College of Pharmacy; M.S., University of Mississippi; Ph.D., University of Mississippi

JOHN J. DAVIS, PA-C, Assistant Professor
B.A., University of Memphis

GARY B. TOOLEY, PA-C, Assistant Professor
B.S., University of North Florida; M.S., University of North Florida

JULIE BENNETT, Adjunct Assistant Professor
B.S., Murray State University; Ph.D., University of Tennessee

TOM GOCKE, PA-C, Adjunct Professor, Clinical Faculty
B.S., West Virginia University; M.S., University of Arizona;

ROBERT BOOTH, EMPA-C, Adjunct Professor, Clinical Faculty
B.S., University of Mississippi; M.S., University of New England

JADA A. TRIBBLE, PA-C, Adjunct Professor, Clinical Faculty
B.S., University of Illinois; M.S., Bethel College

INGRID CANTRELL, PA-C, Adjunct Assistant Professor
B.S., Florida State University; M.S., Trevecca Nazarene University; M.S., University of South Florida

MISSION
The mission of the Physician Assistant Program at Christian Brothers University is to meet the needs of those suffering from a lack of quality primary care services by training healthcare providers who deliver excellent and compassionate care using current evidence-based medical information and knowledge. Our diverse graduates will become life-long learners collaborating with Physicians and other healthcare workers in their communities to advance the profession of the Physician Assistant.

MASTER OF SCIENCE IN PHYSICIAN ASSISTANT STUDIES
The program consists of seven consecutive academic semesters, 110 credit hours, with a new cohort of students added during the Spring Semester of each year. The first four semesters comprising fifteen months of the program consist of strenuous didactic coursework including:

PAS 602. Intro to PA Profession
PAS 601. Human Anatomy & PAS 602 Physiology/Pathophysiology
PAS 604. Medical Ethics & Law
PAS 603. Public Health
PAS 605. Research Methods
PAS 606. Clinical Pharmacology and Therapeutics I-III
PAS 607, 610, 615. Clinical Medicine I-III
PAS 608, 611. History & Physical I & II
PAS 612, 617. Clinical Skills I & II
PAS 613. Clinical Laboratory & Medical Genetics
PAS 616. Intro to ER
PAS 618. Behavioral Medicine

In addition, during the first 15 months, students will participate in a variety of workshops and seminars to enhance the educational experience and to prepare the student for clinical rotations. During the final twelve months (four semesters), students will rotate through a variety of clinical disciplines at affiliated institutions and practices. Clinical rotations include the following:

PAS 702. Primary Care
PAS 703. In-Patient Care
PAS 704. Behavioral Health
PAS 705. Surgery
PAS 706. Emergency Medicine
PAS 707. Pediatrics
PAS 708. OB/GYN
PAS 709. Geriatrics
PAS 710. Orthopedics
PAS 711. Elective

GRADUATION FROM THE PROGRAM FOR PHYSICIAN ASSISTANT STUDIES
Candidates, if admitted to the Program, will be required to certify in writing that they understand and meet the standards of the PA profession as detailed in the Student Handbook. If a candidate does not feel they may be able to meet the technical standards they should contact the Dean of Students in the Office of Student Life. The Program will attempt, to the best of its ability, to develop mechanisms by which otherwise qualified candidates for admission can be accommodated; however, the integrity of the curriculum and the need to provide optimal patient care must be maintained in order to ensure that all parts of the Program Curriculum be delivered to all matriculated Program students. The Program requires students to meet standards to ensure that its graduates possess a certain level of cognitive and technical skill. Students must be capable of successfully completing the entire CBU PA Program curriculum upon which they will achieve a Master of Science degree in Physician Assistant Studies and become eligible to sit for the Physician Assistant National Certification Examination (PANCE).

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted Provisional Accreditation to the program. Provisional accreditation is an accreditation status indicating that the plans and resources allocated appear to demonstrate the program's ability to meet the ARC-PA Standards.”
GRADUATE COURSES

BUSINESS

■ C.M.B.A. Master of Business Administration

CMBA 600. ORIENTATION

The objectives of the Orientation Course are to develop espirit de corps among all new MBA students, as well as the faculty and staff of the program, to give the participants concrete, take-away knowledge in the fundamentals of business education and to set appropriate expectations about the effort, quality and cooperation needed to complete the program. This course provides a basic overview of undergraduate business concepts needed to proceed in the MBA program and allows the student to assess their strength and weaknesses at this particular point in their program. All students must also complete computer knowledge and skills training to analyze their proficiency in the three major computer applications for the program.

Students will receive lectures from faculty members who will teach the fundamental courses in the core courses and be tested on those principles. Also as a part of the residency, participants are introduced to the goals, expectations and methods that are used throughout the program, including case analysis methodology, business plan preparation and business research and analysis skills and techniques. Particular emphasis is placed upon the explanation of and agreement to adhere to the CMBA Honor Code and its stipulations. The ongoing emphasis on relational learning will be explained and stressed as well. The successful completion of this course is required prior to a student proceeding with the Core Courses. Prerequisite: Permission of the MBA Director. Pass/Fail Grading. Two credits

■ C.M.B.A. Core Courses

CMBA 601. BUSINESS ETHICS

Students will concentrate on the understanding of worldviews and their effects in the workplace and how ethical decision-making models rely heavily on the understanding of our own and others worldviews. Some of the topics to be considered include the Sarbanes Oxley Act, earnings management, responsibilities of the board of directors and officers, the auditing function, the role of institutional investors and other stakeholders, as well as issues relating to executive compensation. Extensive use of case studies will be used and required weekly. Prerequisite: CMBA 600. Three credits

CMBA 602. MANAGERIAL ECONOMICS

This course analyzes business problems in terms of microeconomic principles and methods. Students are required to apply the economic method to managerial decisions in demand estimation, production and cost analysis, and pricing and competitive strategies. Course material integrates economic theory with statistical techniques and concepts from other business disciplines through a series of analytical models. Three credits

CMBA 603. FINANCIAL STATEMENT ANALYSIS

The basic concepts of corporate financial statements are developed and explained, with an emphasis on the necessity of understanding these statements, the underlying methodologies used in preparing them and the implications of choices made by accountants. Tools for analyzing profitability, liquidity, leverage, alternatives available within generally accepted accounting principles on financial statements, in terms of management's financial reporting strategy are also explored. Three credits

CMBA 604. STRATEGIC FINANCIAL MANAGEMENT

Financial management techniques, policies and theories are discussed and cases, as well as problem-scenario analyses using these topics are fully explored. These topics and policies include: strategies for acquiring and applying current and long-term assets, working capital, total capitalization and profit distribution (presented in the context of share price maximization). Other topics include global financial strategies, leasing, risk analysis, project evaluation and cost of capital. Three credits

CMBA 605. STRATEGIC MANAGEMENT CONCEPTS AND APPLICATIONS

This course examines strategic alternatives and choices to be made by companies in view of the opportunities and threats, maximizing their strengths and minimizing their weaknesses. The creation of core competencies to enhance these strategic choices as well as their sustainable competitive advantages is examined. Tiered levels of management are also reviewed. The course integrates learning experiences gained in the prior courses by concentrating on decisions to be made at the senior management level. Three credits

CMBA 606. ANALYTICAL BUSINESS RESEARCH

This course will involve the study of techniques and principles for systematically monitoring environments-collecting, recording, analyzing and interpreting data using various statistical tools that provide assistance to decision makers that are involved in the selling and marketing of goods, services and ideas. Among the topics covered are data sources, research design, data measurements, sampling procedures, hypothesis testing, correlation and regression and non-parametric techniques. Three credits

CMBA 607. STRATEGIC MARKETING

The course is designed to enhance the student's ability to formulate and implement a marketing plan, and to better understand the relationship of marketing to other business functions. It will emphasize application of marketing concepts through the use of cases, simulations, or projects. Three credits
CMBA 608. CAPSTONE PROJECT
Every student will complete either: an individual thesis involving the in-depth analysis of a selected company with recommended solutions to problems observed and analyzed to senior management of that organization and the course instructors, a marketing plan on a company or organization of the instructor’s choice, or a new venture business plan for a five year period that will include the acquisition and consolidation of a target company in small groups, or an online business simulation requiring management level decision making and strategy for the success of a company in a given industry in small groups. These projects will incorporate the total learning experiences of the program core courses. Prerequisite: CMBA 601-CMBA 607 courses. Three credits

■ M.B.A. Elective Courses
MACC, MECE, MFIN, MITM, MMGT, MMKT 652-658. SPECIAL TOPICS
Selected special topics in accounting, economics, finance, information technology, management, and marketing. The topics may vary from semester to semester. Course may be repeated more than once depending on topic. Prerequisite: Permission of the instructor. Three credits

■ C.M.B.A. Elective Courses
BANK 681, 682, 683 COMMERCIAL BANKING CONCENTRATION
Concentration objectives include increased knowledge of non-traditional financial services, monetary & fiscal policies, theory of interest rates, technology & e-commerce, human behavior, development of sales culture and customer relations, market & business development, asset & liability management, branch planning, consumer, investment, and loan portfolio management, real estate lending, and risk management. Certificate will be awarded upon successful completion of the Paul W. Barret, Jr. Graduate School of Banking 3-year residential program as offered at CBU. Other equivalent programs may qualify upon approval by the MBA Director. A student will complete no fewer than 100 contact hours in this field. Prerequisite: Permission of the MBA Director. Nine credits

CMBA 611. INTERNATIONAL BUSINESS I
These courses are studies of management forces impacting an international business environment for a multinational corporation. Topics for the first course include the fundamentals of international business, cultural considerations, international business ethics and international trade. Three credits

CMBA 612. INTERNATIONAL BUSINESS II
The second course will build upon the foundation of the first course and delve more deeply into the specific disciplines of international business including international business management, international marketing, international economics, and international finance. The two classes provide an overview of international business, its history, trends, and possible future direction, as well as the phenomenon that impact it. Three credits

CMBA 613. FIELD STUDY IN INTERNATIONAL BUSINESS
This course is an international trip that provides an opportunity for students to explore first-hand the international dimensions of business by visiting businesses in another country and discussing with business and political leaders trade and doing business in that country. Students identify and pursue strategic issues in international business and gain consciousness of the impact of culture, policy, and economic levels on business practices. Students extensively research the country and prepare a report detailing business and cultural practices with political and economic components prior to travel. Upon return, students analyze their expectations prior to the field study with the realities of their experiences and observations. Three credits

CMBA 614-619. SPECIAL CMBA TOPICS
These courses are designed to permit intensive study into topics of special interest to the student that are timely for a concentrated study in particular subject area in the field of Business. Prerequisite: Permission of the MBA Director. Three credits

CMBA 621. ADVERTISING & PROMOTION
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in marketing. This course offers a comprehensive view of advertising and sales promotions as it relates to a company’s marketing and/or business issues and provides the necessary tools to manage a firm’s competitive position and deploy resources in marketing communications. Contemporary theoretical frameworks as well as conduct practical cases will be studied. Objectives include development of capacity to think strategically about marketing communication tools, build skills in conducting, implementing and executing marketing communication programs, and strengthening understanding of sales promotions in a global market environment. Three credits

CMBA 622. GLOBAL MARKETING
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in marketing. This course will provide students with the tools necessary to perform the duties of an international marketer through the use of cases, discussion, lecture, readings, and videos. Students will learn as marketers engaged in international banking by learning to identify foreign market opportunities, select and execute a market entry strategy, and design and manage a successful marketing mix. The value of standardization and optimization for success in both home and foreign markets will be addressed. Three credits

CMBA 631. INVESTMENTS
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in finance. The course intended to both prepare the student to assume professional duties in the field of investment management or to prepare the student for general financial management responsibilities which include investments. Discussions will explore implications within both an investment management firm and a general corporate environment. Key learning will be focused on the process of assembling securities into portfolios, ranging from the concepts of asset
allocation, investment models, equity and fixed income portfolios, the use of derivatives to adjust portfolio risk and finally to evaluate portfolio performance. Prerequisite: CMBA 601-608. Three credits

CMBA 632. GLOBAL FINANCE
The objective and goals of this course are to equip the student with knowledge enabling the student to address the challenges that a global financial manager faces in today's ever-demanding financial environment. This course focuses on the international aspects of financial management. Topics include currency markets and exchange rate determination, transfer of funds, banking services, international financial institutions, parity conditions, foreign exchange exposure and management, and valuation of international projects. Three credits

CMBA 633. SPECIAL TOPICS IN FINANCE
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in finance. The course is intended to explore advanced topics in general financial management. The participants will select from a variety of topics proposed by the instructor in advance of the course. The instructor and students will discuss selected cases in order to discover and evaluate alternative courses of action introduced by the case. The course is designed to provide students with an opportunity to explore, at a more advanced level, financial analysis techniques, develop analytical skills required to evaluate financial decisions in a corporate environment, prepare analyses and argue points in defense of analysis, and evaluate contemporary financial events. Three credits

CMBA 641. ORGANIZATIONAL BEHAVIOR
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in general management. The course studies individual and group behavior as they relate to organizational effectiveness. Emphasis is placed on motivation, leadership, power and politics, the effect of organization design on effectiveness, and group processes. The psychological, interpersonal, and behavioral dynamics in organizations are applied to the management decision making and methods of analyzing and improving performance are also addressed. Three credits

CMBA 642. BUSINESS LAW
This course is a portion of the CMBA curriculum intended to teach the nature of both the law as well as the regulatory environments in which all businesses, both global and domestic, and their managers must direct. Topics in this course include the foundations of law and the courts systems, and constitutional, administrative, corporate, contracts, tort, international, property (both real and intellectual), antitrust and employment welfare and discrimination laws. Three credits

EXLD 611. LEADERSHIP AND PERSONAL DEVELOPMENT
This course is designed to look at leadership from the individual perspective. It focuses on the importance of self-discovery, self-assessment, and self-development. The course is an introduction to the principles and practices of positive interpersonal relationships for leadership development. The course investigates each student's life crucibles (past), current leadership experiences (present), and personal leadership goals and development plans (future). Three credits

EXLD 612. APPLICATION OF LEADERSHIP
This course covers theories of leadership from trait theory (the first recognized theory of leadership) to the most current leadership thinking today. Students will investigate the relationship between leadership theories, societal trends, organization theory, and management thought throughout history. Emphasis will be placed on modern day applications of each theory and lessons leaders can take away from each theory. Three credits

EXLD 613. ORGANIZATIONAL CHANGE AND DEVELOPMENT
This course looks at change and development in organizations and communities and the ways leaders affect and influence that change. Some of the most current change techniques such as appreciative inquiry and world café will be studied. Students will use a computer simulation to learn how change manifests in an organizational setting. Three credits

FPLN 681, 682, 683 FINANCIAL PLANNING CONCENTRATION
Concentration objectives include increased knowledge of the technical aspects, practical application, ethical and professionalism of financial planning. Students will gain knowledge of the process of financial, insurance, investment, income tax, retirement & employee benefit planning and estate planning. Certificate will be awarded upon successful completion of the Certificate in Financial Planning Program as offered at CBU. Other equivalent programs may qualify upon approval by the MBA Director. A student will complete no fewer than 100 contact hours in this field. Prerequisite: Permission of the MBA Director. Nine credits.

NPMT 681, 682, 683 NON-PROFIT MANAGEMENT CONCENTRATION
Concentration objectives include increased knowledge of non-profit organizational management decisions ranging from fundraising strategies, grant writing, financial management to organizational leadership. Concentration will be awarded upon successful completion of the 501(c)ollege as 100 cumulative hours of professional development workshops, webinars, or conferences as offered by the Alliance for Nonprofit Excellence. Other equivalent programs may qualify upon approval by the MBA Director. Prerequisite: Permission of the MBA Director. Nine credits.

PMGT 681. PROJECT MANAGEMENT
The course in project management is designed to develop an integrated approach to project management that will cover optimization models, practical management and organizational practices, and the use of computer applications and software. The focus will be on developing a process and model for managing projects that includes planning and budgeting, organization and structure, scheduling using Gantt and PERT/CPM, resource allocation, and performance and control techniques. Students will be required to complete a project plan, and guest speakers from the field of project management will supplement the class. Prerequisites: MMGT and STAT 221. Three credits
PMGT 682. PROJECT ORGANIZATION, PLANNING AND LEadersHIP
This course examines processes involved with project planning and leadership. Areas examined include scope, communications and closure. The course includes a review of program/portfolio management and reporting relationships. Also covered is a detailed study of organizational, management, and current theory on projected organizations. Prerequisite: MGMT 681. Three credits

PMGT 683. PROJECT ANALYsIs AND CONTROL
This course provides in-depth study of procedures and processes related to the control of costs, risk, scheduling, and related activities. Computer methods including MS Project and other programs will be examined. In addition, in-depth analysis of cost, time and quality variance will be studied. Prerequisite: MMGT 681. Three credits

CATHOLIC STUDIES
MACS 600. CATHOLIC THOUGHT AND CULTURE THROUGH THE AGES
An interdisciplinary exploration of the wisdom of the Catholic tradition expressed through works of intellect and imagination from the beginning of the Church up to contemporary times. Classics in literature, art, theology, philosophy, music, the sciences, and/or architecture are discussed. Emphasis is placed on recognizing the integrity of the grounding Catholic vision and on tracing the unified development and expansion of that vision over time. Three credits

MACS 610. CATHOLIC BIBLICAL STUDIES
What is a Catholic approach to the study of the Bible? The course will begin with the Church's teaching on biblical interpretation as contained in such documents as Divino Afflante Spiritu, Dei Verbum, and “The Interpretation of the Bible in the Church.” Selected texts from the Old and New Testaments will then be studied using the Catholic Church's approach to biblical interpretation in contrast to fundamentalism. Three credits

MACS 620. CATHOLIC SPIRITUALITY
An exploration of the relationship between religious experience and theological reflection as seen in the works of outstanding spiritual writers of the Catholic tradition, including St. Benedict, St. Francis and St. Clare, St. John Baptist de La Salle. This will include attention to prayer, forms of spirituality, and asceticism. Three credits

MACS 630. GOD AND HUMAN PERSON
An investigation of the Catholic doctrine of the human person in relation to God, including topics such as creation and fall, sin and grace, justification and sanctification, and eschatological fulfillment. Three credits

MACS 640. CHRISTOLOGY
Understanding the person, presence and mission of Christ in Scripture, doctrine and dogma and in contemporary theology. Three credits

MACS 650. THEOLOGY OF SACRAMENTS AND WORSHIP
An examination of the historical development of sacramental life in the Church and theological reflection on the sacraments. This will include contemporary approaches to the theology of sacraments, especially in relation to Christology and ecclesiology. Three credits

MACS 660. MORAL THEOLOGY
A study of the foundations of the Christian moral life, including freedom and moral agency, moral norms and moral reasoning, the place of scripture, tradition, and authority in the moral life, virtues and development of moral character. Three credits

MACS 670. CATHOLIC SOCIAL ETHICS
Critical analysis of the Biblical and theological foundations for Catholic social teaching and the teachings of the Catholic Church on matters such as war and peace; the rights and duties of states and citizens; the rights, duties, and obligations of members of a family; the rights, duties, and obligations of parents with respect to their children. Three credits

MACS 680. CATHOLICISM AND OTHER FAITH TRADITIONS
Drawing upon the teachings of Vatican II and other ecclesial documents, this course will explore the relationship between Catholicism and other faith traditions, both Christian and non-Christian. Three credits

MACS 690. ECCLESIOLOGY AND MINISTRY
A consideration of the nature and structure of the Catholic Church, including its apostolic origins, the Church as communion and sacrament, magisterium and authority, the relation of the local and universal Church, evangelization, ministry and mission. Students will reflect upon their ministry plans/work in relation to the Church's mission. Three credits

MACS 699. THESIS
The thesis is a substantial revision and development of a term paper written for a different course in the program. Students are advised and graded jointly by the director and professor for whom they originally wrote the paper. Three credits

EDUCATION

Curriculum and Instruction in Education (CIED)
CIED 600. PROFESSIONAL FOUNDATIONS II
Students acquire background and skill in curriculum design and instructional strategies and methods, instructional planning and guidance, analysis of patterns of classroom dynamics, classroom assessment, and classroom inquiry in conjunction with perspectives on school reform,
teacher leadership, and lifelong professional development. Restricted to students in the MAT program or by permission of instructor and program director. Three credits

CIED 601. ANALYSIS OF TEACHING (Formerly MED 601)
Students develop skill in analyzing patterns of classroom dynamics and become proficient in identifying specific instructional behaviors associated with specific learner outcomes. The student acquires perspective in observing and being observed in live classroom settings and is involved in real decision-making issues. These activities lead to the refinement of instruction and the improvement of learner performance. Three credits

CIED 602. CONTEMPORARY INSTRUCTIONAL GUIDANCE
Students investigate and implement best practices in classroom management and instructional guidance, focusing on the challenges of engaging learners in self-management and effective classroom participation. Three credits

CIED 603. CONTEMPORARY CLASSROOM METHODS (Formerly MED 636)
Students develop skill in decision-making in the K-12 classroom. Approaches to managing the classroom, selecting resources, creating sound instructional strategies, designing instructional units and lesson plans, and reaching decisions that orchestrate the complex implementation of effective learning are considered. Three credits

CIED 604. STRATEGIES FOR DIFFERENTIATING INSTRUCTION IN 4-8 AND 7-12 CLASSROOMS (Formerly MED 611)
Students identify, analyze, compare, and justify varied approaches to creating viable learning environments that successfully serve the needs of diverse learner populations. Three credits

CIED 605. URBAN TEACHING STRATEGIES.
Candidates develop skills and strategies for investing under-resourced urban students in educational achievement. Restricted to tfa and mtf. Three credits.

CIED 606. CLASSROOM LEADERSHIP.
Candidates apply leadership theories and practices to create engaging and disciplined learning environments for under-resourced urban students. Restricted to tfa and mtf. Three credits.

CIED 608. ASSESSMENT OF LEARNING AND PRACTICE (Formerly MED 608)
Students explore various means of acquiring data to determine learning progress among both groups and individuals, with emphasis on hard-to-measure dimensions of learning. Students consider standard measures of learning, standards-driven instruction, and emerging alternative approaches to developing and assessing authentic products, projects and performances. Students gain experience with traditional designs for evaluation and new assessment tools. Three credits

CIED 609. CLASSROOM MANAGEMENT AND METHODS
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Designed for initial teaching licensure students. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and discipline. Ten hours of field experience required. One semester; three credits

CIED 610. CURRICULUM DESIGN AND DEVELOPMENT (Formerly MED 610)
Students examine a variety of curriculum designs and the process of planned educational change, looking for evidences of the dimensions of learning in contemporary curricular models. Using a constructivist emphasis, students create curriculum based on current theories of design. Theoretically derived alternatives are also evaluated in terms of implementation and assessment within particular instructional environments. Three credits

CIED 611. CURRICULUM AND METHODS IN SCIENCE, Pre-K-6
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of the sciences into the elementary and middle school science curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school science curriculum. Three credits

CIED 612. CURRICULUM AND METHODS IN SOCIAL STUDIES, Pre-K-6 (Formerly MED 658)
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of the social studies into the elementary and middle school social studies curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school social studies curriculum. Three credits

CIED 613. CHARACTER EDUCATION (Formerly MED 614)
Students examine approaches to character education as currently practiced in K-12 schools in the United States. Various models are reviewed and evaluated for effectiveness. Research into programs currently in use in the Mid-South will be required. Three credits

CIED 615. RHYTHMIC ACTIVITIES AND GAMES
Students explore activities and games designed for elementary age students. One credit

CIED 622. CURRICULUM AND METHODS IN MATHEMATICS, Pre-K-6
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of mathematics into the elementary and middle school mathematics curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school mathematics curriculum. Three credits
CIED 624. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, Pre-K-6
Candidates integrate concepts of music, visual art, drama, and dance into the elementary classroom. One credit

CIED 626. INTEGRATING CURRICULUM (Formerly MED 609)
Students examine features of integrated curricula and review designs of quality work, including standards-driven instruction, essential elements of quality work, integration of content to strengthen transfer of knowledge, and frameworks for designing both integrated and interdisciplinary work. Students create original work for learners which includes a product focus, product standards, novelty and variety, choice, freedom from initial failure, and authenticity. A variety of performance-based and alternative assessments are included in the integrated framework. Three credits

CIED 627. MIDDLE SCHOOL STRATEGIES (Formerly MED 612)
Students review the elements of high performing middle schools and the characteristics of the young adolescent. Specific components include interdisciplinary teaming, flexible block-of-time scheduling, quality and authentic work designed to address needs of the adolescent, alternative assessment, teacher-based guidance, exploratory experiences, classroom/team management, and current middle school issues. Emphasis is given to the developing and changing roles and relationships of middle school teacher leaders. Three credits

CIED 630. CURRICULUM AND ASSESSMENT IN 7-12 SCHOOLS
Students planning to teach in the secondary school setting engage in curriculum design and development in their content areas and plan assessment strategies that encourage higher dimensions of learning and understanding in high school students. Three credits

CIED 633. TEACHING MATHEMATICS, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary mathematics. Three credits

CIED 634. TEACHING SCIENCE, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary science. Three credits

CIED 635. TEACHING ENGLISH/LANGUAGE ARTS, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary English. Three credits

CIED 636. TEACHING HISTORY/SOCIAL STUDIES, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary history. Three credits

CIED 637. TEACHING FOREIGN LANGUAGE, K-12
Required curriculum and instructional methods course for all students completing a licensure program in a foreign language. Three credits

CIED 638. TEACHING ART K-12
Required curriculum and instructional methods course for all students completing a licensure program in visual arts. Three credits

CIED 653. INTERNSHIP (Formerly MED 653)
Under the guidance of an assigned cooperating or mentor teacher and a University supervisor, the graduate student assumes the responsibilities of a classroom teacher. During the internship, students must complete a portfolio representing their impact on student learning and their own professional development while in an initial licensure program. Students must also enroll in CIED 654, Professional Seminar. Restricted to students who entered under previous catalogs. Three credits

CIED 654. PROFESSIONAL SEMINAR (Formerly MED 654)
A weekly seminar for intern teachers. Students review professional development and resolve issues arising from the intern experience. Students must also be enrolled in CIED 653, Intern Teaching. Restricted to students who entered under previous catalogs. One credit

CIED 671. PORTFOLIO AND PRACTICUM I
Students in the M.A.T. degree program or other post-baccalaureate teacher licensure programs acquire classroom experience while engaging in a first phase of required assessment activities leading to initial development of their portfolio. Must be taken during the first one-third of coursework in the M.A.T. or post-baccalaureate program. One credit

CIED 672. PORTFOLIO AND PRACTICUM II
Students in the M.A.T. degree program or other post-baccalaureate teacher licensure programs acquire classroom experience while engaging in a second phase of required assessment activities leading to further development of their portfolio. Must be taken during the first two-thirds of coursework in the M.A.T. or post-baccalaureate program. One credit

CIED 673 TEACHING PRACTICUM III AND INTERN TEACHING
Culminating semester-long experience of supervised teaching for students in the M.A.T. degree program or other post-baccalaureate teacher licensure programs. During Teaching Practicum III, students are expected to improve their instructional methods and classroom management, to become more reflective and analytical about their own professional practice, and to utilize clinical methods, assessment strategies, and classroom inquiry techniques to investigate their impact on student learning. Students continue to compile their portfolio and are required to take CIED 674, Professional Seminar and Portfolio III, with CIED 673. There is a $150.00 fee attached to this course. Four credits

CIED 674. PROFESSIONAL SEMINAR AND PORTFOLIO III
Seminar accompanies CIED 673 and supports students in their experience of supervised teaching in the M.A.T. degree program or other post-baccalaureate teacher licensure programs. During the seminar, students complete the final components of required assessments for their licensure program, including their portfolio. One credit
CIED 675. TRANSITIONAL LICENSURE A
This zero-credit course is for students seeking Alternative I or II licensure ONLY. Students will be supervised and mentored during their time enrolled in this course. A $625.00 fee will be automatically assessed to those enrolled. One semester, zero credits

CIED 676. TRANSITIONAL LICENSURE B
This zero-credit course is for students seeking Alternative I or II licensure ONLY. Students will be supervised and mentored during their time enrolled in this course. A $625.00 fee will be automatically assessed to those enrolled. Zero credits

CIED 677. TRANSITIONAL LICENSURE C
This zero-credit course is for students seeking Alternative I or II licensure ONLY. Students will be supervised and mentored during their time enrolled in this course. A $625.00 fee will be automatically assessed to those enrolled. One semester, zero credits

CIED 678. INTERN TEACHING
This zero-credit course is for students seeking Alternative I or II licensure ONLY. Students will be supervised and mentored during their time enrolled in this course. A $625.00 fee will be automatically assessed to those enrolled. One semester, zero credits

CIED 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits

■ Early Childhood Education (ECED)

ECED 630 CHARACTERISTICS OF EARLY CHILDHOOD EDUCATION
This course explores the nature and development of children pre-K-third grade. Students explore models and theories of early childhood development and research based approaches to design developmentally appropriate strategies for early childhood students. Three credits

ECED 631 METHODS OF TEACHING EARLY CHILDHOOD EDUCATION
Students examine theory and practice of methods and inquiry as they pertain to the early childhood classroom. Emphasis is placed on transforming these practices into the early childhood curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and the integration of technology across the curriculum. Three credits

■ Education of the Diverse Learner (EDDL)

EDDL 630 SURVEY OF EXCEPTIONAL LEARNERS
This course surveys and assesses the physical, psychological, social, and learning characteristics and needs of atypical learners with emphasis on skills and techniques for identifying and teaching such learners in a heterogeneous classroom. Requires interviews with and observations of practitioners in special education and a practicum experience of at least ten hours. Three credits

EDDL 631. INCLUSION AND THE GENERAL SETTING
Candidates in this course will develop practical knowledge on how to create successful inclusion environments for students with disabilities. While this course provides a broad perspective of inclusive practices, there will be a particular focus on Science and Social Studies as related to projects and activities. Candidates will gain knowledge on how to plan and implement inclusive strategies, as well as, adapt the general content to meet the needs of special learners. This course includes a 5-hour observation requirement to be completed in a co-teaching setting. Three credits

EDDL 632. TEACHING DIVERSE LEARNERS (Formerly MED 632)
Students explore issues and themes in multicultural education, studying human diversity with its many faces and learning to develop culturally appropriate curricula, classrooms, and schools. Three credits

EDDL 633. DIRECT INSTRUCTION FOR EXCEPTIONAL LEARNERS
Candidates will acquire background and understanding of reading, math and writing challenges in elementary students who have mild or moderate disabilities. This course will help candidates acquire a set of skills that will enable them to determine what core academic concepts are necessary for each student. Candidates will also learn effective instructional methods for teaching these basic skills. Candidates will gain their knowledge through course readings, application assignments, observations/field experiences, lectures, demonstrations, and group discussions. Three credits

EDDL 634. MODELS OF INSTRUCTION FOR EXCEPTIONAL LEARNERS
Candidates will acquire background and understanding of instructional strategies related to teaching students with mild or moderate disabilities in the upper grades. Students will use generalizations about classroom practice to develop key principles for use of the instructional strategies. Emphasis will be placed on the integration of research findings and theories of instructional models that apply to teaching middle and high school students that need to be involved in higher level thinking. This course will prepare students to plan and implement appropriate lessons, assessments, activities, assignments, teaching strategies, and develop collaborative relationships that actively engage students in their own learning thus creating lifelong learners. Three credits

EDDL 638. USING APPLIED BEHAVIOR ANALYSIS TO CREATE SUCCESSFUL LEARNING ENVIRONMENTS
Candidates will learn the principles of behavior analysis and how to apply them to managing classroom behavior in the following ways: selecting and writing behavioral goals and objectives, collecting data on the seven dimensions of behavior, applying procedures for reducing maladaptive behavior and increasing appropriate behavior, teaching useful target skills, and understanding the functions of behavior in order to complete a functional behavior assessment and behavior intervention plan. Candidates will also learn positive behavior support strategies as they relate to class-wide and school-wide behavior intervention programs. Three credits

EDDL 640. ASSESSMENT OF EXCEPTIONAL LEARNERS
Candidates will become familiar with formal and informal assessment strategies used in the identification and service of students. This course provides in-depth information on standardized testing and hands-on learning related to criterion-referenced assessments. Candidates will have
opportunities to review formal assessments by teachers, psychologists, therapists, and medical professionals. In addition, the field experience component will include administering an informal criterion-referenced test. Three credits

EDDL 651. FAMILY CONSULTATION AND SUPPORT
Candidates will acquire the knowledge to engage, support and collaborate with the families of students with disabilities. Candidates will gain an understanding of the impact of identification and diagnosis on families, transitioning students between various school settings, transitioning between post school and adulthood, and collaboration with community to aid in post school opportunities. Candidates will also acquire knowledge in the diversity of students and backgrounds, and the law of education. Three credits

EDDL 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits

■ Foundations of Education (EDFD)
EDFD 600. PROFESSIONAL FOUNDATIONS I
Students acquire background in the professional foundations of education, emphasizing perspectives on the profession of teaching, the teacher as a leader, the history of schooling, philosophies of curriculum, social and cultural influences on schools and classrooms, the diversity of student populations, and the politics, economics, and law of education. Restricted to students in the MAT program or by permission of instructor and program director. Three credits

EDFD 602. PORTFOLIO AND PROFESSIONAL DEVELOPMENT
Students in the advanced professional development programs analyze and assess their professional growth, review and update their professional portfolios, establish a professional and development plan, and present this plan to the faculty. Restricted to students in the M.Ed. and M.S.E.L programs for advanced professional development. Two credits

EDFD 603. FOUNDATIONS OF EDUCATION (Formerly MED 643)
Students gain an overview of the philosophical, curricular, cultural, social, historical, legal, economic, and political foundations of education as necessary background for professionalism in teaching. Students reflect on the past and engage current issues to develop perspectives for professional practice. Three credits

EDFD 605. PHILOSOPHY AND ETHICS OF EDUCATION (Formerly MED 605)
Students explore the historical bases of educational philosophy and ethics, interpreting modern issues and problems through an ethical and philosophical perspective and with particular attention to the Lasallian tradition. Students also develop or refine their own reflective philosophies of education and ethical principles as a value component in educational decision-making. Three credits

EDFD 606. LEGAL AND SOCIAL ISSUES (Formerly MED 606)
Students examine the statutory and judicial influences upon education, both historical and current. Through exposure to social and cultural issues and dilemmas, students engage in dialogue about personal and professional rights and responsibilities as an educator. The student prepares position papers on the legally and socially appropriate roles of the educator in both private and public educational settings. Three credits

EDFD 607. SCHOOL, FAMILY, AND COMMUNITY (Formerly MED 607)
Students examine family, cultural, and community patterns in relation to the educator’s roles and responsibilities to develop and foster strong educational partnerships. Three credits

EDFD 608. FUNDAMENTALS OF URBAN EDUCATION.
Candidates develop understanding of and gain experience with the challenges of teaching in urban situations with under-resourced students. Restricted to TFA and MTF. Three credits

EDFD 610. HUMAN DEVELOPMENT (Formerly MED 600)
Students acquire background in human development over the lifespan, investigate stages from childhood to adulthood with respect to physical, cognitive, and social development, and develop educational applications. Three credits

EDFD 612. ADVANCED EDUCATIONAL PSYCHOLOGY (Formerly MED 602)
Students explore applications of psychological principles and their potential role in instruction. Special attention is given to the application of psychological principles for the improvement of teaching and learning. Students are challenged to develop critical thinking skills and recognize their personal set of coherent views relevant to their own practice. Opportunities for conducting research in the application of educational psychology are provided. Three credits

EDFD 614. MORAL DEVELOPMENT AND EDUCATION (Formerly MED 614)
Students examine and critically assess several theories of moral development—classical, modern, and contemporary. The focus is on how human beings acquire morally responsible character traits and the ability to engage in moral reasoning. The ideas considered form the foundation for evaluating the appropriateness of various educational approaches to teaching values. Three credits

EDFD 615. CHILD DEVELOPMENT AND LEARNING
Students explore models and theories of child development and research-tested approaches in order to implement developmentally appropriate strategies of teaching, learning, and instructional guidance in the elementary and middle-level classroom and school. Three credits

EDFD 617. ADOLESCENT DEVELOPMENT AND LEARNING (Formerly MED 617)
Students examine the special nature of adolescence as a developmental stage, or set of stages, with respect to physical, cognitive, and social dimensions of the adolescent experience. Applications in developmentally appropriate educational practices for middle and high school are also considered. Three credits
EDFD 639. MIDPOINT ASSESSMENT AND PORTFOLIO DEVELOPMENT
This course is required for the Master of Education Degree. Course will be taken during the third semester of the program. Two credits

EDFD 640. EDUCATIONAL RESEARCH (Formerly MED 603)
Students acquire research skills in natural settings by pursuing questions and issues within a typical classroom or school building or relative to matters of educational policy and practice. The student designs, employs and evaluates investigations using both qualitative and quantitative approaches. This course is especially appropriate for students who are contemplating additional graduate work beyond the master's degree, who will undertake a thesis or dissertation, and who wish a broad preparation in inquiry skills for these purposes. Three credits

EDFD 675. CAPSTONE PROJECT (Formerly MED 675)
Under the direction of an assigned advisor, students design, implement, and evaluate a project relevant to a current issue or problem of practice, presenting their results in a public forum. Students must also complete program assessments to determine their progress toward program goals. Prerequisite: Completion of all other courses. Four credits

EDFD 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits

EDTC 620. USING TECHNOLOGY IN INSTRUCTION
Students explore the potential of the computer and other technologies as an aid to teaching and learning in the classroom. Students become efficient users of information technology in terms of (1) understanding the role of computers in the classroom, (2) evaluating a variety of software packages and apps for instructional use, and (3) using the internet as a resource in education. Three credits.

EPLS 600. ACHIEVING STUDENT OUTCOMES THROUGH COOPERATIVE LEARNING
Students learn how to successfully implement cooperative learning and become proficient in setting up, monitoring, and debriefing student learning. Three credits

EPLS 601. ACTION RESEARCH FOR THE CLASSROOM
Students examine instructional practices and explore the benefits of action research. Students showcase their findings in an action research report that includes how they will improve their current practices. Online. Three credits

EPLS 602. BEHAVIORAL, ACADEMIC, AND SOCIAL INTERVENTIONS FOR THE CLASSROOM
Students learn to design effective universal and targeted interventions that incorporate strengths-based learning as well as support student resiliency by creating learning alliances and designing REACH lessons. Three credits

EPLS 603. BLENDED AND SYNCHRONOUS LEARNING DESIGN
Students will gain an understanding of blended and synchronous environments, the development process, and considerations for implementation of each. Three credits

EPLS 604. BRAIN-BASED WAYS WE THINK AND LEARN
Students discover how a brain-compatible and enriched environment enhances learning, comprehension, and achievement. Three credits

EPLS 605. BUILDING ONLINE COLLABORATIVE ENVIRONMENTS
Students will experience the Web as a means of constructing new knowledge through conversation, networking, and collaboration. This course focuses on currently-available tools and their utilization. Three credits

EPLS 606. BUILDING COMMUNICATION AND TEAMWORK IN THE CLASSROOM
Students will learn the strategies necessary to foster an emotionally-engaging classroom and discover how to connect students to school, learning, and one another. Three credits

EPLS 607. BUILDING YOUR TECHNOLOGY EDUCATION AND SKILLS
Students learn to use basic computer and related technology in the classroom. Students will create motivational materials, manage classroom chores, use the Internet, and identify quality teacher and student software. Three credits

EPLS 608. CLASSROOM MANAGEMENT: ORCHESTRATING A COMMUNITY OF LEARNERS
Students discover and practice skills for orchestrating classroom life and learning so that instruction flows smoothly, student misbehavior is minimized, and learning potential is maximized. Three credits

EPLS 609. CULTURAL COMPETENCE: A TRANSFORMATIVE JOURNEY
Students explore the framework “know yourself, your students, and your practice” to understand their role in student achievement and as an agent of change for social justice. Three credits

EPLS 610. DESIGNING MOTIVATION FOR ALL LEARNERS
Students design learning experiences and develop effective leadership strategies in order to promote motivation for all learners, especially Generation Me. Three credits

EPLS 611. DEVELOPING 21ST CENTURY LITERACY SKILLS
With a focus on information literacy, multimedia skills, and organizational change, students discover frameworks for 21st century skills. Three credits
EPLS 612. DIFFERENTIATED INSTRUCTION FOR TODAY'S CLASSROOM
Students acquire key knowledge and skills to implement differentiated instruction successfully in their classroom. Three credits

EPLS 613. DISCOVERING THE POWER OF LIVE-EVENT LEARNING
Students find out how incorporating real-life experiences-live events-into teaching serves as a platform for integrating academic curriculum with important life skills. Three credits

EPLS 614. EDUCATING THE NET-GENERATION
Students apply innovative techniques that today's generation values, including advances in technology, a team approach, and social networking. Three credits

EPLS 615. FACILITATING ONLINE LEARNING COMMUNITIES
Students learn and practice the skills necessary to nurture a successful online learning community, manage myriad facilitator roles, and communicate positively and effectively. Three credits

EPLS 616. GEOMETRY FOR MIDDLE SCHOOL EDUCATORS
Students explore strategies for developing mathematical literacy and fostering logical thinking to set the stage for future student learning. Three credits

EPLS 617. INFUSING ARTS INTO THE CURRICULUM
Students explore the value of the arts in education and how to infuse arts disciplines across the curriculum. Three credits

EPLS 618. INSTRUCTIONAL DESIGN FOR ONLINE EDUCATORS
Students explore instructional design theories and approaches in the e-learning environment in order to understand the basics of instructional design, explore philosophies of e-learning, and receive hands-on experience with online delivery and interaction techniques and tools. Three credits

EPLS 619. LEARNING TO READ: BEGINNING READING INSTRUCTION
Centered on scientific strategies aligned with state and national reading research initiatives, this course addresses implementation of a balanced, integrated approach to teaching beginning reading. Three credits

EPLS 620. MEANINGFUL ACTIVITIES TO GENERATE INTERESTING CLASSROOMS
Students acquire firsthand experience designing new and interesting activity-based lessons that unlock the creative minds of students and teachers alike. Three credits

EPLS 621. MERGING EDUCATIONAL GOALS AND INTERACTIVE MULTIMEDIA PROJECTS
Students explore ways to incorporate multimedia projects into the classroom. Students must have a working knowledge of PowerPoint before enrolling in this course. Three credits

EPLS 622. PROJECT-BASED LEARNING: BUILDING FOR THE FUTURE
Students gain the skills to help pupils create real-life applications of required content and empower them to become self-managing, responsible individuals and citizens in an emerging global community. Three credits

EPLS 623. PURPOSEFUL LEARNING THROUGH MULTIPLE INTELLIGENCES
Students acquire an understanding of Howard Gardner's intelligences and how to apply them in the classroom. Three credits

EPLS 624. READING ACROSS THE CURRICULUM
Students explore reading strategies designed to help plan effective lessons in their content area. Three credits

EPLS 625. READING TO LEARN: COMPREHENSION INSTRUCTION
Students explore the best ways to help pupils construct meaning from what they read. Students examine scientifically-based comprehension strategies and learn how to adapt them to the classroom and/or content areas. Three credits

EPLS 626. SIMULATIONS AND GAMING TECHNOLOGIES FOR THE CLASSROOM
Students discover contemporary gaming technologies, their pedagogical models, and how they may be used for learning. Three credits

EPLS 627. STRATEGIES FOR MIDDLE SCHOOL SCIENCE TEACHERS
Students explore the unique characteristics of middle school learners and discover techniques to involve them in a meaningful educational experience in science. Three credits

EPLS 628. SUCCESSFUL TEACHING FOR ACCEPTANCE OF RESPONSIBILITY
Students gain new techniques to model, teach, and support responsible student behavior while creating a classroom that fosters personal power and self-responsible behaviors. Three credits

EPLS 629. TEACHING ALGEBRA TO MIDDLE SCHOOL STUDENTS
Students evaluate the major concepts fundamental to teaching algebra to middle school students. Three credits

EPLS 630. TEACHING THE ENGLISH LANGUAGE LEARNER
Students design academic content to guide English language learners toward linguistic proficiency. Three credits

EPLS 631. TEACHING THE SKILLS OF THE 21ST CENTURY
Students incorporate real-life skills while teaching curriculum to prepare students for their occupations and lives. Computer access is needed to do assignments outside of class. Three credits
EPLS 632. TEACHING THROUGH LEARNING CHANNELS
Students explore learning style preferences and develop brain-compatible strategies to address them. Three credits

EPLS 633. THINKING MATHEMATICALLY: ELEMENTARY EDITION
Students explore mathematical curriculum, instruction, and assessment tools and strategies designed for grades K through 5. Three credits

EPLS 634. USING ONLINE RESOURCES TO BRING PRIMARY SOURCES TO THE CLASSROOM
Students access and analyze primary sources, explore classroom applications, and develop authentic, engaging learning experiences for students. Three credits

EPLS 635. WRITING ACROSS THE CURRICULUM
In this hands-on writing course appropriate for teachers of grades 3 through 8, students will discover content-area appropriate strategies for modeling writing formats, supporting below-grade level writers, engaging all pupils in writing, and balancing the expectations of writing and content in both formal and informal assessments. Three credits

EPLS 636. STUDENT ENGAGEMENT AND STANDARDS-BASED LEARNING
Using a standards-based approach as its foundation, this course offers high-yield instructional strategies designed to help teachers optimize student learning. Participants will use standards as a basis for lesson and assessment design in order to foster maximum student engagement and achievement. A variety of instructional activities aligned to national content and process standards which address students’ learning needs and foster progress toward deeper retention and transfer of learning are featured in this course. Three credits

EPLS 637. COLLABORATIVE INQUIRY FOR STUDENTS: PREPARING MINDS FOR THE FUTURE
This course provides educators with research-based strategies for designing and implementing collaborative inquiry for students. Participants explore the role of the facilitative leader as they learn strategies for teaching collaboration and designing collaborative inquiry experiences. Three credits

EPLS 638. WRITING ACROSS THE CURRICULUM
In this hands-on writing course appropriate for teachers of grades 3 through 8, students will discover content-area appropriate strategies for modeling writing formats, supporting below-grade level writers, engaging all pupils in writing, and balancing the expectations of writing and content in both formal and informal assessments. Three credits

EPLS 639. CREATING PROFESSIONAL LEARNING COMMUNITIES™
This is an Online (PLCs) dynamic, results-driven course that emphasizes teamwork, group learning, and professional development. Participants will share ideas, discuss divergent views, and formulate a mutual perspective on how they can significantly improve student achievement. Three credits

EPLS 640. RESPONSE TO INTERVENTION
This is a Performance Learning Systems® online course that provides educators with an overview of the Response to Intervention (RTI) framework for providing data-differentiated instruction to meet the needs of today’s diverse learners. Three credits

EPLS 641. CULTURAL COMPETENCE: A TRANSFORMATIVE JOURNEY
This course equips experienced and beginning educators with the knowledge, awareness, and skills they need to work in today’s diverse classroom settings for the goal of student success. Participants will have opportunities to critically examine how privilege and power impact educational outcomes and to understand the role of educators as agents of change for social justice. Three credits

EPLS 642. RIGOR, RELEVANCE, AND RELATIONSHIPS IN TODAY’S CLASSROOMS
Discover how to employ a rigorous curriculum in your classroom that sets high expectations for your students and provides the skills and motivation to meet them. Create relevant projects for your students based on 21st-century skills. Understand the power that relationships have in providing students with academic and social guidance in personalized learning environments. Three credits.

Leadership (LEAD)

LEAD 601. TEACHER AS LEADER: RENEWING THE PROFESSION (Formerly MED 640)
Students analyze teacher leadership through multiple frameworks: the sociology of the teaching profession, organizational behavior in educational settings, reform and renewal efforts, adult development models, professional standards for teachers, and leadership strategies. Advocacy skills are developed through personal and collaborative plans for ongoing professional development. Three credits

LEAD 605. POLICY PERSPECTIVES FOR EDUCATORS (Formerly MED 641)
Students examine the organizational behavior of schools and school systems, analyzing the politics, economics, finance, and sociology of education, with special emphasis on the teacher’s and principal’s roles as professional leaders with perspective vision on schools and society. Students acquire in-depth understanding of the challenges of change and the moral exercise of power. Three credits

LEAD 607. SCHOOL, PARENT AND COMMUNITY PARTNERSHIPS
Program participants acquire and apply knowledge about the important role of strong community and public relations for schools and develop skills and plans conducive to effective community and public relations. One semester; three credits

LEAD 610. EXPLORING SCHOOL LEADERSHIP (Formerly MED 670)
Students explore the roles and responsibilities of school leaders and assess their own capacity for leadership in a K-12 setting. The role of the principal in creating community in the school, the nature of skillful moral leadership in a rapidly changing world, and the art of reflection on the craft of administration are emphasized. Restricted to participants in the Educational Leadership Program or by permission of instructor. Three credits

LEAD 615. STRATEGIES FOR WHOLE SCHOOL RENEWAL (Formerly MED 639)
Students explore strategies for renewing schools based on research into effective and ineffective practices for bringing about broad-based and whole-school change. Issues of school culture and context, leadership, and factors that resist change are investigated and engaged through case studies combined with principles for effective practice. Three credits
LEAD 620. SUPERVISION AND TEACHER DEVELOPMENT
Students examine varied approaches to supervision and teacher development in school settings, emphasizing the role of the supervisor as a facilitator of school improvement and as a collaborative partner in enhancing school curriculum and classroom practices. Restricted to participants in the Educational Leadership Program or by permission of instructor. Three credits

LEAD 625. MANAGING THE MODERN SCHOOL
Students acquire background about the multiple management functions of schools and school leaders, including responsibilities for academic programs, student services, human and fiscal resources, facilities and technology, community and public relations, legally sound operations, and central office communications. Through a problem-based approach, students integrate these functions and experience the complexity of ethical leadership in the school environment. Restricted to participants in the Educational Leadership Program or by permission of instructor. Three credits

LEAD 630. ORGANIZATIONAL INQUIRY (Formerly MED 665)
Students develop the art and science of conducting inquiry into organizational issues and problems, with the aim of improving schools and school systems. Using both quantitative and qualitative methods, students conduct evaluation studies about school effectiveness and academic achievement and in-depth inquiries into school culture, climate, systems, structures, and specific programs with a school-wide impact. Three credits

LEAD 648. LAW FOR SCHOOL LEADERS
Program participants acquire and develop conceptual knowledge about legal issues that impact schools and the legal environment of schools, develop awareness of and alertness to legal risks and responsibilities, conduct legal research, and consult with school leaders about legal problems and use of legal counsel. Three credits

LEAD 661. LEADERSHIP PRACTICUM I
This module is designed in conjunction with a mentor to provide students with meaningful experiences in the Pre-K - 12 setting. A $625.00 fee will be automatically assessed to those enrolled. Pass/Fail; Zero credit

LEAD 662. LEADERSHIP PRACTICUM II
This module is designed in conjunction with a mentor to provide students with meaningful experiences in the Pre-K - 12 setting. A $625.00 fee will be automatically assessed to those enrolled. Pass/Fail; Zero credit

LEAD 663. LEADERSHIP PRACTICUM III
This module is designed in conjunction with a mentor to provide students with meaningful experiences in the Pre-K - 12 setting. A $625.00 fee will be automatically assessed to those enrolled. Pass/Fail; Zero credit

LEAD 674. ADMINISTRATIVE INTERNSHIP
After being selected for the internship by a school or school system, program participants engage in school- and system-based leadership activities supported by a mentoring team and University faculty. Enrollment restricted to those completing the internship route. There is a $100.00 fee attached to this course. Pass/Fail; Three credits

LEAD 680-690. SPECIAL TOPICS IN EDUCATIONAL LEADERSHIP
Special topic courses or directed studies in educational leadership, administration, and supervision approved by the Department of Education and the Director of the Educational Leadership Program. One to three credits

Reading Education (READ)

READ 605. CURRICULUM AND METHODS IN LANGUAGE ARTS, Pre-K-6
Student examine the theory and practice in transforming the methods of inquiry and the knowledge base of the language arts into language curriculum, emphasizing content and performance standards, planning for instruction, teaching methods and materials, including the integrating of technology into the elementary school language arts curriculum. Specialized instruction in teaching grades K-3 to read is an integral part of this course. Three credits

READ 606. CURRICULUM AND METHODS IN LANGUAGE ARTS, 4-8
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of the language arts into the language curriculum, emphasizing content and performance standards, planning for instruction, teaching methods and materials, including the integration of technology into the middle school language arts curriculum. Specialized instruction in teaching grades 4-6 how to read is an integral part of this course. Three credits

READ 628. ADOLESCENT LITERATURE (Formerly CIED 628)
Students engage in the study of literature written for adolescents and learn how to integrate literature into the teaching of the language arts and literacy instruction in the middle school and the high school. Three credits

READ 629. LITERACY ACROSS THE CURRICULUM (Formerly CIED 629)
Students planning to teach in the secondary school setting learn about the importance of teaching reading within the content areas and about using reading and writing strategies to strengthen student literacy and learning. Three credits

READ 630. FOUNDATIONS OF LITERACY
This four week intensive course of study incorporates a research-based, structured, and multisensory approach designed to help assist children in the acquisition of reading, speaking, listening, writing, and thinking skills. Six credits

READ 631. INTEGRATION OF LITERACY
This four week intensive course of study further extends the training provided in the Foundations of Literacy, READ 630. Participants will apply skills that utilize advanced techniques in the language continuum. Six credits
READ 632. THE CHALLENGED READER (Formerly CIED 632)
Candidates master instructional strategies used to enhance the learning and instruction of K-12 students with reading disabilities in both the regular and special education classroom. Topics include assessment, modification of instruction, research-based instructional practices in reading, and technology. Three credits

READ 633. READING ASSESSMENT STRATEGIES
This course is designed to provide knowledge and experience with a variety of evaluation tools and techniques to assess individual learner strengths and needs as well as how to create appropriate learning experiences based on assessment data. This course is required for the Reading Endorsement. Three credits

READ 634. THE READING AND WRITING CONNECTION
This course will provide strategies to promote various kinds of writing as well as an understanding of the writing process. Strategies to integrate content areas to support the reading and writing growth will be explored. This course is required for the Reading Endorsement. Three credits

Religious Education (RLED)

RLED 620. PASTORAL FOUNDATIONS OF CATHOLIC EDUCATION
Students examine key dimensions of Catholic theology as a support for understanding the role and mission of Catholic education and to understand their responsibilities as leaders and teachers in Catholic schools. Three credits

RLED 625. CATHOLIC EDUCATION AND THE LASALLIAN TRADITION
Students explore the foundations of education from a Catholic perspective and in relation to the Lasallian tradition and mission. Three credits

RLED 630. CURRENT ISSUES IN CATHOLIC EDUCATION
Students analyze contemporary concerns in the Catholic school environment from historical, theological, and educational perspectives. Three credits

RLED 640. THE CATHOLIC TEACHER
Students examine the unique position of the Catholic school teacher as role model, catechist, inspiring intellectual, and spiritual mentor. One credit

RLED 645. THE CATHOLIC SCHOOL LEADER
Students examine the unique position of the Catholic school leader in its spiritual, instructional, community-building, and managerial dimensions. One credit

RLED 650. SPIRITUALITY AND EDUCATION
Students consider the spiritual dimensions of teaching and learning, the role of spiritual development in the life of the teacher and the community life of the school, and the curriculum and co-curriculum of the school. Three credits

RLED 651. CURRICULUM AND METHODS IN RELIGIOUS EDUCATION, K-6
Students explore appropriate curriculum and instruction for religious education programs and courses in the elementary school or at the elementary level. Three credits

RLED 652. CURRICULUM AND METHODS IN RELIGIOUS EDUCATION, 7-12
Students explore appropriate curriculum and instruction for religious education programs and courses in the secondary school or at the secondary level. Three credits

RLED 660. LASALLIAN STUDIES FOR EDUCATORS
Students study key documents from the Lasallian tradition of education and analyze the scope and substance of the Lasallian educational mission worldwide. Three credits

RLED 680-690. SPECIAL TOPICS IN RELIGIOUS EDUCATION
Special topic courses or directed studies in religious education or Catholic education approved by the Chair of the Department of Education and the Director of the Graduate Education Program. One to three credits

Engineering Management

ENGM 600. ENGINEERING MANAGEMENT THEORY AND APPLICATIONS
Management theories, concepts, and applications in an engineering or other technical environment; roles and responsibilities of the engineering manager as integral part of an organization's overall performance; motivation and leadership theories and methodologies. Three credits

ENGM 601. APPLICATIONS IN ENGINEERING MANAGEMENT (Formerly MEM 601)
Engineering’s role in the firm; organization and structure; leadership and motivation; project management; concepts, methodologies, and procedures for engineering management. Three credits

ENGM 602. ENGINEERING ACCOUNTING (Formerly MEM 602)
Uses and limitations of accounting information; measurements, recording of economic events; analysis, control, reporting of financial events; interpretation and application. Three credits

ENGM 603. ENGINEERING FINANCIAL MANAGEMENT AND ACCOUNTING (Formerly MEM 603)
Understanding of financial decisions by corporations. Uses and limitations of accounting information. Topics include return on investment; return on assets; asset management; capital planning; budgets, controls, taxes, profit centers; financial and risk analysis. Three credits

ENGM 604. SOCIAL, LEGAL AND ETHICAL CONSIDERATIONS FOR ENGINEERING MANAGERS (Formerly MEM 604)
Advanced seminar on impact of technology and engineering processes on social, business and government institutions; issues of the engineer and scientist and their roles as catalyst for societal change. Three credits

ENGM 605. QUALITY ASSURANCE (Formerly MEM 605)
Statistical quality control methods for products and services; design of quality control systems; control of quality control inputs. Lecture and problem solving. Three credits

ENGM 606. COMPUTER APPLICATIONS (Formerly MEM 606)
Computer-aided design and manufacturing; business applications; personal computers information storage; networks; computer graphics; future applications; management systems. Three credits

ENGM 607. OPERATIONS RESEARCH (Formerly MEM 607)
Models and methods of operations research in solving engineering and management problems. Includes linear models, linear programming, duality, post optimality and network analysis and simulation. Three credits

ENGM 610. ADVANCED ENGINEERING ECONOMY
Application of engineering economic analysis in complex decision situations. Inflation and price changes; uncertainty evaluation using non-probabilistic techniques; capital financing and project allocation; evaluations involving equipment replacement, investor-owned utilities, and public works projects; probabilistic risk analysis. Three credits

ENGM 611. ENTREPRENEURSHIP FOR ENGINEERING MANAGERS
Organizational and financial planning and evaluation, Cost and location studies and market analysis to determine commercial feasibility of new products and services. Three credits

ENGM 612. TECHNICAL PROJECT MANAGEMENT
Development and management of engineering and technology projects. Project proposal preparation; resource and cost estimating; and project planning, organizing, and controlling; network diagrams and other techniques. Role of project manager: team building, conflict resolution, and contract negotiations. Three credits

ENGM 613. CONSTRUCTION EQUIPMENT & METHODS (Formerly MEM 613)
Surveying quantities of equipment, labor and materials for general construction projects: excavation, concrete and formwork, carpentry, masonry, structural steel, lath and plaster, interior finishes. Three credits

ENGM 614. CONSTRUCTION FAILURE (Formerly MEM 614)
Occupational safety hazards associated with the construction industry. Emphasis placed on recognition, evaluation and control of safety hazards, particularly as they relate to the Occupational Safety and Health Administration (OSHA) guidelines. Introduction to risk management strategies by identifying potential risks and assigning mitigation control measures. Three credits

ENGM 615. ENGINEERING CONSTRUCTION MANAGEMENT (Formerly MEM 615)
Development of the project schedule including estimate and contractual scheduling requirements examined. The application of the Critical Path Method (CPM) and Program Evaluation Review Technique (PERT) to construction planning, scheduled vs. actual job expenditures, cost forecasting. Proposal solicitation and preparation, bidding strategy, estimate types and content, quantity survey, ethics, and an introduction to computer use in estimating. Three credits

ENGM 616. STRATEGIC MANAGEMENT IN A TECHNICAL ENVIRONMENT
Strategic planning process and strategic management in practice; corporate vision and mission; product, market, organizational, and financial strategies; external factors; commercialization of new technologies; and competition and beyond. Three credits

ENGM 621. ENGINEERING LAW (Formerly MEM 621)
Legal principles and procedures; contracts and patents; liability, product liability, computer and environmental law; government regulation. Three credits

ENGM 624. KNOWLEDGE ENGINEERING (Formerly MEM 624)
Concepts and applications of Artificial Intelligence, Expert Systems, Artificial Neural Networks, Genetic Algorithms, and Software Agents. Three credits

ENGM 636. COMPUTER NETWORKS (Formerly MEM 636)
Fundamentals of computer networks. Introduction to computer networking elements, architectures and protocols. Design and analysis of networks: topology, physical and logical communication and applications. Three credits

ENGM 637. FILE ORGANIZATION AND DATA BASE MANAGEMENT (Formerly MEM 637)
Survey of current database approaches and systems. Topics include DBMS types; architecture; introduction to SQL; query optimization. DB management project required. Three credits

ENGM 640. PRINCIPLES OF PACKAGING
Packaging materials, container types, processes, technology, and equipment. Packaging development process, testing and evaluation methods, standards, and equipment. Government regulations. Special projects. Three credits
ENGM 641. DISTRIBUTION AND MEDICAL DEVICE PACKAGING
Physical distribution systems and distribution hazards. Rules and regulations governing distribution packaging and industry guidelines and practices. Basics of packaging materials, forms and sterilization methods used in biomedical industry. Packaging design, development, and validation. Special projects. Three credits

ENGM 642. SUSTAINABILITY

ENGM 643 MEDICAL DEVICE PACKAGING
Introduction to medical device packaging. Packaging materials and forms used in medical device packaging. Basic extrusion and thermoforming principles. Sterilization methods used in industry. Maintenance of sterility of packages through distribution environment including package integrity and testing. Basics of medical device packaging design and development including validation. Introduction to cold chain management and sustainability. Three credits

ENGM 644 COLD CHAIN MANAGEMENT
Introduction to various facets of cold chain management. Design of container to maintain proper cooling of products. Use of data loggers to monitor temperatures in relevant cold chain links. Identify key factors that compromise cold chain and cause temperature excursions. Regulatory affairs and compliance. Qualification and validation: methods of thermal mapping. Latest trend and innovations in cold chain management links. Three credits

ENGM 650. REGULATORY AFFAIRS AND QUALITY SYSTEMS
Develop a basic understanding of regulatory affairs and quality systems related to medical devices to provide a better cross-functional working relationship and process efficiency. Three credits

ENGM 652. QUALITY SYSTEMS FOR THE MEDICAL DEVICE INDUSTRY
Develop a basic understanding of quality system requirements for medical device manufacturers based on both FDA and ISO standards. Three credits

ENGM 690. ENGINEERING MANAGEMENT MASTER PROJECT
(Formerly MEM 690)
Technical project complete with written report or thesis. This will be a publishable and significant report on an investigation into a scientific and/or engineering management topic which has been approved by the School of Engineering. Three credits

ENGM 691, 692, 693. SPECIAL TOPICS (Formerly MEM 691, 692, 693)
One to Three credits

ENGM 695. RESEARCH METHODS IN ENGINEERING MANAGEMENT
Methods used in engineering management research. Emphasis on problem formulation, proposal preparation, oral presentation, data analysis, and experimentation; thesis proposal. Three credits

ENGM 696. THESIS
Thesis and oral presentation prepared demonstrating proficiency in analyzing, solving, and implementing a solution to an engineering management problem. (Prerequisite: ENGM 695) Three credits

ENGM 698. PROFESSIONAL SEMINAR (Formerly MEM 698)
One to three credits

ENGM 699. RESEARCH (Formerly MEM 699)
One to three credits

■ PHYSICIAN ASSISTANT STUDIES
PAS 600. INTRODUCTION TO THE PA PROFESSION
This course introduces students to the physician assistant profession. Topics of discussion include history of the profession, national and state organizations, federal and state laws affecting practice, education, integrity, developing a team approach to healthcare, diversity and cultural bias, and discussing the future of the profession. One credit

PAS 601. HUMAN ANATOMY
This course provides a comprehensive study of human gross anatomy. A regional approach is used to study the structures and organ systems of the extremities and trunk in order to differentiate between the normal and the abnormal. The clinical significance of topographical and radiological anatomical features is emphasized. Lectures are complemented by laboratory study of prosected cadavers, anatomic models, simulated and real dissection, and surface anatomy. Five credits

PAS 602. PHYSIOLOGY & PATHOPHYSIOLOGY
Study of the physiological function of the cell and organ systems and the basic pathological and pathophysiological concepts of disease conditions will be discussed in this course. Students will learn to identify signs and symptoms of various medical conditions using a systemic approach. Systems to be covered in this course include: cardiovascular, respiratory, digestive, urinary, reproductive, nervous, musculoskeletal, special senses, lymphatic, endocrine and integument. Course topics will integrate with the corresponding topics presented in Human Anatomy. Five credits
PHYSICIAN ASSISTANT COURSE DESCRIPTIONS

PAS 603. PUBLIC HEALTH
Students explore relevant health-care policy issues that impact healthcare delivery systems and the Physician Assistant profession. Students will learn to promote a lifestyle of healthy choices and focus on prevention of disease. Areas of discussion address global health issues, identifying community resources, community responses to acts of destruction and addressing barriers such as cultural bias that might affect public health access, and differences in health care. Two credits

PAS 604. MEDICAL ETHICS AND LAW
Contemporary professional medical issues are discussed and debated. Issues discussed include ethical theories and issues as they apply to the PA and PA/physician team, medical law, and developing a basic understanding of the current healthcare delivery system. One credit

PAS 605. RESEARCH METHODS
Students receive instruction in research methods and application in the clinical setting. Students will locate, appraise and integrate evidence from scientific studies, develop skills to apply this knowledge to their patients, apply knowledge of study designs and statistical methods to determine diagnostic and therapeutic effectiveness. Students are prepared to critically read published reports of clinical research and identify strengths and weaknesses and bring this to their practice in an efficient and cost-effective manner to ultimately benefit patient care. Two credits

PAS 606. CLINICAL PHARMACOLOGY AND THERAPEUTICS I
This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 607. CLINICAL MEDICINE I
This course presents an organ-systems approach to the principles of acute and chronic disease processes in clinical medicine. Course involves a review of basic anatomy, physiology, and pathophysiology. Emphasis is placed on etiology of disease, recognition of signs and symptoms, development of differential diagnosis, diagnosis, prognosis, management, patient education, indications for referral, and disease prevention. Course addresses medical conditions related to hematology, oncology, cardiology, pulmonology, and infectious disease. Nine credits

PAS 608. HISTORY & PHYSICAL I
Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Three credits

PAS 609. CLINICAL PHARMACOLOGY AND THERAPEUTICS II
This is a continuation of Clinical Pharmacology and Therapeutics I. This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 610. CLINICAL MEDICINE II
This is a continuation of Medicine I course. This course continues to present a systems approach to the principles of disease processes; a review of basic anatomy, physiology, and pathophysiology; an emphasis on etiology of disease; recognition of signs and symptoms; development of a differential diagnosis, diagnosis, prognosis, treatment, patient education, disease prevention. This course section covers medical conditions related to renal, endocrine, neurological, and gastrointestinal systems. Nine credits

PAS 611. HISTORY & PHYSICAL II
A continuation of Physical & History I. Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Three credits

PAS 612. CLINICAL SKILLS I
This is the first of two courses that will focus on the development of a variety of clinical skills and procedures. Course covers indications, contraindications, precautions, complications, techniques, cost effectiveness and patient preparation while addressing issues of promoting a safe environment, addressing cultural sensitivity, practicing ethical and cost-effective medicine and providing and maintaining a sound relationship with the patient. Three credits

PAS 613. CLINICAL LABORATORY & MEDICAL GENETICS
This course identifies and describes common laboratory tests, demonstrates what types of laboratory tests to order for specific diseases and disorders, and reviews basic interpretation of laboratory test results. Ordering and interpreting genetic testing and application of genetic information and results in the primary care setting will be discussed. Two credits

PAS 614. CLINICAL PHARMACOLOGY AND THERAPEUTICS III
A continuation of Clinical Pharmacology and Therapeutics II, this clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. One credit

PAS 615. CLINICAL MEDICINE III
This is a continuation of Clinical Med I & II studying the etiology, presentation, evaluation and management of various diseases and disorders. Instructional emphasis is on the etiology of disease, signs and symptoms, differential diagnosis, diagnosis, prognosis, treatment, patient education, disease prevention. The topics covered in this course include medical conditions of the eyes, ears, nose and throat (EENT); pediatrics, and dermatology disorders. There will be emphasis on pediatric nutrition, screening and prevention, adolescent medicine, special and acute issues in the
pediatric population. In addition, the course will cover topics relevant to Geriatric medicine including, general principles of geriatric principles of hospice and palliative care, and death and dying. **Five credits**

**PAS 616. INTRODUCTION TO EMERGENCY MEDICINE**
This course is designed to provide the students with an introduction and an overview to the discipline of Emergency Medicine. Emphasis will also be placed on acute care and surgical conditions. All students are expected to complete ACLS and PALS training included within this course curriculum. **Two credits**

**PAS 617. CLINICAI SKILLS II**
This is a continuation of Clinical Skills I. Course covers indications, contraindications, precautions, complications, techniques, cost effectiveness and patient preparation while addressing issues of promoting a safe environment, addressing cultural sensitivity, practicing ethical and cost-effective medicine and providing and maintaining a sound relationship with the patient. Students will also be required to complete a Summative evaluation focusing on history taking and physical examination performance skills, as well as communication and clinical reasoning ability, the ability to summarize and document clinical encounter findings, and demonstration of psychomotor clinical and cognitive critical thinking skills, Objective Structured Clinical Examinations (OSCEs), and clinical procedure performance skill laboratorys. Students will participate in a cumulative overview of the NCCPA “blueprint” and will learn strategies to facilitate exam success. They will also participate in a standardized test known as the “Packrat” used as a predictor for success on the PANCE certification exam. **Three credits**

**PAS 618. BEHAVIORAL MEDICINE**
This course is designed to provide the student with tools to evaluate, diagnose, and manage psychiatric conditions. Students will gain an appreciation for the Diagnostic and Statistical Manual (DSM) classifications of mental illness as well as the importance of timely referrals to other healthcare professionals. Information will be provided on behavioral issues that impact health, the genetic and environmental aspects of behavioral disorders, etiology and treatment of substance abuse, responses and coping mechanisms for stress, growth and development, life cycle development, personality development, human sexuality, death and dying and bereavement. **Two credits**

**PAS 625. SPECIAL TOPICS**
Special topics in Physician Assistant Studies. **One to nine credits**

**PAS 626. SPECIAL TOPICS**
Special topics in Physician Assistant Studies. **One to nine credits**

**PAS 701. CLINICAL ROTATION: FAMILY MEDICINE**
This clinical practicum is an outpatient-based medical experience that focuses on the clinical aspects of family practice/primary care. Students will build on the fundamental skills of history taking, performing physical exams, developing differential diagnoses, formulating diagnoses, designing prevention and treatment plans and documenting common medical conditions observed in the family practice setting. Students will participate in a variety of primary care procedures. Emphasis will be placed on caring for the entire family ranging from the newborn to the geriatric patient. **Eight credits**

**PAS 702. CLINICAL ROTATION: PRIMARY CARE/INTERNAL MEDICINE**
This clinical practicum is an outpatient-based medical experience that focuses on the clinical aspects of family practice/primary care. Students will build on the fundamental skills of history taking, performing physical exams, developing differential diagnoses, formulating diagnoses, designing prevention and treatment plans and documenting common medical conditions observed in the family practice setting. Students will participate in a variety of primary care procedures. Emphasis will be placed on caring for the entire family ranging from the newborn to the geriatric patient. **Four credits**

**PAS 703. CLINICAL ROTATION: INPATIENT CARE**
This practicum focuses on the evaluation, diagnosis, and management of acute and chronic inpatient medical conditions. Students will perform inpatient complete history and physical exams, assist with consultations, and evaluate and management inpatients from admission to discharge. Students will appreciate how to and interpret diagnostic tests commonly utilized in inpatient medicine and to perform clinical hospital procedures. Students will also be involved with inpatient hospital documentation to include the admission summary, history and physical examination, daily progress note, consultation note, and discharge summary. **Four credits**

**PAS 704. CLINICAL ROTATION: BEHAVIORAL HEALTH**
This practicum introduces students to a variety of behavioral medicine problems in an outpatient and/or inpatient setting. Students will perform psychiatric interviews and physical examinations, assist with individual and group psychological counseling, perform psycho- logical testing, and participate in management strategies for the psychiatric patient. This practicum is designed to train to students in recognizing psychiatric medical conditions through clinical presentation and the psychiatric interview. **Eight credits**

**PAS 705. CLINICAL ROTATION: SURGERY**
This practicum introduces students to the clinical evaluation, diagnosis and surgical management of patients in the general surgery setting. Students will be trained in preoperative and post-operative patient care, outpatient evaluation of surgical candidates, surgical inpatient management, operating room protocol and surgical techniques, emergent surgical cases, and documentation specific to surgical patients. Students will learn common surgical procedures and the description, indications, contraindications, complications of each. Additionally, students will gain experience in interpreting diagnostic tests utilized in the general surgical environment. **Four credits**

**PAS 706. CLINICAL ROTATION: EMERGENCY MEDICINE**
This practicum introduces students to the clinical evaluation, diagnosis and management of acute medical and trauma conditions that present to the
emergency department. Students will observe and demonstrate the ability to triage patients, perform problem-focused history and physical examinations, develop differential diagnoses, formulate diagnoses, and design management plans for patients presenting to the emergency department. Students will also be trained in performing emergency procedures, recognizing life-threatening medical conditions, and assisting with resuscitation efforts. This practicum also focuses on utilizing diagnostic procedures essential to the emergency medicine setting. Four credits

PAS 707. CLINICAL ROTATION: PEDIATRICS
This practicum permits students to gain experience in an outpatient and/or inpatient pediatric setting. Students will be taught to care for patients ranging from neonates to adolescents through well-child and sick-child office visits. The goal of the practicum is for students to recognize the clinical presentation of common pediatric medical problems and then develop differential diagnoses, formulate diagnoses and design management plans for these patients. This practicum will reinforce the knowledge and clinical application of drug dosing, immunizations, growth and developmental milestones, common diagnostic procedures, nutritional assessment, documentation and communication with parents and pediatric patients. Four credits

PAS 708. CLINICAL ROTATION: OB/GYN
This practicum is designed to provide students with clinical experience in outpatient women’s healthcare. Focus will be on eliciting and performing the gynecological history and physical examination, screening techniques, diagnostic procedures, management plans, and contraceptive counseling and management. The practicum will enable students to strengthen their knowledge of pre-natal and post-natal care, menstrual abnormalities, infertility, sexuality issues, menopause and sexually transmitted diseases. Four credits

PAS 709. CLINICAL ROTATION:GERIATRICS
This practicum is designed to provide students with clinical experience in outpatient and inpatient geriatric healthcare. Students will have the opportunity to develop skills to care for geriatric patients and issues germane to geriatric care. Four credits

PAS 710. CLINICAL ROTATION: ORTHOPEDICS
This practicum is designed to provide students with clinical experience in orthopedics. This is a required 4 week rotation in orthopedics under the supervision of the site preceptor. Students will have the opportunity to develop skills to care for patients with orthopedics problems that can be found in the primary care setting. Students will have the opportunity to participate in pre-, intra-, and postoperative care. Four weeks, four credits

PAS 711. CLINICAL ROTATION: ELECTIVE
For this practicum the student will be permitted to select an area of medicine in which he/she desires to gain additional clinical experience. A list of elective clinical rotation settings will be provided to the student including core general rotations and subspecialty areas of medicine. The student will be permitted to develop a new elective clinical rotation site only with the assistance and permission of the faculty and the Clinical Coordinator. Four weeks, four credits

PAS 725. SPECIAL TOPICS
Special topics in Physician Assistant Studies. Eight credits

PAS 726. SPECIAL TOPICS
Special topics in Physician Assistant Studies. Four credits

PAS 735. SPECIAL TOPICS
Special topics in Physician Assistant Studies. Eight credits

PAS 736. SPECIAL TOPICS
Special topics in Physician Assistant Studies. Four credits
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<table>
<thead>
<tr>
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<th>Thursday</th>
<th>CBU Community Convocation</th>
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<tr>
<td></td>
<td>17</td>
<td>Friday</td>
<td>Transfer Student Orientation</td>
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<td></td>
<td>17-19</td>
<td>Fri.-Sun.</td>
<td>Welcome Weekend</td>
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<td>Monday</td>
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<td>24</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
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<tr>
<td>SEPTEMBER</td>
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<td>Monday</td>
<td>Labor Day Holiday</td>
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<tr>
<td>OCTOBER</td>
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<td>Friday</td>
<td>Last Day to Remove &quot;I&quot; Grades</td>
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<td>Mid Term Grades Due 10:00 a.m.</td>
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<td>15-19</td>
<td>Mon.-Fri.</td>
<td>Fall Break</td>
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<td>NOVEMBER</td>
<td>22-25</td>
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<tr>
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<td>10-14</td>
<td>Mon.-Fri.</td>
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<td>SPRING SEMESTER 2013</td>
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<td>MAY</td>
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### ACADEMIC CALENDAR FOR 2012-2013

**All 8-Week Programs**

#### FIRST FALL TERM 2012

<table>
<thead>
<tr>
<th>AUGUST</th>
<th>18</th>
<th>Saturday</th>
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<tr>
<td></td>
<td>24</td>
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<td>Last Day to Drop Courses*</td>
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<td>OCTOBER</td>
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#### SECOND FALL TERM 2012

<table>
<thead>
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<td>22-25</td>
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<td>DECEMBER</td>
<td>14-15</td>
<td>Fri.-Sat.</td>
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#### FIRST SPRING TERM 2013

<table>
<thead>
<tr>
<th>JANUARY</th>
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<td>Last Day to Drop Courses*</td>
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<td>21</td>
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<td>Martin Luther King Holiday</td>
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<td>FEBRUARY</td>
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<td>MARCH</td>
<td>1-2</td>
<td>Fri.-Sat.</td>
<td>Final Exams</td>
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#### SECOND SPRING TERM 2013

<table>
<thead>
<tr>
<th>MARCH</th>
<th>9</th>
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<tr>
<td></td>
<td>15</td>
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<td>Last Day to Drop Courses*</td>
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<td>28-1</td>
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<td>MAY</td>
<td>3-4</td>
<td>Fri-Sat</td>
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#### SUMMER TERM 2013

| JUNE | 1 | Saturday | First Day of Classes |
|      | 7 | Friday   | Last Day to Add/Drop Courses* |
| JULY | 4 | Thursday | Independence Day Holiday |
|      | 5 | Friday   | Last Day to Withdraw from Courses |
|      | 26-27 | Fri.-Sat. | Final Exams |
|      | 29 | Monday   | Grades Due 10:00 a.m. |

*Courses may be ADDED only prior to the second class meeting of any course*
# ACADEMIC CALENDAR FOR 2013
## Summer Terms, Day and Professional Studies Programs

### JUNE SESSION 2013 (5 Weeks)

<table>
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</table>

- **May 28**: Tuesday - First Day of Classes
- **May 29**: Wednesday - Last Day to Add/Drop Courses
- **June 17**: Monday - Last Day to Withdraw from Courses
- **June 28**: Friday - Final Exams
- **July 1**: Monday - Grades Due 10:00 a.m.

### JULY SESSION 2013 (5 Weeks)

<table>
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<tr>
<td>August</td>
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</table>

- **July 8**: Monday - First Day of Classes
- **July 9**: Tuesday - Last Day to Add/Drop Courses
- **July 29**: Monday - Last Day to Withdraw from Courses
- **August 9**: Friday - Final Exams
- **August 12**: Monday - Grades Due 10:00 a.m.

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# ACADEMIC CALENDAR FOR 2013
## Summer Terms, Graduate Education Program

### JUNE SESSION 2013 (5 Weeks)

<table>
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<th>June</th>
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<td>July</td>
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- **June 3**: Monday - First Day of Classes
- **June 4**: Tuesday - Last Day to Add/Drop Courses
- **June 19**: Wednesday - Last Day to Withdraw from Courses
- **June 28**: Friday - Final Exams
- **July 1**: Monday - Grades Due 10:00 a.m.

### JULY SESSION 2013 (5 Weeks)

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- **July 1**: Monday - First Day of Classes
- **July 2**: Tuesday - Last Day to Add/Drop Courses
- **July 4**: Thursday - Independence Day Holiday
- **July 17**: Wednesday - Last Day to Withdraw from Courses
- **July 26**: Friday - Final Exams
- **July 29**: Monday - Grades Due 10:00 a.m.
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CAMPUS MAP
LASALLIAN COLLEGES AND UNIVERSITIES
SPONSORED BY
THE CHRISTIAN BROTHERS
IN THE UNITED STATES

CHRISTIAN BROTHERS UNIVERSITY
Memphis, Tennessee

LA SALLE UNIVERSITY
Philadelphia, Pennsylvania

LEWIS UNIVERSITY
Romeoville, Illinois

MANHATTAN COLLEGE
Riverdale, New York

SAINT MARY’S COLLEGE
Moraga, California

SAINT MARY’S UNIVERSITY
Winona, Minnesota