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.
LOCATIONS
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 .............................................................................. Vice President for Academic Affairs
Day Admission Applications and Information ........................................ Dean of Admissions
Housing, Health, Campus Activities, Counseling, International Students, 
and General Student Welfare ................................................................. Vice President for Student Life
Athletics ..................................................................................................... Director of Athletics
Professional Studies Applications and Information .......................... Dean of Graduate and Professional Studies
Graduate Program Applications and Information .......................... Dean of Graduate and Professional Studies
Payment of University Bills ................................................................ Controller
Scholarships and Financial Aid ............................................................... Director 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) 321-3494

In compliance with federal law, Christian Brothers University does not discriminate on the basis of race, age, color, religion, sex, national 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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GENERAL INFORMATION

The Christian Brothers (Fratres Scholarum Christianarum, FSC), a community of vowed religious living together as a witness to the Gospel message, were founded by St. John Baptist De La Salle in 1680 in Rheims, France, in answer to the serious need for the Christian education of the sons of poor and working-class families. His efforts proved successful, and in order to expand the influence of his endeavors, together with his Christian Brothers, he founded the first schools for the training of teachers in Europe. Presently, the Brothers form a teaching congregation numbering 7,800 members in more than 70 countries. In the United States, the Brothers operate seven colleges and universities and 100 schools located in 23 states and the District of Columbia.

While the Brothers have determined the character and academic growth of the University for over one hundred years, they now share a significant aspect of those roles with dedicated secular faculty and staff who embrace the tradition of responding to the educational, personal, and spiritual needs of young adults. Christian Brothers University of Memphis continues the Lasallian tradition of innovation and flexible responsiveness to the spirit and demands of contemporary society while remaining faithful to its religious and academic heritage. The following Mission and Goals statements were adopted by the Board of Trustees January 31, 1995.

VISION

Christian Brothers University seeks to be the finest Catholic university in the South whose graduates will be distinguished by professional excellence, leadership and ethical character.

MISSION

Christian Brothers University is a private, Catholic, comprehensive university committed to preparing students of all faiths and backgrounds to excel in their professional and public lives by providing challenging educational opportunities in the arts, business, engineering, the sciences, and teacher education.

CATHOLIC IDENTITY

We are a Catholic university in the Lasallian tradition giving individual attention so each student matures intellectually, morally, and spiritually. We provide an inter-faith educational experience grounded in the highest ideals of private and public virtue that form a foundation for ethical living. Recognizing our common humanity, we encourage students of all faiths to practice and grow in their faith tradition by providing both Catholic and ecumenical religion courses and campus ministry programs. Our desire is to inspire each person in the Christian Brothers University community to a life of service to God, their communities, and the world.

CORE VALUES

1. Faith: Our belief in God permeates every facet of the University’s life.
2. Service: We reach out to serve one another and those beyond our campus.
3. Community: We work to build better communities and a better society.

LASALLIAN EDUCATIONAL PRINCIPLES

- Respect for each individual as a unique person
- An excellent education
- A spirit of community
- A Christian perspective
- A life of service
- A quest for justice and peace
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, 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, national and ethnic origin or handicap in administration of its educational policies, admissions policies, scholarship and loan programs, athletics and other University-administered programs.

HISTORICAL SKETCH

Christian Brothers College was founded November 9, 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 totalled 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 both 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 and Philosophy. Teacher Preparation Programs in Secondary Education were added in 1969. 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.

Programs at the graduate level were reinstated 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 Arts in Teaching and a Master of Science in Educational Leadership were added.

Christian Brothers University became coeducational in 1970. Currently, women make up approximately fifty-five percent of the student body. Officially, Christian Brothers College became Christian Brothers University in June of 1990.

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. 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 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, 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. 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 website 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. Polices regarding the use of alcohol and controlled substances are contained in the student handbook, *The Compass*.

**LIBRARY SERVICES**
Plough Memorial Library is housed in a three-story building centrally located on campus. Excellent print, media, and electronic resources are provided for our students, faculty, and staff in support of the academic programs. Electronic resources are available off campus as well via the Internet. A staff of professional librarians is available to help with research needs and to provide Information Literacy instruction. Plough Library also cooperates with Memphis area libraries to provide reciprocal borrowing privileges. Some of those libraries include the University of Memphis, Rhodes College, and the Memphis College of Art. In addition, materials can be borrowed from other libraries across the country through the interlibrary loan service.

Additional collections are available in the Brother I. Leo O’Donnell Archives which traces the 130-year history of the University and includes the Leslie H. Kuehner Napoleon Collection, the Higgins Collection on the history of Bolivia, and the De La Salle Christian Brothers Midwest Province Archival Record and Museum Collections. The Beverly and Sam Ross Gallery offers students the opportunity for an enjoyable educational experience through regularly scheduled art exhibits.

**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 Student’s 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 website 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 website.

INFORMATION TECHNOLOGY SERVICES
Information Technology Services (ITS) is located in the Rosanne Beringer Center for Computer Studies (St. Joseph Hall) and in Buckman Hall. ITS maintains 614 PCs across campus for students, faculty, and staff. The primary server platform is UNIX with Windows operating system as a client platform; however, Macintosh users may connect to our network and services.

Additional technical services offered at CBU include: telephone service, cable TV, residence hall network connections, computer labs (including SunBlade Unix Lab), Internet, email service, antivirus protection for email and a wireless network. ITS also provides helpdesk service to all students who need technical assistance. Computer guidelines, policies, and additional general information may be viewed at http://www.cbu.edu/ietc.

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 American 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.

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 once a 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, HIV/AIDS, 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 college life and to the Christian Brothers University community.

CAREER CENTER
The Career Center provides group and individual counseling to facilitate the career decision-making
process. Services are provided to all graduating seniors, undergraduates, 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-PLUS, 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. The Center also includes a resume referral service, which has recently been expanded to utilize internet services in providing 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) under University Resources.

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 website 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 and to support commuter and minority students, as well as 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, immigration services, international student Buddy and Host Family Program, monthly Commuter Breakfast, annual Commuter Fair, Commuter Student Newsletter, and the African American Alumni Reception and Awards Program. Log on to www.cbu.edu/studentlife/dos for a detailed list of all services provided. The officer is located in the Thomas Center Room 104, and the phone number is (901) 321-3536.

STUDENT ACTIVITIES
Christian Brothers University provides broad co-curricular and coeducational 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, tennis courts, a sand volleyball court, a swimming pool, and a fitness 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 Programming Council, which serves as a voice for the student body. The Programming 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 include Stu-
dent Government, social and service fraternities, sororities, professional groups, men's and women's organizations, and support groups. Also, there are 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 Sigma Lambda (Adult Honor Society)
- Alpha Sigma Tau
- Alpha Xi Delta
- American Chemical Society Student Affiliates
- American Institute for Chemical Engineering
- American Society of Civil Engineers
- American Society of Mechanical Engineers
- Association for Computing Machinery
- BACCHUS
- Beta Beta Beta (Biology Honor Society)
- Black Student Association
- Castings (literary magazine)
- CBU Chorale
- CB Singers
- Cheer Squad
- The Chosen Generation
- CrossHeirs
- Delta Sigma Pi (Business Society)
- Encore Drama Club
- English Club
- French Club
- Gamma Sigma Alpha (Greek Honor Society)
- Institute of Electrical & Electronic Engineers
- Intercultural Club
- Interfraternity Council
- Kappa Alpha Psi
- Kappa Delta Pi (Education Honor Society)
- Kappa Sigma
- Lasallian Ambassador Board
- Lasallian Collegians
- Mathematical Association of America
- National Society of Black Engineers
- Panhellenic Council
- Phi Alpha Theta (History Honor Society)
- Phi Beta Sigma
- Psi Chi (Psychology Honor Society)
- SGA Programming Council
- Sigma Alpha Epilson
- Sigma Tau Delta (English Honor Society)
- Student Government Association
- Student Peace Association
- Student Tennessee Education Association
- Tau Beta Pi (Engineering Honor Society)
- Tau Kappa Epilson
- Up 'Til Dawn
- Vietnamese Student Association
- 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 deposits on file with the Director of Residence Life. 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.

Each resident is under the supervision of the Director of Residence Life, Resident Directors, and Resident Assistants. The residence hall staffs’ duties include hall management, policy enforcement, and programming. For additional information about Residence Life, go to the website at www.cbu.edu/studentlife.

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.

EDUCATION OF VETERANS

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 Associate Registrar at 321-3237 for information pertaining to particular courses of study. Veterans must notify the Associate Registrar every semester that they are enrolled by completing the enrollment certification form and when they withdraw from classes.

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 266)

- Avery Apartments: Residence apartments for men and women.
- Barry Hall: The first floor (entrance level) houses the Executive Offices of the President, the Administrative Vice President, and the Vice President for Advancement; it also includes the Office for Advancement, Alumni Office, Communications Office, and St. Joseph Chapel. The lower level houses the Registrar’s Office, Retention and Advising Office, Student Financial Assistance Office,
Human Resources, and Business Office. The upper level houses the Career Center and offices for the School of Arts faculty.

- **Battersby Hall**: Athletic Department offices for soccer teams.
- **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.
- **CBU Apartments**: Residence hall apartments for men and women (three buildings, including O’Hara Hall).
- **CBU Theatre**: Provides facilities for assemblies, lectures, plays, movies, etc.
- **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.
- **Kenrick 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.
- **Maurelian Hall**: Women’s student residence hall.
- **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, media, and electronic materials. 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**: Men’s student residence hall.
- **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 and Communications & Marketing.
- **Science Center**: Includes offices and laboratories for Biology, Chemistry, Computer Science, Mathematics, Natural Science, and Physics, plus six multimedia classrooms.
- **Stritch Hall**: Provides limited student housing (for men and women) during the Fall and Spring semesters, and summer rental facilities for small to medium size meeting groups, including planning rooms, dining facilities, and recreational facilities. Also houses the O’Donnell Archives and includes De La Salle Chapel, a separate structure for religious services.
- **Thomas Center**: Houses the Office of the Vice President for Student Life, offices of the Dean of Students, Student Activities, Events Management, Campus Ministry, Counseling Center, and Residence Life. Also includes the Alfonso Dining Hall, recreational facilities, Buccaneer Snack Bar, Bookstore, and the fitness center.

**REGISTRATION STATISTICS 2006-07**

<table>
<thead>
<tr>
<th>Class</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>322</td>
</tr>
<tr>
<td>Sophomores</td>
<td>289</td>
</tr>
<tr>
<td>Juniors</td>
<td>204</td>
</tr>
<tr>
<td>Seniors</td>
<td>222</td>
</tr>
<tr>
<td>Total Day Program</td>
<td>1,037</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programs</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Studies</td>
<td>383</td>
</tr>
<tr>
<td>Graduate Programs</td>
<td>304</td>
</tr>
</tbody>
</table>

**TOTAL STUDENTS**: 1,724
PERSONNEL

Mr. Willis Willey III, Chairman
Brother Vincent Malham, FSC, President of the University

Dr. James W. Adams III
Mr. Leo Arnoult
Mr. Joseph F. Birch, Jr.
Mr. Albert Cantu
Brother Francis Carr, FSC
Brother Konrad Diebold, FSC
Mr. Charles B. Dudley III
Mr. H. Lance Forsdick, Sr.
Mr. Richard T. Gadomski
Mr. Charles C. Gerber
W. Jerry Gillis
Helen S. Gronauer
Rev. Valentine Handwerker
Mr. James E. Harwood III
Brother Bernard LoCoco, FSC

Mr. Robert G. McEniry
Brother Terence McLaughlin, FSC
Mrs. Joyce A. Mollerup
Mr. David E. Nelson
Ms. Jacqueline L. Nesbit
Lori M. Patton
Mrs. Weetie Bondurant Phillips
Mr. John H. Pontius
Mr. Joseph R. Rimstidt, Jr.
Dr. Stephany Schlachter
Mr. Brian J. Splan
The Honorable Judge Rita Stotts
Mr. Michael D. Uiberall
UNIVERSITY VICE PRESIDENTS

Dr. Anthony J. Aretz  
ACADEMICS

Dr. Evelyn McDonald  
STUDENT LIFE

Dr. Michael Ryan  
ADVANCEMENT

C. Daniel Wortham  
ADMINISTRATION & FINANCE

UNIVERSITY ACADEMIC DEANS

Dr. Marius Carriere  
SCHOOL OF ARTS

Dr. Johnny Holmes  
SCHOOL OF SCIENCES

Dr. Eric Welch  
SCHOOL OF ENGINEERING

UNIVERSITY ADMINISTRATION

President .......................... Brother Vincent Malham, FSC, D.Mus.
Executive Assistant to the President .......................... Brother Louis Althaus, FSC, Ph.D.
Assistant to the President .................................. Donna Freeman

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

Communications & Marketing
Executive Director for Communications & Marketing ................. Elisa C. Marus, M.S.S.W.
Director of Publications .............................................. Cory Dugan, B.F.A.

ACADEMICS

Academic Vice President .................................. Anthony J. Aretz, Ph.D.
Associate Academic Vice President .......................... John M. Hargett, M.S.
Dean of the School of Arts ..................................... Marius Carriere, Jr., Ph.D.
Interim Dean of the School of Business ................................ James T. Rhodes, M.B.A.
Dean of the School of Engineering .......................... Eric B. Welch, Ph.D.
Dean of the School of Sciences ............................ Johnny B. Holmes, Ph.D.
Dean of Academic Services ................................ Thomas Burk, M.A.
Dean of Admissions .............................................. Tracey L. Dysart-Ford, B.A.
Dean of Graduate & Professional Studies ....................... Tonna Bruce, M.B.A.
Director of Graduate Education Programs (M.Ed. & MSEL) ................ Talana Vogel, Ed.D.
Director of Undergraduate Education and MAT Program ............... Samantha M. Alperin, Ed.D.
Director of Graduate Engineering Programs (MEM & MSEM) ........... Neal F. Jackson, Ph.D.
Director of M.A. Catholic Studies Program ................................... David M. Gides, Ph.D.
Director of MBA and MAEL Programs ......................................... Bevalee B. Pray, Ph.D.
Registrar ............................................................................................ Barbara A. Havey, M.S.
Associate Registrar ............................................................................ Melody Nabors, M.Ed.
Director of the Plough Library ......................................................... Christopher Matz, M.L.I.S.
Director of Honors Program .............................................................. Tracie L. Burke, Ed.D.
Director of Student Disability Services ............................................. Karen M. Conway, M.S.
Director of International Initiatives .................................................. Emily Forsdick, Ed.D.

INFORMATION TECHNOLOGY
Dean of Information Technology Services ......................................
Director of Network Services ......................................................... Brother Kenneth Arnold, FSC, M.S.
Director of Technical Support Services ............................................. Jackie Jacobs, A.A.S.
Director of Systems Administration ..................................................

ADMINISTRATIVE AFFAIRS
Vice President for Administration & Finance ..................................... C. Daniel Wortham, M.Ed.
Controller .......................................................................................... Thomas Cochran, B.S.B.A.
Director of Student Financial Assistance .......................................... Jim Shannon, B.B.A.
Director of Food Service ................................................................. Steve Ritter
Director of Human Resources ............................................................ Ken Massa, B.B.A., P.H.R.
Director of Physical Plant ................................................................. Phil Yelvington
Bookstore Manager ............................................................................. Charlie Coleman

ADVANCEMENT
Vice President for Advancement ...................................................... Michael R. Ryan, Ph.D.
Director of Development ................................................................. Andrew Prislovsky, B.A.
Director of Corporate and Community Relations ............................ Henry Brenner, M.B.A.
Director of Annual Giving ............................................................... Lisa Bell, M.Ed.
Director of Alumni Programs .......................................................... Aimee Lewis, B.A.
Director of Alumni Records and Research ........................................ Eric Ellis, M.B.A.
Manager of Advancement Information Systems ................................. Linda Dunlap

STUDENT LIFE
Vice President for Student Life .......................................................... Evelyn A. McDonald, Ed.D.
Dean of Students .................................................................................. Karen Conway, M.S.
Director of Campus Safety ............................................................... John Lotrionte
Director of the Career Center .............................................................. Betty McWillie, M.Ed.
Director of Counseling ........................................................................ Sadie Lisenby, M.A.
Director of Events Management ....................................................... Joseph Martin Brock, B.S.
Director of Health Services ............................................................... Brenda Hill, R.N., M.S.N.
Director of Ministry and Mission ....................................................... Brother Rob Veselsky, FSC, M.A.T., M.A.
Director of Residence Life ................................................................. Ebonye Bowie Reed, B.A.
Director of Student Activities ...........................................................
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 Aptitude Test (SAT) of the College Entrance Examination Board.

Statistics for the 2006 freshman class were the following: 72% ranked in the upper 30% of their class; 82% attained a grade point average of 3.0 or higher; 58% had an ACT score of 24 or higher for those who reported this data.

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 35 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 their command of English will be given by a minimum score of 500 on the paper-based test or a 173 on the computer-based test of English as a Foreign Language (TOEFL).

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 50 or above on the General Education Development (GED) high school level test.

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 Dean 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.

**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.

**ADMISSIONS PROCEDURES**

**Freshman:**

*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 Returnee:**

*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.
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 35).

**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
institutions.
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, as requested.
3. Personal letter of request for admission, including relevant details for consideration.
4. Completed Health Form.

**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 for Student Life.

**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, 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 veteran students are required to submit a DD214. All post secondary education/training including military will be evaluated, and credit evaluated appropriately. No VA certification can be sent in unless the VA student fills out the Request for Verification Form in the Registrar’s Office each semester that the VA student is enrolled.

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. The maximum number of credit hours that can be granted through any combination of the above exams 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 lower division 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. Information regarding the program at Christian Brothers University may be obtained from the Office of the Registrar or the Graduate and Professional Studies Office. Christian Brothers University will evaluate International Baccalaureate courses for college credit. An official transcript from the IB school must be sent to CBU before credit can be evaluated.
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.

**EXPERIENTIAL ASSESSMENT**

Students may be granted credit for college-level knowledge and understanding related to the student's degree program and gained from non-college instruction. Credit for professional or technical courses, licenses, certifications, workshops, or similar instruction can be awarded if completion, clock hours, and content are documented thoroughly. 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 Academics for Graduate and Professional Studies. The documentation will then be forwarded to the academic department chair for evaluation. 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 Academics for Graduate and Professional Studies to ensure that duplicate credit is not being awarded if several departments must evaluate the information. The Dean of Academic Services or the Director of Academics for Graduate and Professional Studies will submit the awarded transfer credit to the Registrar's Office for posting. 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.

**REGISTRATION**

During an announced advisement period, a student meets with his/her advisor to plan a schedule of courses for the upcoming semester. A student registering for day classes then has the courses entered onto his or her record by the advisor, may bring the signed registration form to the Office of the Registrar in order to be added to the class rolls, or register herself/himself via the Web. A student registering for classes in the Graduate and Professional Studies programs should register via the 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 $150.00. 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.
EXPENSES & FINANCIAL AID

UNDERGRADUATE EXPENSES PER SEMESTER 2007-08

**Tuition** ................................................................. $10,420.00

**Tuition for part-time students** (i.e., taking fewer than 12 hours)

or for each additional credit-hour above 19 (per credit hour) ...................... $655.00

*Tuition for course audit is half the price of regular credit courses on a per credit hour basis.*

**Summer School Tuition** (per credit hour, 2007 session) .................. $295.00

**Professional Studies Tuition** (per credit hour, 2007-08) .................... $420.00

**Room** (per semester)

Maurelian and Rozier Halls

- Single occupancy .................................................................................................. $2,460.00
- Double occupancy ................................................................................................ $1,310.00

Stritch Hall

- Single occupancy .................................................................................................. $1,545.00
- Double occupancy ................................................................................................ $990.00

CBU Avery Apartments

- Single occupancy .................................................................................................. $2,730.00
- Double occupancy ................................................................................................ $1,590.00

CBU Capstone Apartments

- Single occupancy only ........................................................................................... $2,950.00

**Board** (per semester)

- Unlimited Meal Plan + 50 BUC Dollars ................................................................. $1,610.00
- 14-Meal Plan + 50 BUC Dollars ............................................................................. $1,530.00
- 10-Meal Plan + 100 BUC Dollars ......................................................................... $1,445.00
- 5-Meal Plan + 150 BUC Dollars ............................................................................ $930.00

**FEES**

Application Fee, Day and Professional Studies Undergraduate Programs

(Payable once only, non-refundable) ................................................................. $25.00

Enrollment Fee (Tuition Deposit, Refundable through 5/1) .................................. $300.00

Late Registration Fee, Day Program .................................................................. $150.00

Late Registration Fee, Professional Studies/Summer Terms ............................ $150.00

Activity & Services Fee, Full-Time Day Students, per semester .................. $100.00

Activity & Services Fee, Part Time Day Students, per semester ................... $40.00

Activity & Services Fee, Professional Studies Student, per semester ............. $25.00

Returning Student Room Deposit ..................................................................... $300.00/500.00

Challenge Examination and Posting Charges ................................................ $100.00

Student Teaching Fee (Day or Professional Studies programs) ................... $150.00

Alternative Licensure Mentoring Fee ................................................................. $525.00

Administrative Internship Fee ........................................................................... $100.00

Technology Fee, Full Time Day Student, per semester .................................... $160.00

Technology Fee, Professional Studies, per semester ....................................... $45.00

Technology Fee, Part Time Day Student, per semester ................................... $60.00

Graphing calculator for MATH courses, approximately ............................... $25.00

Returned Check Charge ................................................................................... $100.00

Music-Private Piano Instruction ......................................................................... $100.00

Music-Private Voice Instruction .......................................................................... $100.00

*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 Resources Office.*

1 Minimum purchase of 10-meal plan required.

2 Minimum purchase of 5-meal plan required.
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 non-boarders and payment of full tuition, fees, and full room and board for boarders will be required before classes begin each semester or evening term unless students are on one of the three deferred payment plans that are offered. Visa, Mastercard, and Discover are accepted for payment up to the approved limit for charges to these accounts.

Day Students who have not settled their financial accounts by the fifth class day of the semester will have their schedules dropped from the University. Upon reinstatement of their original schedule, they will be charged a $150.00 late registration fee.

Evening students who fail to settle their financial accounts during the first week of each session will have their schedules dropped from the University. Upon reinstatement of their original schedule, they will be charged a $150.00 last registration fee.

Additional fees (including lab fees) will be presented in a separate bill and will be payable upon presentation.

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 (Avery, Maurelian, Rozier, and Stritch) or a $500.00 (Capstone) 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 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 canceling prior to the August 1st deadline will be responsible for a $300.00 cancelation 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 Student Life.

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 Student Life.

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
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.

Day Students will be expected to continue using the official form for necessary signatures which can be obtained in the Registrar’s Office Monday through Friday 8 A.M. to 4:30 P.M.. The necessary information needed is Name, Social Security Number, Phone Number during the Day, whether receiving Financial Assistance, Name of Class(es), Name of Instructor(s), Date of Last Attendance, Name of Advisor, whether an athlete or not, and whether an international student 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 any refunds.

TUITION ADJUSTMENT POLICY FOR WITHDRAWAL FROM CLASS

No tuition adjustment calculation will be applicable unless a student completely withdraws from all registered classes.

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 informs the Registrar they wish to withdraw), 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 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..........................100%</td>
<td></td>
</tr>
<tr>
<td>First 25% of Semester........................................50%</td>
<td></td>
</tr>
<tr>
<td>26-60% of Semester ...........................................25%</td>
<td></td>
</tr>
<tr>
<td>Over 60% of Semester.........................................No Adjustment</td>
<td></td>
</tr>
</tbody>
</table>

B. Evening Undergraduate or MBA, MEd, MAT, MSEL, or MAEL 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, MAEL 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 ..................100%</td>
<td></td>
</tr>
<tr>
<td>First 25% of 1st 8-Week Term ...........................50%</td>
<td></td>
</tr>
<tr>
<td>26-60% of 1st 8-Week Term ...............................25%</td>
<td></td>
</tr>
</tbody>
</table>

in arrears are paid in full. There is a one percent monthly interest charge on all delinquent accounts.
Over 60% of 1st 8-Week Term ............................................. No Adjustment

C. Evening Undergraduate or MBA, MEd, MAT, MSEL, or MAEL 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, MAEL 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, MSEL, or MAEL 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, MAEL 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>Official Notification 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% of 1st 8-Week Term Classes</td>
</tr>
<tr>
<td>26-60% of 1st 8-Week Term</td>
<td>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 1st 8-Week Term Classes</td>
</tr>
<tr>
<td>First 25% of 2nd 8-Week Term</td>
<td>No Adjustment for 1st 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) $00.00 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 Stafford Loans
- Subsidized Stafford Loans
- Federal Perkins Loans
- Federal Plus Loans
- Federal Pell Grants
- Federal SEOG
- Federal ACT and SMART Grants
- 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**

Christian Brothers University Deferred Payment Plans —For students and parents who find it necessary to pay educational expenses in monthly installments, payment plans are available through the University. If you are interested in any of these plans, inquiries should be made to the Business Office, Christian Brothers University. Note: All deferred plans have interest calculated at 1% per month on the student’s outstanding 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.

**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**

Academic scholarships require a 2.75 cumulative GPA by the end of the sophomore year. Lasallian Academic Scholarships and Lasallian Achievement Grants require progress as described in the ACA-
DEMIC CONTINUATION section of the catalog. 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 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.ed.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 ACADEMIC PROGRAMS & REGULATIONS

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:

**Applied Psychology** (B.A.)
*Areas of Concentration:*
- Criminal Justice
- Engineering Psychology
- Organizational Psychology

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

**Biomedical Science** (B.S.)

**Business Administration** (B.S.)
*Areas of Concentration:*
- Accounting
- Finance
- Information Technology Management
- Management
- Marketing

**Business Studies** (B.S.)

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

**Chemistry** (B.S.)

**Civil Engineering** (B.S.)

**Computer Science** (B.S.)

**Cultural Studies** (B.A.)

**Electrical Engineering** (B.S.)
*Areas of Concentration:*
- Computer Engineering
- Electrical Engineering

**Electrical Engineering & Computer Science** (B.S., dual degree)

**Engineering Management** (B.S.)
*Areas of Concentration:*
- Information Systems
- Packaging

**Engineering Physics** (B.S.)

**English** (B.A.)

**English for Corporate Communications** (B.A.)

**History** (B.A.)

**Liberal Studies** (B.A.)

**Mathematics** (B.A., B.S.)

**Mathematics & Computer Science** (B.S., dual degree)

**Mechanical Engineering** (B.S.)

**Natural Science** (B.S.)

**Physics** (B.S.)

**Psychology** (B.A.)

**Religion and Philosophy** (B.A.)

**Studio Art** (B.F.A.)

**University Studies** (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 56 for more details.
THE DAY PROGRAM
The DAY PROGRAM presents curricula leading to degrees in fields listed on the previous page. 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 an accelerated curriculum through which a student may earn a Bachelor of Science degree in Business Administration or a Bachelor of Arts in Applied Psychology by attending classes at times compatible with full employment. A large portion of the Liberal Studies K-6 track in Education is also available in the Graduate and Professional Studies Program. The Criminal Justice option of the Applied Psychology degree will enable students to partner transfer credits with CBU courses. Other options in Applied Psychology are Organizational Psychology and Engineering Psychology. The same standards, expectations, and policies apply to both Day and Graduate and Professional Studies Programs unless otherwise noted. 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 a semester. Students must enroll for both eight week terms at the beginning of the semester. In addition, there is one eight-week session in the summer. Classes meet for two hours per night on a Monday-Wednesday or Tuesday-Thursday schedule usually beginning at 5:45 P.M. Exams for the Monday-Wednesday classes are Friday of the last week of class and for the Tuesday-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. Some classes meet once a week for four hours on Saturday morning. 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 the 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; however, during the summer, students may receive credit for off-campus courses under
certain circumstances. See “SUMMER SESSIONS.”

**SUMMER SESSIONS**
There are two five-week terms during the day summer sessions and one eight-week term in the evening.

Under extenuating circumstances, a Christian Brothers University student may request to take summer sessions courses at another four-year, fully accredited college or university, provided that the student is not repeating a course with a grade of “I” or “F.”

**A CBU student who wishes to enroll in summer school at another institution must:**
1. complete a REQUEST FOR OFF CAMPUS FORM available in the Registrar’s Office, 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 summer session.

**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 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 and 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**
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 University shall have cultivated, through
the arts and sciences, the necessary skills of inquiry, reasoning, and communication, and shall have
developed an awareness of the religious dimension of human existence. In the tradition of Christian
Brothers University, all students take a broad range of courses, thus providing the opportunity to
experience the full breadth of the curriculum. These common requirements are:

**ENGLISH (9 hours)**
(a) Composition: ENG 111 & 112 required or through equivalency examination.
(b) Literature: three hours from either ENG 211, 212, 221, or 222.
Note: Honors majors may fulfill the English requirement by completing ENG 231 & 232.

**INTERDISCIPLINARY STUDIES (3 hours)**
IDS 101

**MATHEMATICS (3 hours)**
MATH 105, 117, 129, or 131. Not permitted: MATH 100 or 103.

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

**RELIGIOUS STUDIES (6 hours)**
RS 200, 217, 220, 221, 230, 270, 280, 320, 324, 326, 335, 345, 385, 395

**MORAL VALUES (3 hours)**
PHIL 219, 220, 234, 321, 322, 323, 324, 325, 340, & 395

**SOCIAL SCIENCE/HISTORY (6 hours)**
ANTH 160; HIST 107, 108, 151, 152; POLS 112, 113; PSYC 105; SOC 101, 160; ECON 214

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
Bulletin, 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.

**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 Com-
mission 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’ achievement 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 less 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. 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 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 fails to do this, he/she will graduate once this is done, and the graduation date will be the one after the form 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 polices associated with the degree. The student is also responsible for any changes that might occur that are posted in the CBU
Bulletin, 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 less than 15 semester hours of credit per semester and not more than 19 hours per semester. Any student who registers for less 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 9 credit hours per semester. There will be an additional tuition charge for each additional credit hour above 19.

**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 and no more than 14 semester hours (or four courses). 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. 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 if he or she is only registered for one term and is taking a science class with its accompanying lab. A Professional Studies student must register for 12 hours 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 Dean 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. Students taking courses in the 8-week accelerated programs should plan to attend the first class meeting as each class meeting is equivalent to one week of classes.

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.

**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 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 Academic Affairs.

**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 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.*

**GRADES**
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. All CBU students must have a CBU email address. Only semester grades are kept on permanent records. For the purpose of com-
puting 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.

“I” indicates that work in a course is incomplete. 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 a contract, complete the contract 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. The “I” grade will not be computed into the GPA. When the “I” is changed to a grade, the 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 this course is needed to continue to the next course. The grade is changed to an “F” if all work is not completed by the midterm of the following semester for day courses or the end of the following term for evening courses. Students may pick up the form in the Registrar’s Office or the Graduate and Professional Studies Office prior to meeting with the instructor. The form is also available on the Web for downloading and completion.

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 two weeks 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.

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 ratio 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 three times (a total of 4 enrollments) for the purpose of obtaining a higher grade. A semester or term in which the student withdraws from the course with a grade of "W" will be counted as an initial enrollment or an attempt to repeat the course. A student may not repeat any course off-campus in which a failing grade has been received at Christian Brothers University.

**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 in May or August can walk in the graduation ceremony. Graduating students also have two weeks 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 changes can be made. Once a student graduates and wants to come back to take courses at Christian Brothers University, he/she must go back through the Graduate & Professional Studies program for re-admission.

**GRADUATION HONORS**

A graduating senior who has attained a Grade Point Average of 3.70 to a 4.00 will be awarded honors of SUMMA CUM LAUDE. A graduating senior who has attained a Grade Point Average of 3.50 to a 3.69 will be awarded honors of MAGNA CUM LAUDE. A graduating senior who has attained a Grade Point Average of 3.20 to a 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>
</tr>
</thead>
<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>
</tr>
</tbody>
</table>
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 on probation is limited to 5 hours per semester unless written permission to carry more has been obtained from the Vice President for Academic Affairs.

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.

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 Academic Affairs or an administrator delegated by the Vice President for this purpose. Readmission is not automatic; the Vice President for Academic Affairs or his/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.

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 in the Office of the Registrar. 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.

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 on-line “Withdrawal” form on the Registrar’s web page. 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.

All Day students will be expected to continue using the official form for necessary signatures which can be obtained in the Registrar’s Office Monday through Friday 8 A.M. to 4:30 P.M. The necessary informa-
tion needed is Name, Social Security Number, Phone Number during the Day, whether receiving Financial Assistance i.e. Stafford Loans, Pell Grants, etc., Name of Class(es), Name of Instructor(s), Date of Last Attendance, Name of Advisor, and whether an athlete or international student or not. 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 refunds.

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, Box 40, Barry Hall, Christian Brothers University, 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 Academic Director (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, photo, 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.

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 the 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 a Honors Program Diploma by completing the designated number of honors courses, including HUM 498, Honors Integrative Seminar, along with graduating with a 3.2 GPA. Students who do not earn a Honors Program Diploma but who do complete two Honors Program classes with a grade of “C” or better will be identified in the commencement program as Honors Program students. Besides taking Honors classes, members of the program will participate in various extracurricular activities,
including outings to cultural events and regional Honors conferences. For further information about the Honors Program, please consult the Honors Program webpage at www.cbu.edu/Academics/honors or contact the Honors Program Director at (901) 321-3357.

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

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 the students of all member schools. Students may register at a “host” school with the approval of the appropriate academic counselor, a letter 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 laboratory fees. 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 graduate and graduate courses, at least twelve (12) hours are required in order to be considered full time for Consortium purposes.

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 the 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 321-3461.
SCHOOL OF ARTS

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

ADMINISTRATION

DR. MARIUS M. CARRIERE, JR., Dean
DR. MARIUS M. CARRIERE, JR., Chair of History and Political Science
DR. STEPHEN E. GRICE, Chair of Literature and Languages
DR. TRACIE L. BURKE, Chair of Behavioral Sciences
DR. TALANA VOGEL, Chair of Education and Director of Graduate Education
DR. PAUL HAUGHT, Chair of Religion and Philosophy
MS. JANA TRAVIS, Chair of Fine Arts and Speech
DR. SAMANTHA M. ALPERIN, Director of Undergraduate Education and M.A.T. Program
DR. DAVID M. GIDES, 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

RENA DURR, Professor
B.S., M.A., Ph.D., Louisiana State University

TERI J. MASON, Assistant Professor
B.A., Augustana College; M.A., University of Pittsburgh; Ph.D., Southern Illinois University

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., Ph.D., Kansas State University

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

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

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EDUCATION

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

WENDY ASHCROFT, Assistant Professor
B.A., Rhodes College; M.E.D., Memphis State University; Ed.D, Memphis State University
BROTHER IGNATIUS BROWN, *Adjunct Assistant Professor*
B.S.S., M.Ed., St. Mary’s College; Ph.D., The Ohio State University

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

MERWIN A. McCOY, *Assistant Professor*
B.S., University of Mississippi; M.A., Memphis State University; Ed.D., The University of Memphis

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

LAVERN TERRELL, *Assistant Professor*
B.M., Stamford University; M.A., Clark Atlanta University; Ed.D., East Tennessee State University

TALANA VOGEL, *Assistant Professor*
B.S., M.S., Florida State University; Ed.D., The University of Memphis

———

**FINE ARTS AND SPEECH**

J. THOMAS GAINES, JR., *Visiting Assistant Professor*
B.M., M.M., University of Memphis

BROTHER MATTHEW SZATKOWSKI, FSC, *Assistant Professor*
B.A., M.Ed., St. Mary’s College; M.A., University of Notre Dame; M.F.A., University of Memphis

JANA B. TRAVIS, *Assistant Professor*
B.F.A., M.F.A., The University of Memphis

———

**HISTORY AND POLITICAL SCIENCE**

PAUL W. BERK, *Visiting Assistant Professor*
B.A., M.A., Ph.D. Florida State University

MARIUS M. CARRIERE, JR., *Professor*
B.A. University of Louisiana-Lafayette; M.A., Stephen F. Austin State University; Ph.D., Louisiana State University

KARL LEIB, *Assistant Professor*
B.A., SUNY Albany; M.A., SUNY Albany, Ph.D., Syracuse University

NEAL A. PALMER, *Assistant Professor*
B.A. Vanderbilt University; M.A. University of Memphis; Ph.D. The University of Rochester

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**LITERATURE AND LANGUAGES**

ELIZABETH P. BROADWELL, *Professor*
B.A., Guilford College; M.A., Ph.D., University of North Carolina at Chapel Hill

MARY T. CARGILL, *Professor*
B.A., M.A., Memphis State University; Ph.D., University of Mississippi

ROGER R. EASSON, *Professor*
B.A., M.A., Pittsburg State University; Ph.D., University of Tulsa
KAREN B. GOLIGHTLY, Assistant Professor
B.A., Rhodes College; M.F.A., University of Memphis; Ph.D., Southern Illinois University

FREDERICO C. GOMEZ UROZ, Visiting Instructor
B.S., M.S., University of Granada, Spain; M.A., The University of Memphis

DR. STEPHEN E. GRICE, Professor
A.B., University of Illinois; M.A., Ph.D., University of Southern Illinois

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

ANN MARIE WRANOVIK, Professor
B.A., Vanderbilt University; M.A., Ph.D., Yale University

———

RELIGION AND PHILOSOPHY

DAVID M. GIDES, Assistant Professor
B.A., Manhattan College; M.A., Ph.D., Fordham University

J. BURTON FULMER, Assistant Professor
B.A., Georgetown University; M.A., George Mason University; Ph.D., Vanderbilt University

SCOTT GEIS, Assistant Professor
B.A., Bethel College; M. Div. Bethel Theological Seminary; M.Th. Duke University; Ph.D., Marquette University

PAUL A. HAUGHT, Assistant Professor
B.A. Georgetown University; M.A. University of North Texas; Ph.D. Tulane University

PHILIP J. MALONEY, Associate Professor
B.A., M.A., University of Montana; Ph.D., University of Memphis

SISTER ANN McKEAN, C.S.A., Associate Professor
B.A., Marian College; M.A., Manhattan College; Ph.D., Vanderbilt University

GEOFFREY MILLER, Assistant Professor
B.A., Indiana University; M.A., St. Louis University; Ph.D., The Catholic University of America

———

PROFESSORS EMERITI

ROSE G. DEAL
Doctor of Letters, University of Bari and Naples, Italy

PETER F. LIPPER, Professor
B.A., M.A., Ph.D., Yale University

KRISTIN A. PRUITT
B.A., Southwestern at Memphis; Ph.D., University of North Carolina
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 56 for details);

**FINE ARTS AND SPEECH** which includes study in Art, Music, Speech, and Theatre. The department offers a B.F.A. in Studio Arts and minors in Art, Music Performance, and Theatre Arts. Courses are offered under the following headings: Art, Music, Speech, and Theater;

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

**LITERATURE AND LANGUAGES** which offers majors and minors in English, a major in
English for Corporate Communications, and minors in foreign language;

**RELIGION AND PHILOSOPHY** which offers courses under the headings of Humanities, Philosophy, and Religious Studies, and a program in Peace Studies. The Religion and Philosophy major combines core courses in Philosophy and Religious Studies.

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 judgement. 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 31). Students seeking Teacher Licensure must meet special requirements (See Page 55). The Liberal Arts Core requirements are as follows:

- **FINE ARTS ELECTIVES** (3 hours)
  Any course(s) in Art or Music, or THEA 115, 221, 315, or 317.

- **FOREIGN LANGUAGE** (6-12 hours; see requirements for specific majors)
  All hours must be in the same foreign language.

- **HISTORY** (6-12 hours, depending on major)
  When 12 hours are required, 6 must be American History, 6 in non-American History.

- **HUMANITIES** (3 hours)
  Humanities 150 or 160 (Honors) Perspectives on Public Life.

- **LITERATURE** (hours vary)
  Most Liberal Arts majors require 3 or more additional hours of literature beyond the 3-hour General Education requirement. ENG 221 and 222 are recommended in most cases; see course requirements for particular degrees.

- **POLITICAL SCIENCE ELECTIVE** (3 hours)
  May be replaced with elective hours if the student is pursuing a minor.

- **PSYCHOLOGY OR SOCIOLOGY** (6 hours)

- **SPEECH COMMUNICATION** (3 hours)
  SPCH 125, or in some cases THEA 377. May be replaced with elective hours if the student is pursuing a minor.
COURSE REQUIREMENTS FOR APPLIED PSYCHOLOGY

GENERAL EDUCATION REQUIREMENTS (See Page 31)................................. 34 hours
Interdisciplinary Studies (IDS 101) ............................................................... 3 hours
English Composition (ENG 111 & 112) ...................................................... 6 hours
Mathematics¹ (MATH 105 or 117) ................................................................. 3 hours
Science² (recommended BIOL 103, 107, 109, or 111) ................................. 4 hours
Literature (ENG 211, 212, 221, or 222) ......................................................... 3 hours
Religious Studies³ ........................................................... 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........................................................... 18 hours
Humanities (HUM 150) .............................................................................. 3 hours
Fine Arts (ART, MUSC, or THEA 115, 221, 315, or 317) ............................ 3 hours
Foreign language (all hours in the same language) .................................... 6 hours
History (HIST 107 & 108, or 151 & 152 recommended) ............................ 6 hours

BEHAVIORAL SCIENCES REQUIREMENTS............................................. 30-36 hours
Lower division Psychology (PSYC 219, 230) ............................................. 6 hours
Upper division Psychology (PSYC 353, 440) ............................................ 6 hours
APA Writing Class (PSYC 235) ................................................................. 3 hours
Psychology/Sociology/Anthropology Electives⁴ ................................. 6-12 hours
Sociology/Anthropology/Criminal Justice (SOC 160, ANTH 160 or CJ 150) ....... 3 hours
Psychology Comprehensive (PSYC 497) ................................................... 0 hours
Research & Statistics, Practicum (PSYC 354, 460) ................................. 6 hours

OPTION COURSES⁵ ........................................................................... 27-33 hours

ELECTIVES ............................................................................. 0-6 hours

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

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

¹ Engineering Psychology Option: Math requirement must be fulfilled by MATH 131 and MATH 117.
² Engineering Psychology Option: Science requirement must be fulfilled by CHEM 113/113L or CHEM 115/115L.
³ Three hours of religious studies at the 200 level and three hours of religious studies at the 300 level are required.
⁴ The number of hours for the Psychology/Sociology/Anthropology/ and Criminal Justice Electives will depend on the concentration that is chosen.
⁵ All Applied Psychology majors are required to select one of the following options:
   Option I - Organizational Psychology: ACCT 260; BLAW 345, ECON 214, 215; MGMT 337, 339, 352, 412, 420; MKTG 311; STAT 222.
   Option II - Criminal Justice: 27 hours of Criminal Justice courses (usually offered in the evening).
   Option III - Engineering Psychology: PHYS 150 and PHYS 150L; ChE 101/102 or CE 105/112; ME 121 or CE 111; ECE 112 or CS 122; CE 201 or ME 200; PSYC 301, PSYC 352; an additional 6 hours from the following: ME 201, ME 202, ME 317, ME at 300 or 400 level with instructor approval; CE 115, CE 214, CE at 300 or 400 level with instructor approval; ChE 231, ChE 232, ChE 245, ChE at 300 or 400 level with instructor approval; ECE 250, ECE at 300 or 400 level with instructor approval.
COURSE REQUIREMENTS FOR ENGLISH

GENERAL EDUCATION REQUIREMENTS (See Page 31) .................................................. 34 hours

Interdisciplinary Studies (IDS 101) ........................................................................ 3 hours
English Composition (ENG 111 & 112) ............................................................... 3 hours
Mathematics (MATH 105, 117, 129, or 131) ........................................................... 3 hours
Science with lab (BIOL 103, 107, 109, 111, CHEM 113, 115, NSCI 111, 115, 118, 122, 126, 128, PHYS 150, 201) ................................................................. 4 hours
Social Science/History (HIST 107,108,151,152; POLS 112,113; PSYC 105; SOC 101, 160; ECON 214) ................................................................. 6 hours
Literature (ENG 221) .............................................................................................. 3 hours
Religious Studies\(^1\) ............................................................................................... 6 hours
Moral Values (PHIL 219, 220, 224, 234, 321, 322, 323, 324, 325, 340, or 395) .......... 3 hours
Orientation (required for new freshmen) ................................................................. 0 hours

SCHOOL OF ARTS REQUIREMENTS .................................................................... 42 hours

History ....................................................................................................................... 9 hours
Literature (ENG 222) .............................................................................................. 3 hours
Humanities (HUM 150 or 160) ................................................................................ 3 hours
Fine Arts (ART, MUSC, or THEA 115, 221, or 317) ................................................. 3 hours
Foreign Language (all hours in the same language\(^2\)) ............................................. 12 hours
Political Science ..................................................................................................... 3 hours
Psychology or Sociology ......................................................................................... 6 hours
Speech 125 or Theatre 377\(^3\) .................................................................................. 3 hours

MAJOR REQUIREMENTS ...................................................................................... 40 hours

English 215 (Gateway Course) ................................................................................. 3 hours
English\(^4\) .................................................................................................................. 27 hours
Philosophy (including 317 or 318 or 320) ............................................................... 6 hours
Junior, Senior Seminar (ENG 479, 480) ..................................................................... 4 hours

FREE ELECTIVES ................................................................................................. 6 hours

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

Transfer students must take half of the upper division hours in English at Christian Brothers University.

\(^1\) Three hours of religious studies at the 200 level (RS 200, 217, 220, 221, 230, 270, 280) and three hours of religious studies at the 300 level (RS 320, 324, 326, 335, 345, 385, 395) are required.

\(^2\) 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.

\(^3\) May be replaced with elective hours if the student is pursuing a minor.

\(^4\) English courses may be chosen from the following groups:

- Group I (at least 9 hours): ENG 331, 339, 432, 440, 441, 442, 443, 444, 445, 447
- Group II (at least 9 hours): ENG 332, 340, 341, 342, 343, 351, 352, 354, 361, 446, 450

Note: HIST, POLS, PSYC, and SOC courses taken to satisfy the Social Science/History General Education Requirement also help satisfy corresponding Liberal Arts Requirements. Remaining hours are free electives.
COURSE REQUIREMENTS FOR ENGLISH
FOR CORPORATE COMMUNICATIONS

GENERAL EDUCATION REQUIREMENTS (See Page 31)............................... 34 hours
  Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
  English Composition (ENG 111 and 112) ...................................................... 6 hours
  Mathematics (MATH 105, 117, 129, or 131) ............................................... 3 hours
  Science with lab (BIO 103, 107, 109, 111, CHEM 113, 115, 
  NSCI 111, 115, 118, 122, 126, 128, PHYS 150, 201) .............................. 4 hours
  Social Science/History (HIST 107,108,151,152; POLS 112,113; 
  PSYC 105; SOC 101, 160; ECON 214) .................................................... 6 hours
  Literature (ENG 221) ..................................................................................... 3 hours
  Religious Studies 2 ....................................................................................... 6 hours
  Moral Values (PHIL 224, 234, or 323) ....................................................... 3 hours
  Orientation (required for new freshmen) ...................................................... 0 hours

SCHOOL OF ARTS REQUIREMENTS ...................................................... 39 hours
  Literature (ENG 221) ..................................................................................... 3 hours
  Humanities (HUM 150 or 160) ................................................................... 3 hours
  Fine Arts (ART, MUSC, or THEA 115, 221, or 317) .................................... 3 hours
  Foreign Language (all in the same language 3) .......................................... 12 hours
  History ............................................................................................................ 6 hours
  Political Science .............................................................................................. 3 hours
  Psychology or Sociology ................................................................................ 6 hours
  Speech Communication (SPCH 125) ........................................................... 3 hours

MAJOR REQUIREMENTS ........................................................................... 48 hours
  English 215 (Gateway Course) ................................................................. 3 hours
  English requirements (ENG 371, 375, 489) ........................................... 9 hours
  English electives (upper division 4) ............................................................ 21 hours
  ECON 214 and ECON 215 ........................................................................... 6 hours
  ACCT 260 or ECON 303 or ECON 422 or STAT 221 or BLAW 301 ......... 3 hours
  MKTG 311 ...................................................................................................... 3 hours
  MGMT 337 .................................................................................................... 3 hours

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

Transfer students must take half of their upper division hours in English at Christian Brothers University.

1 ENG 211, 212 may be substituted for 221, 222 with permission of the Department Chair.
2 Three hours of religious studies are required at the 200 level (RS 200, 217, 220, 221, 230, 270, 280) and three hours of religious studies at the 300 level (RS 320, 324, 326, 335, 345, 385, 395) are required.
3 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.
4 Fifteen of the hours must be literature courses.

Note: HIST, POLS, PSYC, and SOC courses taken to satisfy the Social Science/History General Education Requirement also help satisfy corresponding Liberal Arts Requirements. Remaining hours are free electives.
COURSE REQUIREMENTS FOR B. F. A. IN STUDIO ART

GENERAL EDUCATION REQUIREMENTS (See Page 31)................................. 34 hours
   Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
   English Composition (ENG 111 and ENG 112) ............................................... 6 hours
   Literature (ENG 211, 212, 221, or 222) ......................................................... 3 hours
   Mathematics ........................................................................................................ 3 hours
   Natural and Physical Sciences ........................................................................... 4 hours
   Social Science/History ..................................................................................... 6 hours
   Religious Studies Electives¹ ........................................................................... 6 hours
   Moral Values Electives ..................................................................................... 3 hours
   Orientation (for new freshman) ....................................................................... 0 hours

SCHOOL OF ARTS REQUIREMENTS ................................................................ 33 hours
   Psychology ......................................................................................................... 3 hours
   Speech Communication (SPCH 125) ................................................................ 3 hours
   Humanities (HUM 150 or 160) ....................................................................... 3 hours
   History (HIST 107 & 108 or 151 & 152)² ......................................................... 6 hours
   Literature (Upper division elective) ................................................................. 3 hours
   Foreign Language (all hours in the same language)³ ........................................... 12 hours
   Political Science⁴ ............................................................................................. 3 hours
   Fine Arts (fulfilled by major requirements)

MAJOR REQUIREMENTS ................................................................................ 42 hours
   Basic Drawing I (ART 111) ............................................................................... 3 hours
   Painting and 2D Design (ART 102) ................................................................. 3 hours
   Beginning Sculpture (ART 104) ..................................................................... 3 hours
   World Art History I (ART 211) ..................................................................... 3 hours
   World Art History II (ART 212) ................................................................... 3 hours
   Art History Elective ........................................................................................ 3 hours
   Introduction to Printmaking (ART 310) .......................................................... 3 hours
   Senior Studio Capstone (ART 475) ................................................................. 3 hours
   Art Concentration (Upper Division area of study) .......................................... 18 hours

FREE ELECTIVES ............................................................................................ 12 HOURS

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

¹ Three hours of religious studies at the 200 level and three hours of religious studies at the 300 level are required.
² Three hours may be fulfilled by ART 211 or ART 212 which will increase the Art Concentration hours to 21 hours.
³ 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.
⁴ May be replaced with elective hours if the student is pursuing a minor.
## COURSE REQUIREMENTS FOR HISTORY

### GENERAL EDUCATION REQUIREMENTS (See Page 31) .................................................. **34 hours**
- Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
- English Composition (ENG 111 & 112) ......................................................... 6 hours
- Mathematics (MATH 105, 117, 129 or 131) ..................................................... 3 hours
- Science (with a lab) .............................................................................................. 4 hours
- Social Sciences/History (6 hours Behavioral Science) ..................................... 6 hours
- Literature (should be ENG 221 or 222) ......................................................... 3 hours
- Religious Studies\(^1\) ......................................................................................... 6 hours
- Moral Values ........................................................................................................ 3 hours
- Orientation (required for new freshmen) ...................................................... 0 hours

### SCHOOL OF ARTS REQUIREMENTS ................................................................. **24 hours**
- Humanities (HUM 150 or 160) ........................................................................ 3 hours
- Fine Arts (ART, MUSC, or THEA 115, 221, 315 or 317) ................................. 3 hours
- Foreign Language (all hours in the same language)\(^2\) .................................... 12 hours
- Political Science ................................................................................................ 3 hours
- Speech (SPCH 125)\(^3\) .................................................................................... 3 hours
- History (fulfilled by major requirements)
- Literature (fulfilled by non-major requirements)

### MAJOR REQUIREMENTS .................................................................................. **39 hours**
- Lower Division History (HIST 107, 108, 151, 152) ....................................... 12 hours
- Upper Division American History\(^4\) .............................................................. 12 hours
- Upper Division non-American History .......................................................... 12 hours
- Upper Division History (free electives) .......................................................... 3 hours

### NON-HISTORY MAJOR REQUIREMENTS .................................................. **12 hours**
- Political Science ................................................................................................ 6 hours
- Upper Division Literature ................................................................................. 6 hours

### ELECTIVES ..................................................................................................... **12 hours**

### TOTAL FOR GRADUATION ................................................................. **121 hours**

Transfer students must take 15 hours of upper division history 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. 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.
3. Must take if no minor is declared.
4. Six hours must be pre-1877 United States History.
# COURSE REQUIREMENTS FOR PSYCHOLOGY

## GENERAL EDUCATION REQUIREMENTS
(See Page 31) .................................................................................................................. **34 hours**

- Interdisciplinary Studies (IDS 101) ............................................................................. **3 hours**
- English Composition (ENG 111 & 112) ................................................................. **6 hours**
- Mathematics (MATH 105, 117, 129, or 131) ............................................................ **3 hours**
- Science with lab (recommended Biology) ............................................................... **4 hours**
- Literature (ENG 211, 212, 221, or 222) ................................................................. **3 hours**
- Religious Studies\(^1\) ............................................................................................ **6 hours**
- Moral Values ............................................................................................................. **3 hours**
- Social Science /History (PSYC 105 and SOC 101) .................................................... **6 hours**
- Orientation (required for new freshmen) ............................................................... **0 hours**

## SCHOOL OF ARTS REQUIREMENTS
........................................................................................................................................ **27 hours**

- Humanities (HUM 150 or 160) ............................................................................. **3 hours**
- Fine Arts (ART, MUSC, or THEA 115, 211, 315 or 317) ............................................ **3 hours**
- Foreign Language (all hours in the same language) ................................................... **6 hours**
- History (HIST 107 & 108, or 151 & 152 recommended) ......................................... **6 hours**
- Social Science (PSYC or SOC course) .................................................................... **3 hours**
- Political Science\(^3\) ............................................................................................... **3 hours**
- Speech Communication (SPCH 125)\(^3\) ............................................................... **3 hours**

## MAJOR REQUIREMENTS
........................................................................................................................................ **49 hours**

- Lower Division Psychology (PSYC 106, 218, 219, 225, 230) .......................... **13 hours**
- Upper Division Psychology (PSYC 340 or 343, 353, 393, 416, 440) ................. **15 hours**
- APA Writing (PSYC 235) ....................................................................................... **3 hours**
- Psychology Electives ............................................................................................... **3 hours**
- PSYC/SOC/ANTH/CJ Electives ............................................................................. **3 hours**
- Sociology Elective .................................................................................................. **3 hours**
- Correlational, Experimental Methods (PSYC 354, 355) ......................................... **6 hours**
- Psychology Comprehensive (PSYC 497) ............................................................. **0 hours**
- Practicum in Psychology (PSYC 460) .................................................................... **3 hours**

## MINOR COURSES, ELECTIVES\(^2\)
........................................................................................................................................ **12 hours**

## TOTAL FOR GRADUATION
........................................................................................................................................ **122 hours**

*Transfer students must take 15 hours of Behavioral Sciences 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.

\(^2\) Psychology majors may choose to declare a minor. If the minor requires less than 20 hours, the remaining hours are free electives.

\(^3\) May be replaced with elective hours if student is pursuing a minor.
COURSE REQUIREMENTS FOR RELIGION AND PHILOSOPHY

GENERAL EDUCATION REQUIREMENTS (See Page 31) ............................................................... 34 hours
English Composition (ENG 111 & 112) .................................................................................. 6 hours
English Literature (ENG 221) ................................................................................................. 3 hours
Interdisciplinary Studies (IDS 101) ......................................................................................... 3 hours
Mathematics (MATH 105 , 117, 129, or 131) ......................................................................... 3 hours
Science (with lab) .................................................................................................................... 4 hours
Social Science/History ............................................................................................................. 6 hours
Philosophy (Moral Values) (PHIL 219, 220, 224, 321, 322, 323, 325, 340, 395) ............. 3 hours
Religious Studies ..................................................................................................................... 6 hours
Orientation (required for new freshmen) ............................................................................... 0 hours

SCHOOL OF ARTS REQUIREMENTS .................................................................................... 39 hours
Humanities (HUM 150 or 160) ............................................................................................... 3 hours
Fine Arts (any course(s) in Art or Music) ................................................................................ 3 hours
Foreign Language (all hours in the same language) ............................................................. 12 hours
History (6 hours American, 6 hours non-American) ............................................................... 12 hours
Literature (should ordinarily be ENG 222) ......................................................................... 3 hours
Political Science ...................................................................................................................... 3 hours
Speech ..................................................................................................................................... 3 hours

MAJOR REQUIREMENTS ..................................................................................................... 30 hours
Philosophy/Logic (PHIL 201) ................................................................................................. 3 hours
Philosophy/History (two from PHIL 317, 318, 320) ............................................................ 6 hours
Philosophy/Topics (two from PHIL 335, 340, 350) ............................................................... 6 hours
Religious Studies ................................................................................................................... 12 hours
Religion/Philosophy Electives ................................................................................................. 3 hours
Senior Seminar (PHIL 499 or RS 499) .................................................................................... 3 hours

FREE ELECTIVES ............................................................................................................... 18 hours

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

1 Students must pass a foreign language course at the 202 level. If this requires less than 12 credit hours of course work, remaining hours are free electives.
2 May be replaced with elective hours if pursuing a minor
3 Minor courses may be substituted if minor requires more than 21 hours.
4 One Religious Studies course in each of the areas of Scripture, History, Morality, and Culture. Consult with a faculty advisor for information on courses offered in each category. At least two of these religion courses must be at the 300 level or higher.
5 Nine hours fulfilled in General Education Requirements (Religion electives and Moral Values), chosen in consultation with the student's academic advisor. If PHIL 340 is taken as a topics course, this will fulfill the Moral Values requirement.
COURSE REQUIREMENTS FOR UNIVERSITY STUDIES
(Any applicant seeking the University Studies degree must not have enrolled full-time or part-time in any previous baccalaureate
degree program during the year prior to applying for admission to the University Studies program. The applicant must also provide a
full-time employment history for the 5 previous years. The applicant must be admitted into the program through the Graduate and
Professional Studies program.)

GENERAL EDUCATION REQUIREMENTS (See Page 31) .................. 34 hours
Interdisciplinary Studies (IDS 101) ................................................. 3 hours
English Composition (ENG 111 & 112) ........................................... 6 hours
Mathematics (MATH 105 or 106 recommended) ......................... 3 hours
Natural or Physical Science (with lab) ............................................ 4 hours
Social Science/History ................................................................. 6 hours
Literature (ENG 211 or 212) .......................................................... 3 hours
Religious Studies Electives (a 200 and a 300 level required) ............. 6 hours
Moral Values (PHIL 219, 220, 224, 234, 321, 322, 323, 324, 325, or 340) 3 hours
Orientation .................................................................................. 0 hours

SCHOOL OF ARTS REQUIREMENTS ........................................ 36 hours
Humanities (HUM 150 or 160) ....................................................... 3 hours
Fine Arts (any course(s) in Art or Music) ......................................... 6 hours
Foreign Language1 ...................................................................... 6 hours
History (HIST 107, 108, 151, 152) ............................................... 6 hours
Literature (ENG 221 or 222) .......................................................... 3 hours
Psychology and Sociology ........................................................... 6 hours
Political Science Elective (POLS 112) ............................................. 3 hours
Speech (SPCH 125, or in some cases a theatre course can be substituted) 3 hours

MAJOR REQUIREMENTS .......................................................... 36 hours
Humanities or Behavioral/Social Science concentration2 ................. 33 hours
Capstone Project ........................................................................ 3 hours

FREE ELECTIVES 3 ................................................................. 15 hours

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

The Humanities concentration will be selected from Religion, Philosophy, English, History, Humanities, Global Studies, Art, Music,
or Theatre courses with grades no less than a C.
The Behavioral/Social Science concentration will be selected from Anthropology, Criminal Justice, Economics, Political Science, Psychol-
ogy, and Sociology with grades no less than a C.
At least half (50%) of the concentration requirements must be earned at Christian Brothers University and 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.
University Studies students must meet, in addition to meeting with their University Studies advisor in the GPS program, with an academic
advisor in the School of Arts to plan their concentration and to begin planning for their Capstone Project. The Capstone Project is an
interdisciplinary project and individual projects will vary greatly. This project must relate to the concentration around which the student
has structured her/his degree. The academic advisor and/or director of the Capstone Project, as well as the student, will develop the plan
for the project. The project could be a research and writing project, a relational database project, or an artistic project.
Experiential Learning Credit may be awarded for what a student has learned outside the traditional classroom. Credit can be received for
learning, NOT simply experience. To receive ELC you must be a degree seeking, admitted student at CBU and you must have declared
a concentration (‘major’). ELC is NOT guaranteed and it is NOT calculated into a student’s GPA. ELC CANNOT be substituted for
General Education Requirements or other required classes. Evaluation of EL portfolios can be a lengthy process and it is, therefore,
important for a student to submit their portfolios a minimum of two semesters before they plan to graduate. (See the CBU catalogue
for a further description of ECL.)

1 Language hours must be in the same language.
2 At least 18 of the 36 hour concentration must be in an upper division course and, at least, three hours must be attempted in each of the
disciplines of each concentration. Art, Music, and Theatre are considered one discipline.
3 Electives may be used to meet the concentration requirements.
MINORS WITHIN THE SCHOOL OF ARTS

MINOR IN AMERICAN STUDIES: A minor in American Studies consists of 18 hours with 9 hours required from ENG 331, 332; HIST 361; and 9 hours chosen from ENG 341, 342, 361; HIST/POLS 360; HIST 345, 349; RS 350.

MINOR IN ART: A minor in Art requires 18 hours of courses, including ART 101, 102, and 475. ART 475 must be the last course taken in the minor area.

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.

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.

MINOR IN EDUCATION: A minor in Education consists of 21 hours of courses above the 100 level.

MINOR IN ENGINEERING PSYCHOLOGY: A minor in Engineering Psychology requires 30 credit hours including PSYC 105, 225, 301, 352, 440 and 15 hours of Engineering courses.

MINOR IN ENGLISH: A minor in English consists of 21 hours of courses, including ENG 221-222 and 15 hours of upper-level courses. In special cases, ENG 211-212 may be substituted for ENG 221-222 with the approval of the Department Chair of Literature and Languages. Minors may be obtained in the following groupings:


Minors with other emphases may be constructed in consultation with an English advisor.

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 GERONTOLOGY: A minor in Gerontology requires 21 credit hours including PSYC 105, 218, 310 or 320, 325, 353, 460 and SOC 351.

MINOR IN GLOBAL STUDIES: A minor in Global Studies requires 18 hours of course work with HUM 200 being required and 15 hours to be chosen from a list of designated courses listed 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 then 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, 315; ART 211, 212; BIOL 107, 107Lab: CE 305, 317; ECE/ME/CE/CHE 314, 400; ECON 422; ENG 231, 232, and other specified or designated English course(s); FIN 437; GEOG 280, 310, 325, 340; any History course (only one American history will apply); MUSC 112; POLS 113, 210, 370, 375; RS 256, 270; all foreign language courses 300 level and above; and special international topics from a variety of courses including special GS art and cultural offerings.

MINOR IN HISTORY: A minor in History consists of 18 credit hours including, at least, three 100 level history courses selected from HIST 107, 108, 151, 152 and two to three 300/400 level history courses (excluding HIST 401 and 402).

MINOR IN MUSIC PERFORMANCE: A minor in Music Performance requires 18 credit hours, including MUSC 113 & 475, 3 hours of Private voice or Private Piano, 3 hours of Chorale or CB Singers, and 6 hours of electives to be selected in consultation with the Fine Arts and Speech
MINOR IN PEACE STUDIES: A minor in Peace Studies required 18 credit hours, including HUM/RS 254, 256; RS 270, 326, 330; POLS 113, and one additional course selected in consultation with the Peace Studies advisor.

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 with 9 hours required from PHIL 220, POLS 112 and POLS 113; 3 hours chosen from any 200-400 level POLS course; and 6 hours chosen from ECON 214, GS/HUM 200, PHIL 219, RS 326, or any 200-400 level POLS course. A maximum of 3 hours internship credit can apply to a minor.

MINOR IN PSYCHOLOGY: A minor in Psychology requires 18 credit hours. PSYC 105 is required and any five additional Psychology courses may be selected.

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 Criminal Justice courses may be selected.

MINOR IN THEATRE ARTS: A minor in Theatre Arts requires eighteen (18) credit hours, including THEA 221, 475; 6 hours chosen from THEA 315, 316 (same as ENG 315, 316), 317; 3 hours of Theatre Production Workshop; and 3 hours of electives to be selected in consultation with the Fine Arts and Speech Department Chair.

MINOR IN WOMEN'S STUDIES: A minor in Women's Studies requires 18 credit hours. Courses may be selected from ENG 362; PSYC 270, 345: RS 325; SOC 351. Other courses to be offered as Special Topics courses in the School of Arts will be designated as giving credit hours for this minor.

School of Arts majors may also choose minors outside of those offered in the School, such as minors in Accounting, Economics, Finance, Information Technology Management, Management, Marketing, Business, Mathematics, Biology, Chemistry, Computer Science, and Physics.

PROFESSIONAL WRITING CERTIFICATE: To earn a Professional Writing Certificate students must take any four of the following classes:

ENG 370 Advanced Grammar, ENG 371 Business Writing, ENG 373 Advanced Composition, ENG 375 Scientific and Technical Writing, ENG 376 Creative Writing, ENG 377 Technology for the Arts, 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: Elementary Education in conjunction with a major in Liberal Studies; 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 (PreK-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 Teacher Education in the Department of Education to learn about the degree and major requirements for your program.

An undergraduate student who wishes to receive elementary (K-6) teaching licensure in the State of Tennessee should take the following steps:

For admission to the elementary (K-6) teacher licensure program (For those NOT choosing licensure in combination with the 5th year liberal studies, 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 with the Director of the Undergraduate Teacher 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 elementary (K-6) 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 Teacher 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 and the Director of Assessment and Records.
6. Pass the appropriate Praxis II tests for the licensure sought (formerly known as the National Teachers Examination) 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 Teacher Education
   c. Must take and pass the PLT before student teaching
   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 Elementary (K-6) 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 (formerly known as the National Teachers Examination) 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 all courses in general education, the major, and professional education studies will be asked to take appropriate Praxis II tests to verify and confirm the courses that they wish to transfer to CBU, 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 students 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.

**Elementary Licensure:** Undergraduate students seeking licensure as elementary teachers must also meet the requirements outlined for the B.A. in Liberal Studies.

**Middle School and Secondary Education:** Undergraduate students seeking licensure as secondary teachers will complete a 5th year program by meeting the requirements for an academic major and degree as outlined on Pages 58-71 and also completing the Master of Arts in Teaching (M.A.T.) degree as outlined on Pages 221-222. Students interested in middle school and secondary licensure should obtain special advising materials about early admissions into the M.A.T. program during their senior undergraduate year.

**Foreign Language Licensure:** Undergraduate students seeking licensure as foreign language teachers in French or Spanish may become licensed for either PreK-2 or secondary (7-12) by completing the requirements of a foreign language licensure program as a second endorsement accompanying another licensure program. Please see the Interim Director of Teacher Education for information about becoming licensed in a foreign language.

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 A B.A. IN CULTURAL STUDIES

Leading to Licensure for Middle Grades/4-8  
(Emphasis in Language Arts and Social Studies)\(^1\)

**GENERAL EDUCATION REQUIREMENTS** (See Page 31) ........................................ 34 hours  
- Interdisciplinary Studies (IDS 101) ........................................................................ 3 hours  
- English Composition (ENG 111 and 112) ......................................................... 6 hours  
- Literature (ENG 211) ........................................................................................... 3 hours  
- Mathematics (MATH 105 recommended) ............................................................. 3 hours  
- Natural and Physical Science (BIOL 107 and 107L) ...................................... 4 hours  
- Social Science /History (Recommended PSYC 105, PSYC 218) ......................... 6 hours  
- Religious Studies (RS 240, 254, 256, 320, 326, 330, 340, or 350) ...................... 6 hours  
- Moral Values Electives (PHIL 321, 324, or 325) ............................................... 3 hours  
- Orientation (for all new freshmen) .................................................................... 0 hours

**TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS** ................... 38 hours  
- Speech Communication ..................................................................................... 3 hours  
- Foreign Language ............................................................................................... 6 hours  
- History (108, 151, or 152) ............................................................................... 6 hours  
- Humanities (HUM 150 or 160) ......................................................................... 3 hours  
- Music (MUSC 111) ............................................................................................. 3 hours  
- Political Science (POLS 112) ............................................................................. 3 hours  
- Psychology (PSYC 218 & 315) ......................................................................... 6 hours  
- Biology (BIOL 109 and 109L) .......................................................................... 4 hours  
- Natural Science (NSCI 115 and 115L or NSCI 118 & 118L) ............................... 4 hours

**MAJOR REQUIREMENTS** .................................................................................... 45 hours  
- Art (ART 101) ................................................................................................... 3 hours  
- English (ENG 212, 221, 222, 370, 373) ............................................................. 15 hours  
- Geography (GEOG 280) ................................................................................ 3 hours  
- History (HIST 107, 108, 301, 361) ................................................................ 12 hours  
- Political Science (POLS 360) ........................................................................... 3 hours  
- Religious Studies (RS 240, 254, 256, 320, 326, 330, 340, or 350) ..................... 3 hours  
- Sociology (SOC 101, 351) .............................................................................. 6 hours

**PROFESSIONAL EDUCATION REQUIREMENTS** ............................................. 8 hours  
- Education Courses (EDUC 211 and 402) ......................................................... 6 hours

**TOTAL FOR GRADUATION** ............................................................................ 123 hours

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\(^1\) With a fifth-year in the Master of Arts in Teaching program to complete licensure.
# COURSE REQUIREMENT FOR A B.A. IN ENGLISH

Leading to Initial Teaching Licensure (English/7-12)

## GENERAL EDUCATION REQUIREMENTS (See Page 31) ........................................... 34 hours
- Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
- English Composition (ENG 111 and 112) ...................................................... 6 hours
- Literature (ENG 221) ..................................................................................... 3 hours
- Mathematics (MATH 105, 117, or 131) .......................................................... 3 hours
- Natural Sciences (recommended: NSCI 115 & 115L) ..................................... 4 hours
- Social Science/History (PSYC 105, HIST 107) ............................................. 6 hours
- Religious Studies Electives .......................................................................... 6 hours
- Moral Values Elective .................................................................................. 3 hours
- Orientation (for new freshmen) ................................................................. 0 hours

## TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS .................... 33 hours
- Social Science (SOC 101) ............................................................................. 3 hours
- Speech Communication (SPCH 125) ........................................................... 3 hours
- Humanities (HUM 150 or 160) ................................................................. 3 hours
- Fine Arts (ART, MUSIC, or THEA 115, 221, or 317) .................................. 3 hours
- History (HIST 108, 151, 152) ................................................................. 9 hours
- Psychology (PSYC 315) ............................................................................... 3 hours
- Literature (ENG 222) .................................................................................. 3 hours
- Foreign Language ....................................................................................... 6 hours

## MAJOR REQUIREMENTS .................................................................................. 37 hours
- English Courses (ENG 215, 370, 373, 376, American lit elective) .............. 15 hours
- Upper Division Electives in Literature ......................................................... 15 hours
- Adolescent Literature (EDUC 428) ............................................................ 3 hours
- Junior/Senior Seminar ............................................................................... 4 hours

## ELECTIVES ..................................................................................................... 14 hours

## PROFESSIONAL EDUCATION REQUIREMENTS ........................................ 6 hours
- Education Courses (EDUC 211, 402) ......................................................... 6 hours

## TOTAL FOR GRADUATION ................................................................. 124 hours

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1 Licensure for English 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study. Students are encouraged to use free electives to develop a minor for a second endorsement.
COURSE REQUIREMENTS FOR A B.A. IN ENGLISH, MINOR IN FRENCH
Leading to Initial Teaching Licensure and Dual Endorsements
(English/7-12 and French/7-12)

GENERAL EDUCATION REQUIREMENTS (See Page 31) ........................................ 34 hours
Interdisciplinary Studies (IDS 01) ........................................................................ 3 hours
English Composition (ENG 111 and 112) ................................................................ 6 hours
Literature (ENG 221) ......................................................................................... 3 hours
Mathematics (MATH 105 recommended) ............................................................ 3 hours
Natural Sciences (NSCI 115 & 115L or NSCI Elective with Lab) .................... 4 hours
Social Science/History (Recommended PSYC 105, HIST 107) .................... 6 hours
Religious Studies Electives ............................................................................... 6 hours
Moral Values Elective ...................................................................................... 3 hours
Orientation (for new freshmen) ....................................................................... 0 hours

TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS ............. 33 hours
Social Science (SOC 01) .................................................................................. 3 hours
Speech Communication (SPCH 125) .............................................................. 3 hours
Humanities (HUM 150 or 160) ........................................................................ 3 hours
Fine Arts (ART, MUSIC, or THEA 115, 221, or 317) .................................... 3 hours
History (HIST 108, 151, 152) ........................................................................ 9 hours
Psychology (PSYC 315) .................................................................................. 3 hours
Literature (ENG 222) ...................................................................................... 3 hours
French (FREN 101, 102) .................................................................................. 6 hours

MAJOR REQUIREMENTS .................................................................................. 37 hours
Required English Courses (ENG 215, 370, 373, 376, American lit elective) .... 5 hours
Upper Division Electives in Literature .............................................................. 15 hours
Adolescent Literature (EDUC 428) ................................................................. 3 hours
Junior/Senior Seminar .................................................................................... 4 hours

MINOR REQUIREMENTS .................................................................................. 18 hours
French (FREN 201, 202, 301, 302) ................................................................. 12 hours
French electives (upper division) ................................................................. 6 hours

PROFESSIONAL EDUCATION REQUIREMENTS ........................................ 6 hours
Education Courses (EDUC 211, 402) ............................................................ 6 hours

TOTAL FOR GRADUATION .......................................................................... 128 hours

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1 Dual licensure for English 7-12 and French 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of
## COURSE REQUIREMENTS FOR A B.A. IN ENGLISH, MINOR IN HISTORY
Leading to Initial Teaching Licensure and Dual Endorsements (English/7-12 and History/7-12)

### GENERAL EDUCATION REQUIREMENTS
(See Page 31) .......................... 34 hours
- Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
- English Composition (ENG 111 and 112) ...................................................... 6 hours
- Literature (ENG 221) ..................................................................................... 3 hours
- Mathematics (MATH 105 recommended) ...................................................... 3 hours
- Natural Sciences (NSCI 115 & 115L) ............................................................... 4 hours
- Social Science/History (Recommended PSYC 105, HIST 107) ..................... 6 hours
- Religious Studies Electives ........................................................................... 6 hours
- Moral Values Elective .................................................................................. 3 hours
- Orientation (for new freshmen) ..................................................................... 0 hours

### TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS
.......................................................... 33 hours
- Social Science (SOC 101) ............................................................................ 3 hours
- Speech Communication (SPCH 125) ............................................................. 3 hours
- Humanities (HUM 150 or 160) ................................................................... 3 hours
- Fine Arts (ART, MUSIC, or THEA 115, 221, or 317) .................................... 3 hours
- History (HIST 108, 151, 152) .................................................................... 9 hours
- Psychology (PSYC 315) ............................................................................. 3 hours
- Literature (ENG 222) .................................................................................. 3 hours
- Foreign Language ........................................................................................ 6 hours

### MAJOR REQUIREMENTS ........................................................................ 37 hours
- Required English Courses (ENG 215, 370, 373, 376, American lit elective) .... 15 hours
- Upper Division Electives in Literature .......................................................... 15 hours
- Adolescent Literature (EDUC 428) .............................................................. 3 hours
- Junior/Senior Seminar .................................................................................. 4 hours

### MINOR REQUIREMENTS ........................................................................ 12 hours
- Elective ......................................................................................................... 3 hours
- Upper division American History ................................................................ 6 hours
- Upper division non-American History ......................................................... 3 hours

### PROFESSIONAL EDUCATION REQUIREMENTS .................................. 6 hours
- Education Courses (EDUC 211, 402) .......................................................... 6 hours

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

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1. Dual licensure for English 7-12 and History 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR A B.A. IN ENGLISH, MINOR IN SPANISH
Leading to Initial Teaching Licensure and Dual Endorsements
(English/7-12 and Spanish/7-12)

GENERAL EDUCATION REQUIREMENTS (See Page 31) .................................................. 34 hours
  Interdisciplinary Studies (IDS 101) .............................................................................. 3 hours
  English Composition (ENG 111 and 112) .................................................................. 6 hours
  Literature (ENG 221) .................................................................................................. 3 hours
  Mathematics (MATH 105 recommended) ................................................................... 3 hours
  Natural Sciences (recommended: NSCI 115 & 115L) .................................................. 4 hours
  Social Science/History (Recommended PSYC 105, HIST 107) .................................... 6 hours
  Religious Studies Electives .......................................................................................... 6 hours
  Moral Values Elective ................................................................................................... 3 hours
  Orientation (for new freshmen) .................................................................................... 0 hours

TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS .............................................. 33 hours
  Social Science (SOC 101) .......................................................................................... 3 hours
  Speech Communication (SPCH 125) ........................................................................... 3 hours
  Humanities (HUM 150 or 160) .................................................................................. 3 hours
  Fine Arts (ART, MUSIC, or THEA 115, 221, or 317) ................................................ 3 hours
  History (HIST 108, 151, 152) ................................................................................... 9 hours
  Psychology (PSYC 315) ............................................................................................. 3 hours
  Literature (ENG 222) .................................................................................................. 3 hours
  Spanish (SPAN 101, 102) .......................................................................................... 6 hours

MAJOR REQUIREMENTS .................................................................................. 37 hours
  Required English Courses (ENG 215, 370, 373, 376, American lit elective) .............. 15 hours
  Upper Division Electives in Literature .......................................................................... 15 hours
  Adolescent Literature (EDUC 428) ............................................................................ 3 hours
  Junior/Senior Seminar .................................................................................................. 4 hours

MINOR REQUIREMENTS .................................................................................. 18 hours
  Spanish (SPAN 201, 202, 301, 302, 313, 314) ........................................................... 18 hours

PROFESSIONAL EDUCATION REQUIREMENTS .......................................................... 6 hours
  Education Courses (EDUC 211, 402) ........................................................................ 6 hours

TOTAL FOR GRADUATION .................................................................................. 128 hours

1 Dual licensure for English 7-12 and Spanish 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR A B.A. IN HISTORY
With Teaching Licensure for History/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 31) .......................... 34 hours
- Interdisciplinary Studies (IDS 101) ............................................................ 3 hours
- English Composition (ENG 111 and 112) ........................................... 6 hours
- Literature (ENG 211 or 212) ................................................................. 3 hours
- Mathematics (MATH 105, 117, or 131) .................................................. 3 hours
- Natural Sciences (NSCI 115 & 115L or NSCI Elective with Lab) .......... 4 hours
- Social Science/History (Recommended PSYC 105, HIST 151) .......... 6 hours
- Religious Studies Electives ................................................................. 6 hours
- Moral Values Elective ....................................................................... 3 hours
- Orientation (for new freshmen) .......................................................... 0 hours

TENNESSEE LICENSURE AND SCHOOL OF ARTS REQUIREMENTS .................. 33 hours
- Social Science (SOC 101) ................................................................. 3 hours
- Speech Communication (SPCH 125) ................................................. 3 hours
- Humanities (HUM 150 or 160) .......................................................... 3 hours
- Fine Arts (ART, MUSIC, or THEA 115, 221, or 317) ..................... 3 hours
- Psychology (PSYC 315) .................................................................... 3 hours
- Literature (Upper division electives) .................................................. 6 hours
- Foreign Language ........................................................................... 12 hours

MAJOR REQUIREMENTS ........................................................................ 48 hours
- Lower division History courses (HIST 107, 108, 152) ..................... 9 hours
- Upper division American history ...................................................... 12 hours
- Upper division non-American history ............................................. 12 hours
- Upper division history electives ..................................................... 3 hours
- Geography (GEOG 280) ................................................................. 3 hours
- Political science ............................................................................. 6 hours
- Senior seminar ............................................................................... 3 hours

PROFESSIONAL EDUCATION REQUIREMENTS ................................ 6 hours
- Education Courses (EDUC 211, 402) .......................................... 6 hours

TOTAL FOR GRADUATION ............................................................... 121 hours
COURSE REQUIREMENTS FOR A B.A. IN LIBERAL STUDIES,  
PRE-LICENSURE
Licensure for K-6 at the Master of Arts in Teaching Level Only

GENERAL EDUCATION REQUIREMENTS (See Page 3) ................................. 34 hours
  Interdisciplinary Studies (IDS 101) ............................................................... 3 hours
  English Composition (ENG 111 and 112) ......................................................... 6 hours
  Literature (ENG 211) ..................................................................................... 3 hours
  Mathematics (MATH 105 recommended) ....................................................... 3 hours
  Natural and Physical Sciences (BIOL 107 & 107L) ...................................... 4 hours
  Social Science/History (Recommended PSYC 105 and HIST 151) .............. 6 hours
  Religious Studies ........................................................................................... 6 hours
  Moral Values Elective ..................................................................................... 3 hours
  Orientation (for new freshmen) ..................................................................... 0 hours

TENNESSEE LICENSURE AND  
SCHOOL OF ARTS REQUIREMENTS ............................................................... 31 hours
  Speech Communication (SPCH 125) ............................................................. 3 hours
  Foreign Language .......................................................................................... 6 hours
  History (HIST 152) ....................................................................................... 3 hours
  Humanities (HUM 150 or 160) ..................................................................... 3 hours
  Music (MUSC 111) ....................................................................................... 3 hours
  Political Science (POLS 112) ........................................................................ 3 hours
  Psychology (PSYC 218 & 315) ..................................................................... 6 hours
  Physical Education (PE 201) ......................................................................... 1 hour
  Sociology (SOC 101) .................................................................................... 3 hours

MAJOR REQUIREMENTS .................................................................................. 41 hours
  Art (ART 101) ............................................................................................... 3 hours
  Biology (BIOL 109 & 109L) ......................................................................... 4 hours
  English (ENGL 212) .................................................................................... 3 hours
  English (ENGL 300/400) ............................................................................. 6 hours
  Geography (GEOG 280) ............................................................................. 3 hours
  History (HIST 107) ..................................................................................... 3 hours
  History (HIST 108) ..................................................................................... 3 hours
  Math (MATH 151, 152) ............................................................................... 6 hours
  Natural Science (NSCI 115 & 115L or NSCI 118 & 118L) ............................ 4 hours
  Psychology (Social Psychology) ................................................................. 3 hours
  Sociology (SOC 351) .................................................................................. 3 hours

ELECTIVES* .................................................................................................... 9 hours

PROFESSIONAL EDUCATION REQUIREMENTS ............................................. 6 hours
  Education (EDUC 211 and 402) ................................................................. 6 hours

TOTAL FOR GRADUATION AND LICENSING ............................................. 121 hours

*Six hours required in history/literature/or languages. History and literature courses should be at the 300/400 level and languages at the 200/300/400 level. Other three hours suggested in history, literature, language, psychology, or sociology.
COURSE REQUIREMENTS FOR A B.A. IN LIBERAL STUDIES
With Teaching Licensure for Elementary Education/K-6

GENERAL EDUCATION REQUIREMENTS (See Page 31) .............................................. 34 hours
Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
English Composition (ENG 111 and 112) ...................................................... 6 hours
Literature (ENG 211) ....................................................................................... 3 hours
Mathematics (MATH 105 recommended) ...................................................... 3 hours
Natural and Physical Sciences (BIOL 107 & 107L) ........................................ 4 hours
Social Science/History (Recommended PSYC 105, HIST 151) ..................... 6 hours
Religious Studies ............................................................................................. 6 hours
Moral Values Elective ...................................................................................... 3 hours
Orientation (for new freshmen) ..................................................................... 0 hours

TENNESSEE LICENSURE AND
SCHOOL OF ARTS REQUIREMENTS ................................................................. 31 hours
Speech Communication (SPCH 125) ............................................................... 3 hours
Foreign Language ............................................................................................ 6 hours
History (HIST 152) ........................................................................................ 3 hours
Humanities (HUM 150 or 160) ....................................................................... 3 hours
Music (MUSC 111) ........................................................................................ 3 hours
Political Science (POLS 112) ......................................................................... 3 hours
Psychology (PSYC 218 & 315) ..................................................................... 6 hours
Physical Education (PE 201) ......................................................................... 1 hour
Sociology (SOC 101) ....................................................................................... 3 hours

MAJOR REQUIREMENTS .................................................................................. 29 hours
Art (ART 101) ................................................................................................ 3 hours
Biology (BIOL 109 & 109L) .......................................................................... 4 hours
English (ENGL 212) ..................................................................................... 3 hours
Geography (GEOG 280) ............................................................................... 3 hours
History (HIST 108) ....................................................................................... 3 hours
Math (MATH 151, 152) .................................................................................. 3 hours
Natural Science (NSCI 115 & 115L or NSCI 118 & 118L) ......................... 6 hours
Sociology (SOC 351) ..................................................................................... 3 hours

PROFESSIONAL EDUCATION REQUIREMENTS ......................................... 41 hours
Education Courses (EDUC 303, 304, 331, 350, 405, 406, 407, 411, 412, 420, 422, 424) ......................................................... 28 hours
Professional Semester (EDUC 431, 432, 438) .............................................. 13 hours

TOTAL FOR GRADUATION AND LICENSING ............................................... 137 hours
COURSE REQUIREMENTS FOR A B.A. IN MATHEMATICS
With Teaching Licensure for Mathematics/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 3) ........................................ 34 hours
Interdisciplinary Studies (IDS 101) ........................................................................ 3 hours
English Composition (ENG 111 and 112) .................................................................. 6 hours
Literature (Elective) ...................................................................................................... 3 hours
Mathematics (MATH 131) .......................................................................................... 3 hours
Natural and Physical Sciences (BIOL 111 & 111L or CHEM 113 & 113L or PHYS 150 & 150L) ........................................................................................................ 4 hours
Social Science/History (Recommended PSYC 105 & History) ....................................... 6 hours
Religious Studies Electives ............................................................................................ 6 hours
Moral Values Elective .................................................................................................... 3 hours
Orientation (for new freshmen) .................................................................................... 0 hours

TENNESSEE LICENSURE AND SCHOOL OF ARTS GENERAL EDUCATION REQUIREMENTS ........................................ 24 hours
Foreign Language ....................................................................................................... 12 hours
Humanities (HUM 150 or 160) ................................................................................... 3 hours
Literature (Elective) ...................................................................................................... 3 hours
Social Science (PSYC 315) ........................................................................................... 3 hours
Speech Communication (SPCH 125) ......................................................................... 3 hours

MAJOR REQUIREMENTS .......................................................... 36 hours
Mathematics Requirements (MATH 132, 141, 231, 232, 301, 308, 401, 402, 413, 414, 481, 482) ............................................................................................... 33 hours
Mathematics Elective (MATH 309, 329, 405, or 470-479) ............................................. 3 hours

SUPPORTING REQUIREMENTS FOR THE MAJOR ........................................... 7-8 hours
Computer Science (CS 172 & 172L or ECE 112) ......................................................... 3,4 hours
Science (CHEM 114 & 114L or BIOL 112 & 112L or PHYS 251 & 251L) .................. 4 hours

PROFESSIONAL EDUCATION REQUIREMENTS ........................................... 6 hours
Education Courses (EDUC 211, 402) ........................................................................ 6 hours

FREE ELECTIVES ............................................................................................... 15 hours

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

1 Licensure for Math 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR NATURAL SCIENCE
With Teaching Licensure in Biology/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 3) .................................................. 34 hours
- Interdisciplinary Studies (IDS 101) ........................................................................... 3 hours
- English Composition (ENG 111 and 112) ................................................................. 6 hours
- Literature (ENG 211 or 212) .................................................................................... 3 hours
- Mathematics (MATH 117 or 131) ............................................................................. 3 hours
- Natural Sciences (NSCI 118 & Lab) ........................................................................ 4 hours
- Social Science/History (PSYC 105 & History) ......................................................... 6 hours
- Religious Studies Electives ....................................................................................... 6 hours
- Moral Values Elective ................................................................................................ 3 hours
- Orientation (ORIN 100) (for new freshmen) ............................................................. 0 hours

SUPPLEMENTAL TENNESSEE LICENSURE COURSE REQUIREMENTS ........................................ 12 hours
- Social Science (PSYC 315) ....................................................................................... 3 hours
- Speech Communication (SPCH 125) ........................................................................ 3 hours
- Humanities (HUM 150 or 160) ............................................................................... 3 hours
- Geography (GEOG 280) .......................................................................................... 3 hours

MAJOR REQUIREMENTS ................................................................................................. 49 hours
- MATH 106 or 131 ..................................................................................................... 3 hours
- BIOL 107 & Lab ....................................................................................................... 4 hours
- BIOL 111 & Lab; BIOL 112 & Lab ......................................................................... 8 hours
- BIOL 217 & Lab; BIOL 218 & Lab ......................................................................... 8 hours
- BIOL 412 & Lab ....................................................................................................... 4 hours
- BIOL elective (300 or above) .................................................................................. 3 hours
- CHEM 113 & Lab; CHEM 114 & Lab ..................................................................... 8 hours
- PHYS 201 & Lab; PHYS 202 & Lab ....................................................................... 8 hours
- Science electives (200 level or above) .................................................................... 1 hour
- NSCI 410 & 411 ....................................................................................................... 2 hours

PROFESSIONAL EDUCATION REQUIREMENTS ...................................................... 6 hours
- EDUC 211, 402 ....................................................................................................... 6 hours

FREE ELECTIVES ....................................................................................................... 21 hours

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

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1 Licensure for Biology 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR NATURAL SCIENCE,
with Dual Teaching Licensure in Biology and Chemistry/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 31) ........................................ 34 hours
  Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
  English Composition (ENG 111 and 112) ....................................................... 6 hours
  Literature (ENG 211 or 212) ........................................................................... 3 hours
  Mathematics (MATH 117) ................................................................................ 3 hours
  Natural and Physical Sciences (NSCI 118 & Lab) ............................................ 4 hours
  Social Science/History (Recommended PSYC 105 & HIST 151, 152 or POLS 112) .. 6 hours
  Religious Studies Electives ........................................................................... 6 hours
  Moral Values Elective ..................................................................................... 3 hours
  Orientation (ORIN 100) (for new freshmen) ................................................ 0 hour

SUPPLEMENTAL TENNESSEE LICENSURE COURSE
REQUIREMENTS .............................................................................. 12 hours
  Social Science (PSYC 315) ........................................................................... 3 hours
  Speech Communication (SPCH 125) ............................................................. 3 hours
  Humanities (HUM 150 or 160) ..................................................................... 3 hours
  Geography (GEOG 280) ................................................................................ 3 hours

MAJOR REQUIREMENTS ....................................................................... 67 hours
  MATH 106 or 131 .......................................................................................... 3 hours
  BIOL 107 & Lab ............................................................................................ 4 hours
  BIOL 111 & Lab; BIOL 112 & Lab ................................................................. 8 hours
  BIOL 217 & Lab; BIOL 218 & Lab ................................................................. 8 hours
  BIOL 412 & Lab ............................................................................................ 4 hours
  BIOL elective (300 or above) ....................................................................... 3 hours
  CHEM 113 & Lab; CHEM 114 & Lab ............................................................. 8 hours
  CHEM 211 & Lab; CHEM 212 & Lab ............................................................. 8 hours
  CHEM 214 & Lab .......................................................................................... 4 hours
  CHEM 312 & Lab .......................................................................................... 4 hours
  CHEM elective (300 or above) ..................................................................... 3 hours
  PHYS 201 & Lab; PHYS 202 & Lab ............................................................... 8 hours
  NSCI 410 & 411 ............................................................................................ 2 hours

PROFESSIONAL EDUCATION REQUIREMENTS .................................. 6 hours
  EDUC 211, 4021 ............................................................................................ 6 hours

FREE ELECTIVES ................................................................................... 3 hours

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

1 Dual licensure for Biology 7-12 and Chemistry 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
### COURSE REQUIREMENTS FOR NATURAL SCIENCE, with Teaching Licensure in Chemistry/7-12

#### GENERAL EDUCATION REQUIREMENTS (See Page 31) 34 hours
- Interdisciplinary Studies (IDS 101) 3 hours
- English Composition (ENG 111 and 112) 6 hours
- Literature (ENG 211 or 212) 3 hours
- Mathematics (MATH 117) 3 hours
- Natural and Physical Sciences (NSCI 118 & Lab) 4 hours
- Social Science/History (Recommended PSYC 105 & HIST 151, 152 or POLS 112) 6 hours
- Religious Studies Electives 6 hours
- Moral Values Elective 3 hours
- Orientation (ORIN 100) (for new freshmen) 0 hours

#### SUPPLEMENTAL TENNESSEE LICENSURE COURSE REQUIREMENTS 12 hours
- Social Science (PSYC 315) 3 hours
- Speech Communication (SPCH 125) 3 hours
- Humanities (HUM 150 or 160) 3 hours
- Geography (GEOG 280) 3 hours

#### MAJOR REQUIREMENTS 53 hours
- MATH 106 or 131 3 hours
- BIOL 107 & Lab 4 hours
- BIOL 111 & Lab; BIOL 112 & Lab 8 hours
- CHEM 113 & Lab; CHEM 114 & Lab 8 hours
- CHEM 211 & Lab; CHEM 212 & Lab 8 hours
- CHEM 214 & Lab 4 hours
- CHEM 312 & Lab 4 hours
- CHEM elective (300 level or above) 3 hours
- PHYS 201 & Lab; PHYS 202 & Lab 8 hours
- NSCI 410 & 411 2 hours
- Science electives (200 level or above) 1 hour

#### PROFESSIONAL EDUCATION REQUIREMENTS 6 hours
- EDUC 211 and 402 6 hours

#### FREE ELECTIVES 17 hours

#### TOTAL HOURS FOR GRADUATION 122 hours

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1 Licensure for Chemistry 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR NATURAL SCIENCE,
with Teaching Licensure in Physics/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 31) .................................................. 34 hours
  Interdisciplinary Studies (IDS 101) .................................................................................. 3 hours
  English Composition (ENG 111 and 112) ....................................................................... 6 hours
  Literature (ENG 211 or 212) .......................................................................................... 3 hours
  Mathematics (MATH 131) .............................................................................................. 3 hours
  Natural and Physical Sciences (BIOL 109 & Lab) ......................................................... 4 hours
  Social Science/History (Recommended PSYC 105 & HIST 151, 152 or POLS 112)... 6 hours
  Religious Studies Electives ............................................................................................. 6 hours
  Moral Values Elective ..................................................................................................... 3 hours
  Orientation (ORIN 100) (for new freshmen) .................................................................. 0 hours

SUPPLEMENTAL TENNESSEE LICENSURE COURSE REQUIREMENTS ........................................ 12 hours
  Social Science (PSYC 315) ............................................................................................ 3 hours
  Speech Communication (SPCH 125) ............................................................................. 3 hours
  Humanities (HUM 150 or 160) ................................................................................... 3 hours
  Geography (GEOG 280) ............................................................................................... 3 hours

MAJOR REQUIREMENTS .................................................................................................. 58 hours
  BIOL 107 & Lab ........................................................................................................... 4 hours
  PHYS 150 & Lab ........................................................................................................... 4 hours
  PHYS 251 & Lab; PHYS 252 & Lab ............................................................................. 8 hours
  PHYS electives (300 or above) .................................................................................... 12 hours
  CHEM 113 & Lab; CHEM 114 & Lab. ........................................................................ 8 hours
  MATH 132 ................................................................................................................... 3 hours
  MATH 231; MATH 232 ................................................................................................ 6 hours
  MATH 308 ................................................................................................................... 3 hours
  NSCI 111 & Lab ........................................................................................................... 4 hours
  NSCI 118 & Lab .......................................................................................................... 4 hours
  NSCI 410 & 411 ........................................................................................................... 2 hours

PROFESSIONAL EDUCATION REQUIREMENTS .............................................................. 6 hours
  EDUC 211, and 402 .................................................................................................. 6 hours

FREE ELECTIVES .......................................................................................................... 12 hours

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

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1 Licensure for Physics 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
COURSE REQUIREMENTS FOR NATURAL SCIENCE,
with Dual Teaching Licensure in Physics/7-12 and Mathematics/7-12

GENERAL EDUCATION REQUIREMENTS (See Page 31) ........................................... 34 hours
   Interdisciplinary Studies (IDS 101) .................................................................. 3 hours
   English Composition (ENG 111 and 112) ....................................................... 6 hours
   Literature (ENG 211 or 212) ............................................................................. 3 hours
   Mathematics (MATH 131) .................................................................................. 3 hours
   Natural and Physical Sciences (BIOL 109 & Lab) ............................................ 4 hours
   Social Science/History (Recommended PSYC 105 & History) ..................... 6 hours
   Religious Studies Electives .............................................................................. 6 hours
   Moral Values Elective ....................................................................................... 3 hours
   Orientation (ORIN 100) (for new freshmen) .................................................... 0 hours

SUPPLEMENTAL TENNESSEE LICENSURE COURSE REQUIREMENTS.......................... 12 hours
   Social Science (PSYC 315) ............................................................................... 3 hours
   Speech Communication (SPCH 125) ............................................................... 3 hours
   Humanities (HUM 150 or 160) ....................................................................... 3 hours
   Geography (GEOG 280) .................................................................................. 3 hours

MAJOR REQUIREMENTS .................................................................................. 63 hours
   PHYS 150 & Lab ............................................................................................... 4 hours
   PHYS 251 & Lab; PHYS 252 & Lab ................................................................. 8 hours
   PHYS electives (300 or above) ...................................................................... 12 hours
   CHEM 113 & Lab; CHEM 114 & Lab ............................................................ 8 hours
   MATH 132 ....................................................................................................... 3 hours
   MATH 141 or 405 ............................................................................................ 3 hours
   MATH 231; MATH 232 .................................................................................... 6 hours
   MATH 301; MATH 308; MATH 401 .............................................................. 9 hours
   NSCI 111 & Lab .............................................................................................. 4 hours
   NSCI 118 & Lab .............................................................................................. 4 hours
   NSCI 410 & 411 ............................................................................................. 2 hours

PROFESSIONAL EDUCATION REQUIREMENTS .................................................. 6 hours
   EDUC 211, 402 ............................................................................................. 6 hours

FREE ELECTIVES .......................................................................................... 7 hours

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

1 Dual licensure for Physics 7-12 and Math 7-12 is achieved by completing this degree program with the Master of Arts in Teaching, secondary concentration. See Pages 221-222 for the Master of Arts in Teaching program of study.
SCHOOL OF BUSINESS
Information Technology Management and Statistics • Accounting, Finance, and Business Law • Management, Marketing, and Economics

ADMINISTRATION
MR. JAMES T. RHODES, Interim Dean
DR. DANIEL M. BRANDON, JR., Chair, Information Technology Management & Statistics
DR. JUDY RAMAGE LAWRENCE, Chair, Accounting, Finance & Business Law
DR. FRANK MARION, Chair, Management, Marketing & Economics

PROGRAM DIRECTOR
DR. BEVALEE B. PRAY, Executive Director, Center for Ethical Leadership

FACULTY
INFORMATION TECHNOLOGY MANAGEMENT & STATISTICS
JAMES AFLAKI, Associate Professor
B.S., University of District of Columbia; M.S., Ph.D., University of Maryland; MSCE

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

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

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

LYNN P. KUGELE, Associate Professor
B.S., M.S., Memphis State University; M.B.A., Christian Brothers University; Ph.D., The University of Memphis

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

MICHAEL S. LAWYER, Associate Professor
B.P.A., J.D., The University of Memphis

CLAIRE Y. NASH, Associate Professor
B.S., Eastern Illinois University; M.A., Ph.D., University of Mississippi, C.P.A.

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

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

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

1 Sabbatical during Fall Semester 2007.
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 Bachelor of Science degree in Business Administration requires students to complete 121-122 semester credit hours, maintain a 2.0 grade point average overall, maintain a 2.0 GPA in the Business Core, a 2.0 in the Concentration area, and satisfactorily complete all requirements for the degree. Six hours of Statistics and six hours of Economics count as non-business courses. In the case of transfer students, one-half of the upper division major courses (300-400 level) in the Business Core and area of concentration must be taken at Christian Brothers University.

In conjunction with the School of Engineering, a Bachelor of Science in Engineering Management is also offered. The total number of credits needed for this degree is 124-131 hours depending on the chosen concentration.

Course Requirements Outside the School of Business (34 S.H.):

English (9 hrs.) ENG 111, 112, and 3 hours of literature. ENG 211, 212, 221, or 222 are accepted.

Fine Arts (3 hrs.): SPCH 125.

Mathematics (6 hrs.): MATH 105 & 106 are recommended; MATH 131 & 132, 117 & 131, 117 & 106, 117 & 105, 131 & 105 are accepted. ITM majors are required to take MATH 141 as one of their two Math courses.

Philosophy (3 hrs.): PHIL 323 is recommended; PHIL 220 or 234 is accepted.

Religious Studies (6 hrs.)

Science (4 hrs.): BIOL 107, 109; NSCI 111, 115, 118, 122 are recommended. All courses require an accompanying laboratory.

Social Science (6 hrs.): Courses selected from HIST, POLS, PSYC, SOC meeting the Social Science GRE requirements.

Course Requirements in the Business Core (39 S.H.):

Accounting (6 hrs.): ACCT 260, 270^1

Business Law (6 hrs.): BLAW 301, 302

Economics (6 hrs.): ECON 214, 215

Finance (3 hrs.): FIN 327

Information Technology (6 hrs.): ITM 153, 231

Management (6 hrs.): MGMT 337, 498

Marketing (3 hrs.): MKTG 311

Statistics (6 hrs.): STAT 221, 222

^1 Accounting majors do not take ITM 231.
COURSE REQUIREMENTS FOR ACCOUNTING

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
<th>Semester II</th>
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<td>ENG 111 English Composition I</td>
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<td>ITM 153 Microcomputer.</td>
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<td>MATH 105 Finite Math</td>
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<td>ACCT 265 Intermediate Accounting I</td>
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<td>ECON 214 Macroeconomics</td>
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<td>ECON 215 Microeconomics</td>
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<td>ENG 211 Intro to Literature I</td>
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<td>STAT 222 Intermediate Statistics</td>
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<td>STAT 221 Elementary Statistics</td>
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<td>Religious Studies Elective</td>
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<td>BLAW 301 Business Law I</td>
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<td>ACCT 312 Accounting Systems</td>
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<td>ENG 371 Business Writing</td>
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<td>BLAW 302 Business Law II</td>
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<td>FIN 327 Financial Management I</td>
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<td>PHIL 323 Business Ethics</td>
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<td>MKTG 311 Principals of Marketing</td>
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<td>MGMT 337 Principles of Org &amp; Mgmt</td>
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<tr>
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<td>ACCT 431 Federal Income Tax II</td>
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<td>ACCT 430 Federal Income Tax I</td>
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<td>ACCT 475 Governmental Accounting</td>
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<td>ACCT 465 Advanced Accounting I</td>
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<td>ACCT 480 Financial Statement Analysis</td>
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Total credits required for the degree: 121.

All Accounting majors are required to take an assessment test in the Governmental Accounting class. This test will become part of your grade in Governmental Accounting.

With the exception of ACCT 256 Intermediate Accounting I, all 300 and 400 level Accounting classes are only offered one time per academic year – once in the day and once in the Professional Studies Program.

A grade of “C” or better in ACCT 265 – Intermediate Accounting I – is required to proceed to any 300-level Accounting class.

A grade of “C” or better in ACCT 365 – Intermediate Accounting II – is required to proceed to ACCT 312 or any 400-level Accounting class.
## COURSE REQUIREMENTS FOR FINANCE

### FRESHMAN YEAR

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<td>ENG 111 English Composition I</td>
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<td>ITM 153 Microcomputers</td>
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<td>IDS 101 Dimensions of Faith</td>
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### SOPHOMORE YEAR

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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
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<td>ACCT 265 Intermediate Accounting I</td>
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<td>BUS 200 Careers in Business</td>
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<td>ENG Literature Elective</td>
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<td>STAT 221 Elementary Statistics</td>
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### JUNIOR YEAR

<table>
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<td>BLAW 301 Business Law I</td>
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<td>ECON 303/FIN 303 Money &amp; Banking</td>
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<td>MKTG 311 Principles of Marketing</td>
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<td>FIN 327 Financial Management</td>
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<td>FIN 350 Financial Markets</td>
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<td>ACCT 270 Managerial Accounting</td>
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### SENIOR YEAR

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<td>ENG 371 Business Writing</td>
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<td>FIN 437 International Financial Mgmt</td>
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<td>FIN 410 Derivative Securities</td>
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<td>MGMT 498 Business Policy</td>
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<td>FIN 427 Financial Management II</td>
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<td>FIN 440 Portfolio Management</td>
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<td>PHIL 323 Business Ethics</td>
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<td>FIN 440L Portfolio Mgmt/TVA Lab</td>
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<td>SPCH 125 Speech Communications</td>
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</table>

**Total credits required for the degree: 120.**

*All Finance majors must pass a comprehensive examination before graduation.*

---

1. Choose from ENG 211, 212, 221, or 222.
2. FIN 400 is preferred but FIN 430 - Special Topics/Senior Project in Finance may be substituted.

Note: With the exception of FIN 327, all 300 and 400 level Finance Classes are only offered one time per academic year - once in the day and once in the Professional Studies program.

* Students interested in an international focus should consider two semesters of a foreign language as their sophomore-year non-business electives.
## COURSE REQUIREMENTS FOR INFORMATION TECHNOLOGY MANAGEMENT

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Semester I</th>
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<tbody>
<tr>
<td>ENG 111 English Composition</td>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>IDS 101 Dimensions of Faith and Citizenship</td>
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<td>SPCH 125 Speech Communications</td>
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<td>MATH 105 Finite Math</td>
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### SOPHOMORE YEAR

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<tr>
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<td>ITM 172 Computational Logic</td>
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<td>ENG 211 Intro to Literature</td>
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<td>ECON 214 Microeconomics</td>
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<td>STAT 221 Intro to Statistics</td>
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<td>ACCT 260 Financial Accounting</td>
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### JUNIOR YEAR

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<th>Semester I</th>
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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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<td>ITM 360 Object Oriented Design &amp; Analysis</td>
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<td>ITM 370 Operating Systems and Networks</td>
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<td>ITM 351 Systems Analysis and Design</td>
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<td>ITM 455 Information Systems Management</td>
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<td>ITM 458 Visual Programming</td>
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<td>ITM 470 Internet Programming</td>
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Total credits required for the degree: 122.
# COURSE REQUIREMENTS FOR MANAGEMENT

**FRESHMAN YEAR**

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<th>Semester II</th>
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<td>MATH 105 Finite Math</td>
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<td>MATH 106 Applied Math w/Calculus</td>
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<td>ITM 153 Microcomputer Applications</td>
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**SOPHOMORE YEAR**

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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
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<td>ECON 214 Microeconomics</td>
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<td>STAT 221 Intro to Statistics</td>
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<td>ENG 211 Intro to Literature</td>
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**JUNIOR YEAR**

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<td>MGMT 352 Organizational Behavior</td>
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<td>MGMT 337 Principles of Org &amp; Mgmt</td>
<td>3</td>
<td>MGMT 339 Operations Mgmt</td>
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<tr>
<td>Religious Studies Elective</td>
<td>3</td>
<td>ITM 351 Systems Design &amp; Analysis</td>
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**SENIOR YEAR**

<table>
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<tr>
<td>MGMT 412 HR Management</td>
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<tr>
<td>MGMT 420 International Business</td>
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<td>Business Elective (300 or 400 level)</td>
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<tr>
<td>MKTG 324 Marketing Research</td>
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<td>MKTG 348 Business to Business Mktg</td>
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<td>MKTG 418 Supply Chain Mgmt</td>
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<td>MGMT 490 Seminar in Leadership</td>
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<td>ENG 371 Business Writing</td>
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<td>MGMT 498 Business Policy</td>
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Total credits required for the degree: 121.
### COURSE REQUIREMENTS FOR MARKETING

#### FRESHMAN YEAR

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<tr>
<td>ENG 111 English Composition</td>
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<td>ENG 112 English Composition II</td>
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<td>IDS 101 Dimensions of Faith</td>
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<td>SPCH 125 Speech Communications</td>
<td>3</td>
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<tr>
<td>and Citizenship</td>
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<td>MATH 106 Applied Math w/Calculus</td>
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<tr>
<td>MATH 105 Finite Math</td>
<td>3</td>
<td>ITM 231 Management Information</td>
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<td>ITM 153 Microcomputer</td>
<td>3</td>
<td>Systems</td>
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<tr>
<td>Applications</td>
<td></td>
<td>Natural Science Elective w/Lab</td>
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<td>Social Science elective</td>
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**Total Credits: 15**

#### SOPHOMORE YEAR

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<tbody>
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<td>ACCT 260 Financial Accounting</td>
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<td>ACCT 270 Managerial Accounting</td>
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<td>ECON 214 Microeconomics</td>
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<td>ECON 215 Macroeconomics</td>
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<tr>
<td>STAT 221 Intro to Statistics</td>
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<td>STAT 222 Intermediate Statistics</td>
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<tr>
<td>ENG 211 Intro to Literature</td>
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<td>PHIL 323 Business Ethics</td>
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<td>Free Elective</td>
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**Total Credits: 15**

#### JUNIOR YEAR

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<th>Credits</th>
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<tbody>
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<td>BLAW 301 Business Law I</td>
<td>3</td>
<td>BLAW 302 Business Law II</td>
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<tr>
<td>FIN 327 Financial Management</td>
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<td>BLAW 345 Legal Environment</td>
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<tr>
<td>MKTG 311 Principles of</td>
<td>3</td>
<td>MKTG 338 Selling &amp; Sales Mgmt</td>
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<tr>
<td>Marketing</td>
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<td>MKTG 344 Consumer Behavior</td>
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<tr>
<td>Religious Studies Elective</td>
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<td>Free Elective</td>
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**Total Credits: 15**

#### SENIOR YEAR

<table>
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<th>Semester II</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Marketing Electives</td>
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<td>Marketing Electives</td>
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<tr>
<td>MKTG 324 Mktg. Research &amp;</td>
<td>3</td>
<td>MKTG 348 Business to Business Mktg</td>
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<tr>
<td>Intel.</td>
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<td>MKTG 411 Marketing Policy &amp;</td>
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<td>MKTG 433 Promotional</td>
<td>3</td>
<td>Strategy</td>
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<td>Strategies</td>
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<td>MKTG 498 Business Policy</td>
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<tr>
<td>MKTG 418 Supply Chain &amp;</td>
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<tr>
<td>Logistics</td>
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<tr>
<td>ENG 371 Business Writing</td>
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<td>Total</td>
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</table>

**Total Credits: 121**

Total credits required for the degree: 121.
BACHELOR OF SCIENCE IN BUSINESS STUDIES

Only available to transfer, non-traditional students who are completing the requirements for a Business degree.

GENERAL EDUCATION REQUIREMENTS (See Page 31) .......................... 34 hours
- Interdisciplinary Studies (IDS 101) ......................................................... 3 hours
- English Composition (ENG 111 and 112) ........................................ 6 hours
- Literature (ENG 211, 212, 221, or 222) .............................................. 3 hours
- Mathematics (MATH 105, 106, 117, or 131) .................................. 3 hours
- Natural and Physical Sciences (NSCI 111, 114, 115, 122, 126, or 128) 4 hours
- Social Science/History (Any course from HIST, SOC, PSYC, or POLS)........ 3 hours
- History/Political Science ................................................................. 3 hours
- Religious Studies Electives ......................................................... 6 hours
- Moral Values (PHIL 323, 220 or 224) ........................................... 3 hours

SCHOOL OF BUSINESS REQUIREMENTS .......................... 51 hours
- Speech Communication (SPCH 125) .................................................. 3 hours
- Business Writing (ENG 371) ............................................................. 3 hours
- Accounting (ACCT 260 AND ACCT 270) ........................................... 6 hours
- Business Law (BLAW 301 AND 302) ............................................ 6 hours
- Economics (ECON 214 AND 215) .................................................. 6 hours
- Finance (FIN 327) ........................................................................... 3 hours
- Information Technology Management (ITM 153, 231) .................... 6 hours
- Management (MGMT 337 AND 498) ........................................... 6 hours
- Marketing (MKTG 311) ................................................................ 3 hours
- Mathematics (MATH 106) ............................................................... 3 hours
- Statistics (STAT 211 AND 212) ..................................................... 6 hours

ADDITIONAL REQUIREMENTS ........................................ 36 hours
- Students take at least 24 hours of courses with an ACCT, BLAW, ECON, FIN, ITM, MGMT or MKTG prefix, 9 hours of which must be at the 400 level. Students also must take twelve hours of free electives, within or outside the School of Business.

TOTAL .................................................................................. 121 hours
# BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT

**INFORMATION SYSTEMS**

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

---

## GENERAL EDUCATION REQUIREMENTS

(See Page 31) **34 hours**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Interdisciplinary Studies (IDS 101)</td>
<td>3</td>
</tr>
<tr>
<td>English Composition (ENG 111 and 112)</td>
<td>6</td>
</tr>
<tr>
<td>Literature (ENG 211, 212, 221, or 222)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (MATH 131)</td>
<td>3</td>
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<tr>
<td>Physics I and Lab (PHYS 150/150L)</td>
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</tr>
<tr>
<td>Social Sciences/History (HIST, SOC, PSYC, POLS)</td>
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<tr>
<td>Religious Studies Electives</td>
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<td>Moral Values (PHIL 323 or 220)</td>
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## SCHOOL OF BUSINESS REQUIREMENTS

**45 hours**

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<th>Requirement</th>
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<tbody>
<tr>
<td>Technology/Business (ITM 153)</td>
<td>3</td>
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<tr>
<td>Speech Communications (SPCH 125)</td>
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<tr>
<td>Business Writing (ENG 371)</td>
<td>3</td>
</tr>
<tr>
<td>Accounting (ACCT 260 &amp; 270)</td>
<td>6</td>
</tr>
<tr>
<td>Business Law (BLAW 301 &amp; 302, or CE 420)</td>
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<tr>
<td>Economics (ECON 214 &amp; 215)</td>
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<tr>
<td>Management (MGMT 337, 339, &amp; 498)</td>
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<tr>
<td>Marketing and Logistics (MKTG 311 &amp; 418)</td>
<td>3</td>
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<tr>
<td>Statistics (STAT 221 &amp; 222 or MATH 308)</td>
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## SCHOOL OF ENGINEERING REQUIREMENTS

**52 hours**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Mathematics (MATH 132 &amp; 231)</td>
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<tr>
<td>Circuits I (ECE 221)</td>
<td>3</td>
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<tr>
<td>Physics II (or III) and Lab (PHYS 251/251L or 252/252L)</td>
<td>4</td>
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<tr>
<td>Engineering Economics (ECE/ME/CE/CHE 314)</td>
<td>3</td>
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<tr>
<td>Modeling (ME 121, CE 111)</td>
<td>3</td>
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<tr>
<td>Mechanics (ME 200, CE 200)</td>
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<tr>
<td>Dynamics (ME 202)</td>
<td>3</td>
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<tr>
<td>Thermodynamics I (ME 305)</td>
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<tr>
<td>Compleat Engineer (CE/ME/EE 400)</td>
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<tr>
<td>Computer Science Fund. (ITM 251/CS 109, ECE/ME/CE/112)</td>
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<tr>
<td>Computational Logic (ITM 252, CS 122)</td>
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<td>Design &amp; Analysis (ITM 351)</td>
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<td>Information Systems (ITM 455)</td>
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<td>Decision Support (ITM 480)</td>
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<tr>
<td>Engineering Elective&lt;sup&gt;4&lt;/sup&gt; (CHE 391)</td>
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<tr>
<td>Engineering Elective&lt;sup&gt;5&lt;/sup&gt; (ME 201, ME 429)</td>
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---

## TOTAL HOURS FOR GRADUATION

**131 hours**

---

<sup>1</sup> BLAW 302 or CE 420 Contracts and Specifications

<sup>2</sup> STAT 222 or MATH 308 Statistics

<sup>3</sup> Engineering Economics (314) substitutes for Financial Management I (FIN 327) in the Business Core.

<sup>4</sup> An upper division Engineering elective (200, 300, 400); recommended CHE 391 Packaging

<sup>5</sup> An upper division Engineering elective (200, 300, 400); recommended ME 201 or ME 429
# BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT (PACKAGING CONCENTRATION)
Offered Jointly by the School of Business and the School of Engineering

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SPCH 125 Speech Communication</td>
<td>3</td>
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<tr>
<td>ENG 111 English Composition I</td>
<td>3</td>
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<tr>
<td>IDS 101 Faith &amp; Community</td>
<td>3</td>
</tr>
<tr>
<td>MATH 131 Calculus I</td>
<td>3</td>
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<tr>
<td>CHEM 113 or 115 Chemistry I</td>
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<td>Orientation</td>
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<tbody>
<tr>
<td>ENG 112 English Composition II</td>
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<tr>
<td>ME 121 Modeling</td>
<td>3</td>
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<tr>
<td>ECON 214 Prin of Micro Econ</td>
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<tr>
<td>Social Science Elective</td>
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<tr>
<td>PHYS 150 Physics I</td>
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<td>PHYS 150L Physics I Lab</td>
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**SOPHOMORE YEAR**

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<tbody>
<tr>
<td>ACCT 260 Financial Accounting</td>
<td>3</td>
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<tr>
<td>STAT 221 Elementary Statistics</td>
<td>3</td>
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<td>ITM 153 Microcomputer Applications</td>
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<td>CHE 245 Materials Science</td>
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<td>CE/ME 200 Mechanics of Solids I</td>
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<tbody>
<tr>
<td>ACCT 270 Managerial Accounting</td>
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<td>STAT 222 Intermediate Statistics</td>
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<td>CE 213 Mechanics of Solids II</td>
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<td>PHYS 251 Physics II</td>
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<td>English Literature</td>
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**JUNIOR YEAR**

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<tr>
<td>ME 201 Manufacturing Processes</td>
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<tr>
<td>CHE/ME 319 Prin of Packaging</td>
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<tr>
<td>BLAW 301 Business Law I</td>
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<td>ENG 371 Business Writing</td>
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<td>MKTG 311 Prin of Marketing</td>
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<tbody>
<tr>
<td>Moral Values</td>
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<tr>
<td>CHE/ME 320 Dist/Med Dev Packaging</td>
<td>3</td>
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<tr>
<td>CE420 Contracts/Specifications</td>
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<tr>
<td>MGMT 337 Prin of Org &amp; Mgmt</td>
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**SENIOR YEAR**

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<tbody>
<tr>
<td>ECON 215 Prin of Macro Econ</td>
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<tr>
<td>MGMT 339 Prod &amp; Ops Management</td>
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<td>CHE/CE/ECE/ME 314 Engrg Econ</td>
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<td>MKTG 418 Supply Chain &amp; Logistics</td>
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<td>Religious Studies</td>
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<td>MKTG 418 Phys Dist/Traffic Mgmt</td>
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<td>MGMT 498 Business Policy</td>
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<tr>
<td>ChE 490 Sp. Topics: Packaging Project</td>
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<tr>
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Total credits required for the degree: 124.
MINORS IN BUSINESS ADMINISTRATION

All students taking minors in Business Administration are expected to have a working knowledge of the application of microcomputers.

Minors for Business majors are available in the following areas:

- Accounting
- Information Technology Management
- Economics
- Finance
- Management
- Marketing
- International Business

Business majors must complete a total of 18 credit hours in one of the disciplines listed above to receive a minor. School of Business courses which are included in the School of Business core or the Accounting, Finance, ITM, Management or Marketing concentration core but are outside of the specified concentration may be included as part of the 18 credit hours required for a minor (i.e. Accounting courses taken by Marketing majors may be included as part of the 18 credit hours needed for a minor). For the International Business Minor students may select 18 credit hours from among the following courses: POLS 113; POLS 370; RS 379; MGMT 300, 420; MKTG 419, 438; FIN 437; Foreign Language.

Non-business majors may receive a minor in Business by completing the following 30 hours: ACCT 260, 270; BLAW 301; ECON 214, 215; FIN 327; ITM 153 or ITM 231; MKTG 311; MGMT 337; STAT 221.
SCHOOL OF ENGINEERING

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

ADMINISTRATION

DR. ERIC B. WELCH, Dean

DR. JOHN VENTURA, Chair, Electrical and Computer Engineering

DR. YEU-SHENG SHIUE, Chair, Mechanical Engineering Department

DR. NEAL F. JACKSON, Director of Engineering Management

MR. R. EUGENE McGINNIS, Chair, Civil and Environmental Engineering Department

DR. ALI POURHASHEMI, Chair, Chemical and Biochemical Engineering Department

FACULTY

CHEMICAL AND BIOCHEMICAL ENGINEERING

ALI POURHASHEMI, Associate 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 AND ENVIRONMENTAL ENGINEERING

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

K. MADHAVAN, Professor
B.E., Annamalai University (India); M.Tech., Indian Institute of Technology; M.S., Memphis State University; Ph.D., University of Mississippi; 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 AND COMPUTER ENGINEERING

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

ROBERT L. DRAKE, Professor
B.S., M.S., Tulane University; Ph.D., Mississippi State University; P.E.

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, Associate Professor  
B.S., M.S., Ph.D., Mississippi State University

MECHANICAL ENGINEERING  
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

ENGINEERING MANAGEMENT  
NEAL F. JACKSON, Professor  
B.S., Memphis State University; M.S., University of Arkansas; Ph.D., University of Mississippi

PART-TIME FACULTY  
CHADWICK BAKER, Adjunct Professor  
B.S., Christian Brothers College; M.S., Ph.D., Duke University

RAY W. BROWN, Professor Emeritus  
B.S., Christian Brothers College; M.S., Ph.D., University of Notre Dame

SCOTT HAIGHT, Adjunct Assistant Professor  
B.A., Davidson College; J.D., Emory University

CHRISTINE ROUÉCHE, Adjunct Assistant Professor  
M.S. Université de Technologie de Compiègne (France); Ph.D., Université de Rennes (France)

YONGQUAN ZHOU, Lecturer  
B.E., M.E., Wuxi Institute of Light Industry (China); M.S., Rochester Institute of Technology; CPP

PROFESSORS EMERITI  
R. CRAIG BLACKMAN  
B.A. Park College; M.A. New Mexico State; M.S., University of Colorado, Boulder

RAY W. BROWN  
B.S., Christian Brothers College; M.S., Ph.D., University of Notre Dame

DONALD L. GLASER  
B.S., Christian Brothers College; M.E.E., University of Louisville

REGINALD J. RODRIGUEZ  
B.S., M.Eng., University of Florida; P.E.

L. MICHAEL SANTI  
B.S., Christian Brothers College; M.S., University of Tennessee; Ph.D., Vanderbilt University

FRED H. TERRY  
B.S., M.S., Rose Polytechnic Institute; Ph. D., Case Institute of Technology; P.E.

MISSION  
CHRISTIAN BROTHERS UNIVERSITY offers engineering programs in four departments: Chemical and Biochemical, Civil and Environmental, Electrical and Computer, and Mechanical Engineering, 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). 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.

The objective of our chemical, civil, electrical, and mechanical engineering programs at Christian Brothers University is twofold: (1) to continue the Lasallian tradition through excellence in teaching and focusing on the individual student, and (2) to prepare our graduates for professional careers and advanced study in engineering and for a life of moral responsibility and constructive community involvement.

Because the engineer applies scientific principles and practical judgment to the economic solution of many problems concerned with human welfare, the education must include, in addition to courses in engineering analysis and design, numerous courses in natural sciences, in mathematics, and in liberal studies. Thus, the total engineering program at Christian Brothers University provides each student with a liberal education, designed to permit the graduate to make important contributions not only toward the solution of specific technical problems, such as those found in automobile engine or computer circuit design, but also toward such compelling problems of society that are found in transportation, communications, urban redevelopment, energy production and conservation, and air and water quality.

Engineering design is the heart of the creative process of devising solutions to many of society’s problems. In the design process, all of an engineer’s knowledge of scientific principles and practical judgment is integrated toward the solution of specific problems. The student at Christian Brothers University begins practice in design during the first year, at the same time gaining knowledge and skills in science, mathematics, and communications. This practice in design is integrated through the 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 above. 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.

**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 93.
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 81, 82, 95, and 96.

SUMMARY OF COURSE REQUIREMENTS
Students must take the University defined General Education requirements (See Page 3).

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

### FRESHMAN YEAR

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Total credits for graduation: 132.
## COURSE REQUIREMENTS FOR A B.S. IN CHEMICAL ENGINEERING
### CHEMICAL ENGINEERING CURRICULA

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Total credits for graduation: 132.
# COURSE REQUIREMENTS FOR A B.S. IN CIVIL ENGINEERING

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<td>CE 105 Intro to Civil &amp; Envir. Design</td>
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<td>CE 111 Engr. Design Graphics</td>
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Total credits for graduation: 132.

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1. Must be a 300/400 level Math course.
## COURSE REQUIREMENTS FOR A B.S. IN ELECTRICAL ENGINEERING

### COMPUTER ENGINEERING CURRICULA

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Total Credits for graduation: 133.

All major electives and at least one program option must include design experience and therefore be a course offered by the School of Engineering.

Intern Program in France: Students with Junior Standing in the Electrical and Computer Engineering Department can complete 12 hours abroad. For information contact the ECE Department.
### Course Requirements for a B.S. in Electrical Engineering

#### Electrical Engineering Curricula

**Freshman Year**

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**Junior Year**

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**Senior Year**

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**Total credits for graduation: 129.**

All major electives and at least one program option must include design experience and therefore be a course offered by the School of Engineering.

Intern Program in France: Students with Junior Standing in the Electrical and Computer Engineering Department can complete 12 hours abroad. For information contact the ECE Department.
COURSE REQUIREMENTS FOR B.S. IN ELECTRICAL ENGINEERING AND A B.S. IN COMPUTER SCIENCE

COMPUTER ENGINEERING CURRICULUM

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Total credits for graduation: 139
## COURSE REQUIREMENTS FOR B.S. IN MECHANICAL ENGINEERING

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<td>ME 318 Dynamics of Machines</td>
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<td>ME 422 Control Systems</td>
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Total credits for graduation: 132.
BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT  
(INFORMATION SYSTEMS CONCENTRATION)  
Offered Jointly by the School of Business and the School of Engineering

GENERAL EDUCATION REQUIREMENTS  (See Page 31) ...34 hours
- Dimensions of Faith and Community (IDS 101) ........................................... 3 hours
- English Composition (ENG 111 and 112) ..................................................... 6 hours
- Literature (ENG 211, 212, 221, or 222) ......................................................... 3 hours
- Mathematics (MATH 131) ........................................................................... 3 hours
- Physics I and Lab (PHYS 150/150L) .............................................................. 4 hours
- Physics II (or III) and Lab (PHYS 251/251L or 252/252L) .......................... 4 hours
- Social Sciences/ History .............................................................................. 6 hours
- Religious Studies Electives .......................................................................... 6 hours
- Moral Values (PHIL 323, 220, or 234) ......................................................... 3 hours

SCHOOL OF BUSINESS REQUIREMENTS  .......................................................... 45 hours
- Technology/Business (ITM 153) ................................................................. 3 hours
- Speech Communications (SPCH 125) ....................................................... 3 hours
- Business Writing (ENG 371) ..................................................................... 3 hours
- Accounting (ACCT 260 & 270) ................................................................. 6 hours
- Business Law (BLAW 301 & 302, or CE 420) ........................................ 6 hours
- Economics (ECON 24 & 25) .................................................................. 6 hours
- Management (MGMT 337, 339, & 498) .................................................... 9 hours
- Marketing and Logistics (MKTG 311 & 418) ........................................... 3 hours
- Statistics (STAT 221 & 222 or MATH 308) ................................................. 6 hours

SCHOOL OF ENGINEERING REQUIREMENTS  .............................................. 52 hours
- Mathematics (MATH 132 & 231) ............................................................... 6 hours
- Physics II (or III) and Lab (PHYS 251/251L or 252/252L) ......................... 4 hours
- Circuits I (ECE 221) ................................................................................ 3 hours
- Engineering Economics (ECE/ME/CE/CHE 314) .................................. 3 hours
- Modeling (ME 121, CE 111) .................................................................... 3 hours
- Mechanics (ME 200, CE 200) ................................................................. 3 hours
- Dynamics (ME 202) ................................................................................. 3 hours
- Thermodynamics I (ME 305) .................................................................. 3 hours
- Compleat Engineer (CE/ME/EE 400) ....................................................... 3 hours
- Computer Science Fund. (ITM 251/CS 109, ECE/ME/CE 112) ........... 3 hours
- Computational Logic (ITM 252, CS 122) ............................................... 3 hours
- Design & Analysis (ITM 351) ................................................................. 3 hours
- Information Systems (ITM 455) .............................................................. 3 hours
- Decision Support (ITM 480) ................................................................. 3 hours
- Engineering Elective (CHE 391) .............................................................. 3 hours
- Engineering Elective (ME 201, ME 429) .................................................. 3 hours

TOTAL HOURS FOR GRADUATION ......................................................... 131 hours

1 BLAW 302 or CE 420 Contracts and Specifications
2 STAT 222 or MATH 308 Statistics
3 Engineering Economics (314) substitutes for Financial Management I (FIN 327) in the Business Core.
4 An upper division Engineering elective (200, 300, 400); recommended CHE 319 Packaging
5 An upper division Engineering elective (200, 300, 400); recommended ME 201 or ME 429
### Bachelor of Science in Engineering Management (Packaging Concentration)
Offered Jointly by the School of Business and the School of Engineering

**Freshman Year**

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<tr>
<td>SPCH 125 Speech Communication</td>
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<td>ENG 112 English Composition II</td>
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<tr>
<td>ENG 111 English Composition I</td>
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<tr>
<td>IDS 101 Faith &amp; Community</td>
<td>3</td>
<td>ECON 214 Prin of Micro Econ</td>
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<td>MATH 131 Calculus I</td>
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<td>Social Science Elective</td>
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<tr>
<td>CHEM 113 or 115 Chemistry I</td>
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<td>PHYS 150 Physics I</td>
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**Sophomore Year**

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<td>ACCT 270 Managerial Accounting</td>
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<tr>
<td>STAT 221 Elementary Statistics</td>
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<td>STAT 222 Intermediate Statistics</td>
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<td>ITM 153 Microcomputer Applications</td>
<td>3</td>
<td>CE 213 Mechanics of Solids II</td>
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<tr>
<td>CHE 245 Materials Science</td>
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<td>PHYS 251 Physics II</td>
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<td>PHYS 251L Physics II Lab</td>
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**Junior Year**

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<td>ME 201 Manufacturing Processes</td>
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<td>CHE/ME 319 Prin of Packaging</td>
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<td>CHE/ME 320 Dist/Med Dev Packaging</td>
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<td>BLAW 301 Business Law I</td>
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<td>CE420 Contracts/Specifications</td>
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<td>ENG 371 Business Writing</td>
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<td>MGMT 337 Prin of Org &amp; Mgmt</td>
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<td>MKTG 311 Prin of Marketing</td>
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**Senior Year**

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<td>MGTG 418 Phys Dist/Traffic Mgmt</td>
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<td>MGMT 339 Prod &amp; Ops Management</td>
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<td>MGMT 498 Business Policy</td>
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<td>CHE/CE/ECE/ME 314 Engr Econ</td>
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<td>ChE 490 Sp. Topics: Packaging Project</td>
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<td>Social Science Elective</td>
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<td>MKT 418 Supply Chain &amp; Logistics</td>
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Total credits for graduation: 124.
MINOR IN THE SCHOOL OF ENGINEERING

Minor in Computer Engineering: A minor in Computer Engineering is open to students not part of the Electrical Engineering majors, and they must complete seven courses in the computer engineering curriculum according to the following criteria:

1. at most 5 courses from the following: ECE 112, 201, 221, 233, 234, 250, and 251.
2. at least 2 courses from the following: ECE 350, 450-459, 470-479.
COOPER-WILSON CENTER FOR LIFE SCIENCES
*Under Construction, 2007-2008*
SCHOOL OF SCIENCES

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

BROTHER EDWARD SALGADO, Chair, Biology Department

DR. JOHN A. VARRIANO, Chair, Physics/Natural Science

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

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

BROTHER EDWARD SALGADO, FSC, Associate Professor
B.A., La Salle University; M.S., St. Mary’s University; Ph.D., University of the Philippines

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

CHEMISTRY

WILLIAM J. BUSLER, Professor
B.S., Christian Brothers College;
Ph.D., University of Tennessee Center for the Health Sciences

STEWARD MICHAEL CONDREN, Professor
B.S., University of Arkansas; M.S., Ph.D., University of Missouri-Rolla

MARGUERITE B. COOPER, Associate Professor
A.B., University of North Carolina; M.S., Ph.D., Memphis State University

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
MATHEMATICS/COMPUTER SCIENCE
MIGUEL B. ARELLANO, Assistant Professor
B.A., Cornell College; M.S., A.B.D., Mississippi State University

BROTHER JOEL BAUMEYER, FSC, Professor
B.A., M.Ed., St. Mary's College; M.A., Ph.D., St. Louis University

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

CATHY W. CARTER, Professor
B.A., M.A., University of Mississippi

ANDREW M. DIENER, Assistant Professor
B.A., St. Mary's University (San Antonio, TX);
M.S., Ph.D., Texas A&M University

HOLMES PEACHER-RYAN, Assistant 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

PHYSICS/NATURAL SCIENCE
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
LAWRENCE GULDE
B.S., M.A.T., St. Mary's College; M.A., Boston College; Ph.D., Memphis State University

RELBUE M. MORGAN
B.S., Christian Brothers College; Ph.D., Iowa State University

BROTHER ROBERT STAUB, FSC
B.S., St. Mary's College; M.A., Ph.D., University of Minnesota

LYLE D. WESCOTT, JR.
B.S., Georgia Institute of Technology; Ph.D., Pennsylvania State University

PART-TIME FACULTY
BROTHER JOHN MONZYK, C.P., Assistant Professor
B.A., Bellarmine College; M.A., Catholic Theological Union;
M.S., Ph.D., Southern Illinois University
MISSION

THE SCHOOL OF SCIENCES offers programs leading to Bachelor of Science degrees in 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 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 between Computer Science and Mathematics. See Page 112 for details. Dual degrees are also being offered between the School of Science and the School of Engineering with Computer Science and Electrical Engineering Computer Track. See Page 93 for details.

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 BIOLOGY

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

<table>
<thead>
<tr>
<th>FRESHMAN YEAR Semester I</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 111 Prin. of Biol. I &amp; Lab</td>
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<td>BIOL 112 Prin. of Biol. II &amp; Lab</td>
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<td>CHEM 113 Prin. of Chem. I &amp; Lab</td>
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<td>CHEM 114 Prin. of Chem. II &amp; Lab</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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<td>IDS 101 Dimensions of Faith and Community</td>
<td>3</td>
<td>MATH 131 Calculus I</td>
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<td>Elective (^{1,2})</td>
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<td>Business/Tech Elective</td>
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<td>CHEM 211 Organic Chem. I &amp; Lab</td>
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<td>CHEM 212 Organic Chem. II &amp; Lab</td>
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<td>PHYS 202 Intro Physics II &amp; Lab</td>
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<tbody>
<tr>
<td>BIOL 311 Genetics &amp; Lab</td>
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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>Chemistry(^{4})</td>
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<td>BIOL 465 Research III(^{6})</td>
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Minimum total number of credits for graduation: 122.

SEE NOTES ON FOLLOWING PAGE.
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 Vertebrate 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; 415 Immunology; 421 Cell/Molecular Biology.

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1. Students may be asked to 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.
3. Minimum of 30 hours of biology electives 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 312 or 315-316 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 46-462 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 STUDIES

This paradigm applies to biology majors who are seeking to enter graduate programs in ecology and environmental science.

<table>
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<tr>
<th>FRESHMAN YEAR</th>
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<th>Credits</th>
<th>Semester II</th>
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<td>Organic Chem I &amp; Lab</td>
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<td>Organic Chem II &amp; Lab</td>
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<td>PHYS 201</td>
<td>Intro Physics I &amp; Lab</td>
<td>4</td>
<td>PHYS 202</td>
<td>Intro Physics II &amp; Lab</td>
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<td>Religious Studies (200 level)</td>
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<td>Biology elective &amp; Lab</td>
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<th>Credits</th>
<th>Semester II</th>
<th>Credits</th>
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<tr>
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<td>BIOL 362</td>
<td>Biology Seminar</td>
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<td>MATH 201</td>
<td>Applied Statistics</td>
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**Summer:** BIOL 463 Research I | 1

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Minimum total number of credits for graduation: 122.

SEE NOTES ON FOLLOWING PAGE.
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** *(These groups apply to the Environmental concentration)*

Group I: BIOL 312 Vertebrate Physiology; 451 Neuroscience.
Group II: BIOL 216 Botany; 321 Microbiology; 335 Invertebrate Zoology; 413 Parasitology.

Recommended free electives: BIOL 107 Environmental Biology; 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 be asked to take MATH 117 and/or CHEM 101 if they do not place into MATH 131 Calculus I and/or CHEM 113.
2. See the recommended free electives for environmental track students. No more than 6 hours can be in biology unless the excess is added to the 122 minimum credits for graduation.
3. Minimum of 30 hours of biology electives must include at least one course from each of the three groups previously listed; minimum of 20 hours of biology electives must be at or above the 300 level.
4. Recommended: CHEM 312 Biochemistry or 315 Biochemistry I and 316 Biochemistry II; 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 BIOMEDICAL SCIENCES

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

## FRESHMAN YEAR

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Summer: BIOL 463 Research I | 1

## SENIOR YEAR

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## Total number of credits for graduation: 123.

### BIOLOGY ELECTIVES

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

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

**Group III:** BIOL 246 Evolution; 381 Animal Behavior; 412 Ecology.

**Group IV:** BIOL 367 Pharmacology; 415 Immunology; 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 117 and/or CHEM 101 if they do not place into MATH 131 and/or CHEM 113.

2. Minimum of 6 hours of free electives; no more than 4 hours could be in biology unless the minimum exceeds 122 hours.

3. One biology elective must be taken from the Group III list.
## COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY

### FRESHMAN YEAR Semester I Credits Semester II Credits
- CHEM 113 Prin of Chemistry I ................................... 3
- CHEM 113L Prin of Chem I Lab .................................. 1
- ENG 111 English Composition I .................................. 3
- MATH 131 Calculus I ............................................... 3
- IDS 101 Dimension of Faith and Community ................... 3
- Social Science Elective .......................................... 3
- Orientation ................................................................ 0
- Total ...................................................................... 16
- Total ...................................................................... 16

### SOFOMORE YEAR Semester I Credits Semester II Credits
- CHEM 211 Organic Chemistry I ................................... 3
- CHEM 211L Organic Chem I Lab .................................. 1
- ENG 211 Intro to Literature I ...................................... 3
- MATH 231 Differential Equations ................................ 3
- PHYS 150 Physics I ................................................... 3
- PHYS 150L Physics I Lab ......................................... 1
- Free Elective ........................................................... 3
- Total ...................................................................... 17
- Total ...................................................................... 15

### JUNIOR YEAR Semester I Credits Semester II Credits
- CHEM 351 Physical Chemistry .................................... 3
- CHEM 351L Physical Chem I Lab .................................. 1
- CHEM 330 Research Seminar .................................... 0
- Moral Values Elective ............................................... 3
- PHYS 252 Physics III ............................................... 3
- PHYS 252L Physics III Lab ......................................... 1
- Foreign Language I .................................................. 3
- Total ...................................................................... 14
- Total ...................................................................... 14

### SENIOR YEAR Semester I Credits Semester II Credits
- CHEM 312 Biochemistry ............................................ 3
- CHEM 312L Biochemistry Lab .................................... 1
- Social Science Elective ............................................. 3
- Religious Studies Elective ......................................... 3
- Free Electives .......................................................... 5
- Total ...................................................................... 15
- Total ...................................................................... 15

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

MATH 100, 101, 103, 117; ENG 100; and CHEM 101 do not fulfill the free electives requirement.

1 ENG 212, 221, or 222 may be substituted.
## COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-MED)

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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

MATH 100, 101, 103, 117; ENG 100; and CHEM 101 do not fulfill the free electives requirement.

---

1 ENG 212, 221, or 222 may be substituted.
### COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-PHARMACY)

#### FRESHMAN YEAR

**Semester I**
- CHEM 113 Prin of Chem I & Lab .................................. 4
- BIOL 111 Prin of Biology I & Lab ............................ 4
- ENG 111 English Composition I ................................. 3
- MATH 131 Calculus I ................................................. 3
- Orientation ................................................................ 0
- IDS 101 Dimensions of Faith and Community ........... 3

**Total** ...................................................................... 17

**Semester II**
- CHEM 114 Prin of Chem II & Lab ............................. 4
- BIOL 112 Prin of Biology II & Lab ............................ 4
- ENG 112 English Composition II .............................. 3
- MATH 132 Calculus II .............................................. 3
- Religious Studies Elective ....................................... 3

**Total** ...................................................................... 17

#### SOPHOMORE YEAR

**Semester I**
- CHEM 211 Organic Chem I & Lab .............................. 4
- BIOL 217 Anatomy/Physiology I & Lab ....................... 4
- MATH 231 Differential Equations ................................ 3
- PHYS 150 Physics I & Lab ............................................ 4

**Total** ...................................................................... 17

**Semester II**
- CHEM 212 Organic Chem II & Lab ............................ 4
- CHEM 214 Quantitative Analysis & Lab ................... 4
- MATH 232 Calculus III ............................................. 3
- PHYS 251 Physics II & Lab ............................................ 4

**Total** ...................................................................... 17

#### JUNIOR YEAR

**Semester I**
- CHEM 351 Physical Chem I & Lab ............................. 4
- CHEM 330 Research Seminar I ................................. 0
- ENG 211 Intro to Literature I1 .................................. 3
- PHYS 252 Physics III & Lab ............................................ 4
- Foreign Language I ..................................................... 3

**Total** ...................................................................... 14

**Semester II**
- CHEM 352 Physical Chem II & Lab .......................... 4
- CHEM 415 Analytical Chem & Lab ............................ 4
- Math 308 Statistics ................................................... 3
- Foreign Language II .................................................. 3
- Social Science Elective .............................................. 3
- Moral Values Elective ................................................ 3
- Electives ................................................................. 1

**Total** ...................................................................... 13

#### SENIOR YEAR

**Semester I**
- CHEM 312 Biochemistry & Lab ................................. 4
- Biology Elective ....................................................... 4
- Religious Studies Elective ........................................ 3
- Social Science Elective .............................................. 3
- Moral Values Elective ................................................ 3

**Total** ...................................................................... 17

**Semester II**
- CHEM 422 Inorganic Chemistry & Lab .................... 4
- CHEM 431 Research Seminar II ................................ 2
- Chemistry Elective (UD) .......................................... 3
- Social Science Elective .............................................. 3
- Electives ................................................................. 1

**Total** ...................................................................... 13

**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

Recommended for some Pharmacy Schools: Biology 218/218L (Anatomy/Physiology II), Biology 415 and Lab-Immunology, (Fall, Senior Year), Biology 321 and Lab-Microbiology (Spring, Senior Year). This can add 7 more hours to the degree.

MATH 100, 101, 103, 117; ENG 100; and CHEM 101 do not fulfill the free electives requirement.

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1 ENG 212, 221, or 222 may be substituted.
2 Must be same language
## COURSE REQUIREMENTS FOR B.S. IN CHEMISTRY (PRE-FORENSICS)

### FRESHMAN YEAR

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</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

Recommended Electives: Biology 217 & 218 Labs-Anatomy & Physiology Labs, Forensic Anthropology, Biology 414-Histology and Lab, and BIOL 415-Immunology and Lab.

---

1. ENG 212, 221, or 222 may be substituted.
2. Must be same language
# COURSE REQUIREMENTS FOR B.S. IN COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>Freshman Year Semester I</th>
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<td>CS 171 Intro to Programming &amp; Algorithms</td>
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<td>ENG 112 English Composition II</td>
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<td>MATH 131 Calculus</td>
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<td>IDS 101 Dimensions of Faith and Community</td>
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<td>CS 360 Object Oriented Design</td>
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<tr>
<td>ECE 250 Digital Design</td>
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<td>MATH 141 Discrete Mathematics</td>
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<tr>
<td>PHYS 150/201 Physics I &amp; Lab</td>
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<td>PHYS 251/202 Physics II &amp; Lab</td>
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<td>CS 471 Database Design</td>
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<td>CS 370 Operating Systems</td>
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<td>Option Elective</td>
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<td>CS 400 Internship</td>
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<td>Philosophy Elective</td>
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<tr>
<td>CS 295 Data Communication</td>
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<td>Literature Elective</td>
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**Total credits required for 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 Information Systems Options. The minor may not be in Computer Engineering, Computer Science, or Information Technology Management.

**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; MATH 231; two from ECE 451, 453, 454, 456, 457, and 480-489 Special Topics.

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

**Information Systems Option:** required courses are ECON 214; ITM 351, 455, 470, 480; MGMT 337 and MKTG 311.

---

1. Six hours of Social Sciences must be in the same field whether it is History, Political Science, Psychology, or Sociology.
2. Must satisfy the moral values requirement
COURSE REQUIREMENTS FOR B.S. IN COMPUTER SCIENCE & 
B.S. IN MATHEMATICS

<table>
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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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<td>CS 171 Intro to Prog &amp; Alg.</td>
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<td>IDS 101 Dimensions of Faith and Community</td>
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<td>PHYS 150 Physics I</td>
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<td>Social Science Elective</td>
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<td>PHYS 150L Physics I Lab</td>
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<tbody>
<tr>
<td>CS 234 Data Struct. &amp; Lab</td>
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<td>CS 360 Object Oriented Design</td>
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<td>MATH 231 Differential Equations</td>
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<td>ECE 251 Microprocessor Architecture</td>
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<tr>
<td>CS 471 Database Design</td>
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<td>CS 370 Operating Systems</td>
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<td>MATH 329 Applied Numerical Analysis</td>
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<td>ECE 450 Computer Networks</td>
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<td>MATH 402 Abstract Algebra</td>
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<td>ECE 350 Systems Architecture</td>
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<td>MATH 413 Complex Analysis</td>
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<td>CS 440 Algorithms</td>
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<td>MATH 481 Math Seminar I</td>
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<tr>
<td>CS 481 Computer Science Project I</td>
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<td>Philosophy Elective</td>
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<td>Foreign Language</td>
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<td>ECE Elective</td>
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<td>Religious Studies Elective</td>
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<td><strong>14</strong></td>
<td><strong>Total</strong></td>
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</tbody>
</table>

Total credits for degree: 131.

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 in the same field whether it is History, Political Science, Psychology, or Sociology.
2 Must satisfy the moral values requirement.
| COURSE REQUIREMENTS FOR B.S. IN ENGINEERING PHYSICS |
|---------------------------------|-----------|---------------------------------|-----------|-----------|
| **FRESHMAN YEAR Semester I**    | **Credits** | **Semester II**                | **Credits** |
| ENG 111 English Comp I          | 3         | CHEM 115 Gen Chemistry          | 3         |
| ECE 112/ME 112 Computers in Engr| 3         | CHEM 115L Gen Chem Lab           | 1         |
| MATH 131 Calculus I             | 3         | ENG 112 English Comp II          | 3         |
| ME 112 Solids Modeling          | 3         | MATH 132 Calculus II             | 3         |
| IDS 101 Dimension of Faith and Community | 3       | PHYS 150 Physics I               | 3         |
| Orientation                     | 0         | PHYS 150L Physics I Lab          | 1         |
| **Total**                       | 15        | **Total**                       | 14        |

| **SOPHOMORE YEAR Semester I**   | **Credits** | **Semester II**                | **Credits** |
| ECE 221 Circuit Analysis I      | 3         | ECE 201 Engr Instrumentation    | 2         |
| MATH 231 Differential Equations | 3         | ECE 222 Circuit Analysis II     | 3         |
| PHYS 251 Physics II             | 3         | MATH 232 Calculus III           | 3         |
| PHYS 251L Physics II Lab        | 1         | ME 305 Thermodynamics I         | 3         |
| Literature Elective             | 3         | PHYS 252 Physics III            | 3         |
| Religious Studies Elective      | 3         | **Total**                       | 16        |
| **Total**                       | 16        | **Total**                       | 14        |

| **JUNIOR YEAR Semester I**      | **Credits** | **Semester II**                | **Credits** |
| ECE 331 Electronics I           | 3         | Engineering Elective i          | 3         |
| ECE 341 Junior Lab              | 2         | ENGR/PHYS/MATH Elective i       | 3         |
| PHYS 252L Physics III Lab       | 1         | PHYS 347 Special Relativity     | 1         |
| PHYS 353 Solid State Physics    | 3         | Moral Values Elective           | 3         |
| PHYS 380 Advanced Mech          | 3         | Social Science Elective i       | 3         |
| PHYS 447 Quantum Mechanics      | 3         | Elective                        | 3         |
| **Total**                       | 15        | **Total**                       | 16        |

| **SENIOR YEAR Semester I**      | **Credits** | **Semester II**                | **Credits** |
| MATH 309 Probability            | 3         | PHYS 452 Advanced Phys Lab      | 2         |
| PHYS 337/ECE 406 E & M Fields   | 4         | PHYS 460 Theoretical Physics    | 3         |
| PHYS 415/415L Optics & Lab      | 4         | PHYS 492 Research II            | 2         |
| PHYS 491 Research I             | 0         | PHYS 499 Comprehensives         | 0         |
| Religious Studies Elective      | 3         | Engineering Elective i          | 3         |
| Free Electives                  | 2         | Social Science Elective i       | 3         |
| **Total**                       | 16        | Elective                        | 3         |
| **Total**                       | 16        | **Total**                       | 16        |

Total credits for 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.

2 The two social science electives must be in the same field.
## COURSE REQUIREMENTS FOR B.S. IN MATHEMATICS

<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>ENG 111 English Composition I</td>
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<td>MATH 131 Calculus I</td>
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<tr>
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<td>Science Elective</td>
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<td>IDS 101 Dimensions of Faith and Community</td>
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<td>Social Science Elective</td>
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<tbody>
<tr>
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<td>MATH 141 Discrete Mathematics</td>
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<td>Philosophy Elective</td>
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<td>MATH 232 Calculus III</td>
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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>MATH 413 Complex Analysis</td>
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<td>MATH 414 Real Analysis</td>
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<td><strong>16</strong></td>
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</table>

Total credits required for the degree: 122.

SEE NOTES ON FOLLOWING PAGE.
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. Students who will take CS 172 should take CS 171 first.
3. 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.
4. The Mathematics electives must be chosen from MATH 301, 308, 309, 329, 405, or 470-479.
5. Must satisfy moral values requirement.
## COURSE REQUIREMENTS FOR B.A. IN MATHEMATICS

### FRESHMAN YEAR Semester I

<table>
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<th>Course</th>
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<tr>
<td>MATH 131 Calculus I</td>
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<td>IDS 101 Dimensions of Faith and Community</td>
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### Semester II

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### SOPHOMORE YEAR Semester I

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<td>Literature Elective</td>
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<td>MATH 231 Differential Equations</td>
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<tr>
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<td><strong>16</strong></td>
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</table>

### Semester II

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Literature Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 141 Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 232 Calculus III</td>
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</tr>
<tr>
<td>Foreign Language</td>
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<tr>
<td>History Elective</td>
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### JUNIOR YEAR Semester I

<table>
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<tr>
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<tr>
<td>MATH 401 Linear Algebra</td>
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<tr>
<td>Mathematics Elective</td>
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<tr>
<td>Philosophy Elective</td>
<td>3</td>
</tr>
<tr>
<td>Liberal Arts Elective</td>
<td>3</td>
</tr>
<tr>
<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>CS 172 &amp; Lab or ECE 112 Comp. Science</td>
<td>3-4</td>
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<tr>
<td>MATH 402 Abstract Algebra</td>
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<td>Mathematics Elective</td>
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<tr>
<td>Philosophy Elective</td>
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<td>Liberal Arts 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>
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<tr>
<td>MATH 413 Complex Analysis</td>
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<td>MATH 481 Seminar I</td>
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<td>Mathematics Elective</td>
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<td>Electives</td>
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### Semester II

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>MATH 414 Real Analysis</td>
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<td>MATH 482 Seminar II</td>
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<td>Electives</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.

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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 Students who will take CS 172 should take CS 171 first.
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

GENERAL EDUCATION REQUIREMENTS (See Page 31) ........................................... 30 hours
  Orientation (required for new freshmen) ........................................................... 0 hours
  Interdisciplinary Studies (IDS 101) ................................................................. 3 hours
  English Composition (ENG 111 & ENG 112) ................................................. 6 hours
  Mathematics (MATH 117) ............................................................................. 3 hours
  Literature Elective ......................................................................................... 3 hours
  Religious Studies Electives ............................................................................. 6 hours
  Moral Values Elective .................................................................................... 3 hours
  Social Science Electives ............................................................................... 6 hours

MAJOR SCIENCE REQUIREMENTS1 ................................................................. 50 hours
  Principles of Biology (BIOL 111/111L & 112/112L) ........................................ 8 hours
  Principles of Chemistry (CHEM 113/113L & 114/114L) .............................. 8 hours
  Physics (PHYS 201/201L & 202/202L or PHYS 150/150L & 251/251L)........... 8 hours
  Science Electives .......................................................................................... 24 hours
  Senior Research (NSCI 410 & 411) ............................................................... 2 hours

ADDITIONAL REQUIREMENTS ........................................................................... 6 hours
  Mathematics (131, if not previously taken; 106, or 132) .............................. 3 hours
  Computer Technology Elective ....................................................................... 3 hours

FREE ELECTIVES ............................................................................................. 36 hours

TOTAL HOURS 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 410,411) at or above the 300 level.

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.

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1 Students must have at least 26 hours of science (BIOL, CHEM, NSCI, or PHYS courses) at or above the 200+ level. At least 12 of these 26 hours must be in the same field (Science Area I). At least 8 of these 26 hours must be at the 300+ level (including NSCI 410 & 411).

2 Students who choose Physics as Science Area I can take BIOL 109 & 109L instead of BIOL 111, 111L, 112 & 112L.

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

4 Students who choose Physics as Science Area I must take PHYS 150, 251, 252 and the associated labs.
COURSE REQUIREMENTS FOR B.S. IN PHYSICS

**FRESHMAN YEAR**
Semester I  | Credits | Semester II  | Credits
--- | --- | --- | ---
CHEM 113 Prin of Chemistry I | 3 | CHEM 114 Prin of Chemistry II | 3
CHEM 113L Prin of Chem Lab I | 1 | CHEM 114L Prin of Chem II Lab | 1
ENG 111 English Comp I | 3 | ENG 112 English Comp II | 3
ECE 112/ME 112 Computers in Engr | 3 | MATH 132 Calculus II | 3
MATH 131 Calculus I | 3 | PHYS 150 Physics I | 3
IDS 101 Dimensions of Faith and Community | 3 | PHYS 150L Physics I Lab | 1
ORIN 100 Orientation | 0 | Total | 16

**Sophomore Year**
Semester I  | Credits | Semester II  | Credits
--- | --- | --- | ---
Elective | 3 | MATH 232 Calculus III | 3
ECE 221 Circuit Analysis I | 3 | PHYS 252 Physics III | 3
MATH 231 Differential Equations | 3 | Philosophy or Literature Elective | 3
PHYS 251 Physics II | 3 | Moral Values Elective | 3
PHYS 251L Physics II Lab | 1 | ECE 201 Engineering Instrumentation | 2
Literature Elective | 3 | Total | 16

**Junior Year**
Semester I  | Credits | Semester II  | Credits
--- | --- | --- | ---
MATH 309 Probability | 3 | PHYS 347 Special Relativity | 1
PHYS 252L Physics III Lab | 1 | PHYS 448 Quantum Mechanics II | 3
PHYS 353 Solid State Physics | 3 | Religious Studies Elective | 3
PHYS 380 Advanced Mechanics | 3 | Social Science Elective | 3
PHYS 447 Quantum Mechanics | 3 | Mathematics Elective | 3
Thermodynamics Elective | 3-4 | Total | 16-17

**Senior Year**
Semester I  | Credits | Semester II  | Credits
--- | --- | --- | ---
PHYS 337/ECE 406 E & M Fields | 4 | PHYS 452 Advanced Phys Lab | 2
PHYS 415/415L Optics & Lab | 4 | PHYS 460 Theoretical Physics | 3
PHYS 491 Research I | 0 | PHYS 492 Research II | 2
Mathematics Elective | 3 | PHYS 499 Comprehensives | 0
Religious Studies Elective | 3 | Social Science Elective | 3
| 3 | Elective | 2-3

Total | 14 | Total | 15-16

Total credits for 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. Choose either ME 305: Thermodynamics I (3 credits) or CHEM 351 & 351L: Physical Chemistry I & Lab (4 credits).
3. Two Social Science electives are required and must be in the same field.
4. 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 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 122, 122L, 234, 234L, 236, 392; MATH 141 or 405; and one course selected from CS 380, 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 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.
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 75.

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; ITM 153. 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 300 and 400 level accounting courses. One semester; three 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. Corequisite: FIN 327 for non-accounting majors. One semester; three credits

ACCT 300/301 CAREERS IN ACCOUNTING
Intended to provide students with an overview of the various types of career opportunities available to finance and accounting graduates and how to prepare for each. Finance and Accounting professionals from industry will make presentations to the class regarding their own career experiences, the skills and knowledge required to obtain entry level positions in their field and internship opportunities. Students will be expected to develop a career plan as part of the course. Open to any interested student. No prerequisites but recommended for spring of the sophomore or junior years. (Same as FIN 300/301 – Careers in Finance) Pass/Fail. One semester; one credit

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 365. One semester; three credits.

ACCT 319. COST ACCOUNTING I
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 260. 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 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. 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. 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 430. 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. 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. 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. Prerequisite: ACCT 365. 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 265; FIN 427. (Same as FIN 480). One semester; three credits

■ AIR FORCE ROTC
Air Force ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

■ ANTHROPOLOGY COURSES
ANTH 126. FORENSIC ANTHROPOLOGY
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. 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 279. INTRODUCTION TO ARCHAEOLOGY
The goal of archaeology is to gain an understanding of past cultures through the collection and analysis of cultural artifacts. The course will explore the methods and theories of archeology including excavation techniques, sampling techniques, and dating methods. It will investigate both prehistoric and historic cultures in attempting to understand the spread of culture and cultural diversity. One semester; three credits

ANTH 280-287. SELECTED TOPICS IN ANTHROPOLOGY
Directed work on a special topic or project in anthropology. One semester; one to three 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 380-387. SELECTED TOPICS IN ANTHROPOLOGY
Directed work on a special topic or project in anthropology. One semester; one to three credits

■ ARMY ROTC CLASSES
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 49.

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. PAINTING AND 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 104. BEGINNING SCULPTURE
An introduction to three-dimensional design concepts through traditional and non-traditional methods. Am emphasis on the elements and principles of design as applied to the sculptural form. One semester; three credits

ART 200. BASIC OIL PAINTING
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 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. Prerequisite: ART 102 or 230 or permission of the instructor. One semester; three credits
ART 207. OIL PAINTING II
An extension of the techniques learned in Basic Oil Painting (ART 200) with an emphasis on personal growth and creativity. Prerequisite: ART 200 or permission of the instructor. One semester; three credits

ART 208. CERAMICS I
Students will be introduced to the ceramic process using clay and hand building methods. One semester; three credits

ART 211. WORLD ART I
A survey of major visual art forms from prehistoric times to the Renaissance. One semester; three credits

ART 212. WORLD ART II
A survey of major visual art forms from the Renaissance period to the present. One semester, three credits

ART 230. BASIC DRAWING I
The student will learn the basics of composition, visual elements and principles of design. One semester; three credits

ART 231. BASIC DRAWING II
A continuation of Basic Drawing I, with the introduction of advanced techniques. Prerequisite: ART 230 or permission of the instructor. 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. Permission from the art instructor is required before enrolling in this class. One semester; three credits

ART 290-299. HONORS SPECIAL TOPICS.
Open to members of the Honors Program or by permission of instructor.

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 310. INTRODUCTION TO PRINTMAKING
The student will be instructed in the basics of printmaking using the techniques of woodcut, linocutting, screenprinting, and monoprinting. One semester; three credits

ART 311. PRINTMAKING II
Students will build on printmaking techniques learned in ART 310. An emphasis on personal growth through projects directed by the instructor. Prerequisite ART 310. 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. Prerequisites: ART 200, ART 207 or permission from the instructor. One semester; three credits

ART 330. SCULPTURE II
Students will apply design principles learned in ART 104 to 3-dimensional projects using various materials. Prerequisites: ART 104 or permission of instructor. One semester; three credits
ART 400-410. SPECIAL TOPICS IN ART
Content and credit 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. Prerequisites: Any drawing course at 200 level or above. One semester; three credits

ART 412. 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. Prerequisites: Any painting course at 200 level and above. One semester; three credits

ART 475. SENIOR PROBLEM
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 480-485. SPECIAL STUDIES IN ART
Content and credit variable with interest and instructor. Prerequisite: Approval of Department Chair. One semester; one to three credits

■ BIOL 103. BIOLOGY OF ADDICTION (Formerly BIOL 110)
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. 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 judgement. With the laboratory component, this course fulfills University graduation requirements. Offered as needed. One semester; one credit

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. 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 field and forests will be scheduled when possible. Prerequisite or corequisite: BIOL 107. Offered as needed. One semester; one credit
BIO 109. HUMAN BIOLOGY (Formerly BIOL 213)
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. Corequisite: BIOL 109L. Offered in Fall semester and Professional Studies program. One semester; three credits

BIO 109L. HUMAN BIOLOGY LABORATORY (Formerly BIOL 231L)
Laboratory experience to illustrate and explain the principles covered in BIOL 109. Offered in the Fall semester and the Professional Studies program. Prerequisite or corequisite: BIOL 109. One semester; one credit

BIO 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. Corequisites: BIOL 111L and CHEM 101 or higher. Offered in both Fall and Spring semesters. One semester; three credits.

BIO 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

BIO 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 Spring semester and usually in Summer Term II. Prerequisite: BIOL 111. Corequisite BIOL 112L. One semester; three credits.

BIO 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

BIO 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: Grades of “C” or better in BIOL 111 and 112. Corequisite: BIOL 211L. Offered in the Fall semester. One semester; three credits.

BIO 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: Grades of “C”
or better in BIOL 111 and 112. Corequisite: BIOL 212L. Offered in the Spring semester. *One semester; three credits.*

**BIOL 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.*

**BIOL 213. MEDICAL AND SCIENTIFIC TERMINOLOGY**  
This course examines the Latin and Greek origins of words used in the 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. Attention will also be given to pronunciation, spelling and common abbreviations used in scientific writings. 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. Offered in even numbered Spring semester. *One semester; one credit.*

**BIOL 216. BOTANY** *(Formerly BIOL 316)*  
A comprehensive study of the principles of botany. Topics include a survey of the major groups of plants, algae, fungi and bacteria, their life cycles, anatomy, metabolism, biogeography, ecology and evolution. Prerequisites: BIOL 112. Corequisite: BIOL 216L. Offered in even numbered Spring semesters. *One semester; three credits.*

**BIOL 216L. BOTANY LABORATORY** *(Formerly BIOL 316)*  
Laboratory experience to illustrate the principles of plant physiology, anatomy and ecology presented in BIOL 216 lecture. The course includes field trips and data gathering at a variety of biological communities. Prerequisite or corequisite: BIOL 216. Offered in even numbered Spring semesters. *One semester; one credit.*

**BIOL 217. HUMAN ANATOMY AND PHYSIOLOGY I** *(Formerly BIOL 317)*  
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: Grades of “C” or better in BIOL 111 and 112; Prerequisite or Corequisite: CHEM 113. Corequisite: BIOL 217L. Offered in the Fall semester. *One semester; three credits.*

**BIOL 217L. HUMAN ANATOMY AND PHYSIOLOGY I LABORATORY** *(Formerly BIOL 317L)*  
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.*

**BIOL 218. HUMAN ANATOMY AND PHYSIOLOGY II** *(Formerly BIOL 318)*  
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 and CHEM 113. Corequisite: BIOL 218L. Offered in the Spring semester. *One semester; three credits.*

**BIOL 218L. HUMAN ANATOMY AND PHYSIOLOGY II LABORATORY** *(Formerly BIOL 318L)*  
Laboratory experience to illustrate and explain the principles covered in BIOL 218. Dissection of a preserved mammalian specimen is required. Prerequisite or corequisite: BIOL 218. Offered in the Spring semester. *One semester; one credit.*

**BIOL 236. NUTRITION** *(Formerly BIOL 256)*  
The basic principles of nutrition are studied with particular emphasis on their applications to hu-
man 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. Offered in even numbered Fall semesters. One semester; three credits

**BIOL 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 the spring semester of even numbered years. (Same as CS 240). Prerequisite: BIOL 111. One semester; three credits

**BIOL 246. EVOLUTION** (Formerly BIOL 356)

Investigation of the evidence, proponents and theories of organic evolution with emphasis on modern contributions to the understanding of speciation. Prerequisite: BIOL 112. Offered in odd numbered Spring semesters. One semester; three credits

**BIOL 275. BIOLOGICAL CAREER CHOICES**

Students will visit working biologists and explore a variety of career choices in the biological sciences. The actual choices will be tailored to the interests of the students and availability of local veterinarians, researchers, wildlife biologists, physicians and allied health professionals. Offered in the Spring semester. Prerequisite: Sophomore standing. Pass/Fail Grading. One semester; one credit

**BIOL 311. GENETICS**

A study of the structure and function of nucleic acids in viruses, prokaryotes and eukaryotes. Basic concepts, principles and applications of classical, molecular and population genetics. Topics in clinical, agricultural, developmental, behavioral and immunogenetics. 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. VERTEBRATE PHYSIOLOGY**

A study of the biochemical and biophysical mechanism underlying vertebrate, especially human, function at all levels. Emphasis is placed on the role of membranes, nerves and hormones in maintaining homeostasis. Students will be required to participate in a trip to the Gulf Coast Research Laboratory for one weekend in March or April. Prerequisite: CHEM 211. Recommended: CHEM 32 and PHYS 201. Corequisite BIOL 312L. Offered in the Fall semester. One semester; three credits

**BIOL 312L. VERTEBRATE 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, veterinary, food, industrial, and environmental microbiology. Prerequisites: Grade of “C” or better in BIOL 112 and CHEM 211 and Junior or Senior
BIOLOGY COURSE DESCRIPTIONS

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 Junior or Senior status. Corequisite: BIOL 335L. Offered in even 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 even numbered Fall semesters. Prerequisite or corequisite: BIOL 335. *One semester; one credit*

**BIOL 362. BIOLOGY SEMINAR**
Seminar series in which research scientists are invited to discuss their current research. Students are expected to submit a research proposal which they will use as the basis for their mandatory senior research project. Required of Junior Biology majors. Prerequisites: BIOL 275 and Junior standing. Offered in the Spring semester. *One semester; one credit*

**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 221, and either BIOL 217 and 218 or BIOL 312. Offered in odd numbered Fall semesters. *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, and 4 additional hours in Biology. Offered in even numbered Spring semesters. *One semester; three credits*

**BIOL 390-398. SPECIAL TOPICS IN BIOLOGY**
Selected topics of interest. Prerequisite: Permission of the instructor. *One semester; one to four credits*

**BIOL 412. GENERAL ECOLOGY**
Study of the principles of ecology. Topics to be investigated include population organization, demographics and regulation, community and ecosystem structure, coactions and change, abiotic factors, cycles of matter, energy flow, and characteristics of biomes. Prerequisites: BIOL 112 and Junior or Senior standing. Corequisite: BIOL 412L. Offered in the Fall semester. *One semester; three credits*

**BIOL 412L. GENERAL 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 field trips to ecologically important sites. Students are required to participate in the Gulf Coast Field trip. Prerequisite or corequisite: BIOL 412. Offered in the Fall 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 and Junior
or Senior standing. Corequisite: BIOL 413L. Offered in odd numbered Fall semesters. *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. Prerequisite: BIOL 112L. Corequisite: BIOL 413. Offered in odd numbered Fall semesters. *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. Prerequisites: BIOL 111, 112, four additional hours of Biology, 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 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 Fall semester. Prerequisite: Junior or Senior standing. BIOL 312 and CHEM 312 are recommended. 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 Fall 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 275, 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 one of the summer terms. 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 as a requirement for graduation. Prerequisites: BIOL 362, Senior standing and 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: BIOL 463. 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: 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:
First Summer Term: Marine Biology, Marine Mammals, Marine Ichthyology, Shark Biology.
Second Summer Term: Oceanography, Marine Invertebrate Zoology, Marine Ecology, Marine Biology for Teachers.
For additional information about the course offerings at the GCRL, see the Chair of the Biology Department.

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. *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. *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. *One semester; three credits*

**BUS LAW 360. INTERNATIONAL BUSINESS LAW**
A course emphasizing practical application and theory of international business law, it shows how firms doing business between more than 200 countries of the world are governed and regulated. No single legal system is emphasized, rather, cases and materials from many countries are discussed to illustrate the similarity of businesses and the law. Recommended but not required, POLS 370 (International Law). *One semester; three credit hours*

### CHEMICAL ENGINEERING COURSES

*Requirements for the degree are found on Pages 88 and 89.*

**CH E 101, 201. CHEMICAL ENGINEERING PROJECT**
Chemical Engineering Projects. A four-semester sequence of courses where all of the students participate in technical team projects and learn about written and oral presentations, use of the library, and other sources to retrieve technical data, prepare for and make effective job searches. Participate in the local Student AIChE chapter meetings, participate in discussions with panels of practicing engineers from local industry, and visit chemical plants. Industrial safety, ethics, environmental responsibility, and other suitable topics are covered. *Two semesters; one credit each*

**CH E 111. INTRODUCTION TO CHEMICAL ENGINEERING I**
This introductory course provides an understanding of the chemical engineer’s role in industry. Students will be introduced to the system of measurement units, the concepts of mass and energy balances and the basic approaches for simple unit operations. The role of the computer in design will be highlighted. Offered in Fall semester. *One semester; one credit*

**CHE 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. Prerequisite: CH E 111 or permission of the department. Offered in the Spring semester. *One semester; one credit.*

**CH E 231. ELEMENTARY THERMODYNAMICS**
Study of the fundamental principles and concepts of thermodynamics of pure materials. Properties of pure materials from tables, charts and ideal-gas equation. Heat and work. Energy balances on open and closed systems. An introduction to heat engines and heat pumps. Prerequisites: MATH 132 and CHEM 114 or PHYS 150. Offered in the Fall semester. *One semester; three credits*

**CH E 232. MATERIAL AND ENERGY BALANCES**
CH E 245. MATERIAL SCIENCE (Formerly CH E 244 and CH E 445)
Materials classification, behavior, properties and selection. Relationship between internal structure of materials and their observed properties and behaviors. Methods of controlling properties and behavior of materials by manipulating internal structures. Prerequisite: CHEM 113 or CHEM 115. Offered in the Fall semester. One semester; three credits

CH E 314. ENGINEERING ECONOMY (Formerly CH E 414)
Fundamentals of engineering economy. Cost concepts. Time value of money and equivalence. Economic analysis of alternatives. Replacement analysis. Depreciation and after-tax analysis. Effects of inflation on economic analysis and currency exchange rates. Prerequisite: Junior standing. (Same as CE 314, ECE 314, ME 314) One semester; three credits

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) Prerequisites: MATH 131 and CHEM 113 or 115. 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 320) Prerequisites: MATH 131 and CHEM 113 or 115. One semester; three credits.

CH E 323. FLUID MECHANICS
A study of the principles of fluid mechanics and applications to Chemical Processing. Prerequisites: CH E 232 and MATH 231. Corequisite: CH E 325. Offered in the Fall semester. One semester; three credits

CH E 324. HEAT TRANSFER
Study of the 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 flow of fluids. Flow measurements. 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. Includes double pipe heat exchanger, plate heat exchanger, temperature sensor response, air cooled exchanger. Corequisite: CH E 324. Offered in the Spring semester. One semester; one credit

CH E 327. CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: CH E 231 or ME 305. Offered in the Fall Semester. One semester; three credits

CH E 330. MASS TRANSFER & SEPARATIONS
Study of 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 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 ECE 400, CE 400, and ME 400) Prerequisite: Permission of the department. One semester; three credits

CH E 401, 402. CHEMICAL ENGINEERING SENIOR PROJECT
These courses introduce students to 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 approval of periodic and final review of the report submitted by the student. Prerequisite: Senior standing in Chemical Engineering. Offered in the Fall and Spring semesters. One semester each; two credits each

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 utilizing 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. A laboratory project demonstrating control principles may be included. Prerequisite: CH E 330. Offered in the Fall semester. One semester; three credits

CH E 441. SENIOR LABORATORY I
Experimental study of applications of heat, mass and momentum transfer. Studies include filtration, ion exchange, distillation, etc. Both 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
Topics includes, experimental study of Reaction Kinetics and behavior of various reactors, polymerization and characterization of polymers. Both 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
A study of the terminology and theory of 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. The topics will include
principles of bioreaction engineering and bioseparation. Laboratory experiments will support the
concepts introduced in the lecture. Prerequisites: CH E 312 or CHEM 315 and 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 107-110.*

**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, balanc-
ing equations, stoichiometry, and the algebra required for proficiency in chemistry. Prerequisite or
corequisite: MATH 100 or 103 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 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 211. 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 class 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 212. 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
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 as needed. One semester; three credits

CHEM 312. BIOCHEMISTRY
Introduction to the chemistry and metabolism of biologically important amino acids, proteins, carbohydrates and lipids, including enzyme systems, vitamins, hormones and nucleic acids. Prerequisites: CHEM 212, 212L. Prerequisite or corequisite: CHEM 312L. Offered in the Fall semester. One semester; three credits

CHEM 312L. BIOCHEMISTRY LABORATORY
This course is a study of the various compounds and reactions considered in CHEM 312. Typical biochemical analytical methods such as spectrophotometry, chromatography and centrifugation are utilized. A rigorous study of enzyme kinetics is included. Prerequisite or corequisite: CHEM 312. Offered in the Fall semester. One semester; one credit

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, mechanism of and regulation of enzyme activity, membrane structure and function, bioenergetics, and an introduction to metabolic pathways will be included. 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 315, 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, membrane transport, and interrelationships between signal transduction and metabolic regulation will be discussed. The course will conclude with an introduction to molecular biology including DNA replication, transcription, and translation. 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, selection of a research project, and initiation of research. Prerequisites: CHEM 212, 212L. Offered in the Fall semester. One semester; zero credit

CHEM 351. PHYSICAL CHEMISTRY I
Studies of the kinetic theory and properties of gases, the laws of thermodynamics, molecular ener-
gies, 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 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: CHEM 212, 212L, 214, 214L, 351, 351L. Prerequisite or corequisite: CHEM 352, 352L, 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 431. RESEARCH SEMINAR II
Completion of 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. The student must also pass a comprehensive examination in chemistry. This examination may be administered by the department, or it may be an external test (such as the GRE) approved by the department. Prerequisite: CHEM 330 or 430. Offered in the Spring semester. One semester; two credits

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 438. LIPIDS**
A second semester of Biochemistry, designed to assist students in the application of biochemical concepts to all areas of future study in the health sciences and biotechnology. Special emphasis will be given to current research and topics of special interest to students. Topics will include lipids, membranes, and cellular transport; lipid metabolism; steroids, isoprenoids, and eicosanoids; metabolic coordination, control, and signal transduction; cholesterol, hormones, and vitamins; and current journal articles. Prerequisites: CHEM 312 and 312L or CHEM 315 and 315L. Offered in the Spring semester. *One semester; three credits*

**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*

### 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 205-215. SPECIAL TOPICS IN CHINESE.**
Topics of special interest related to Chinese literature, language, or culture. Offered in Fall or Spring. *One semester; three credits*

**CHIN 300-302. SPECIAL TOPICS IN CHINESE.**
Studies in Asian Humanities and in Advanced Chinese. Prerequisite: Chinese 202 or the equivalent. Offered in Fall or Spring in alternate years. *One semester; three credits*
CIVIL AND ENVIRONMENTAL ENGINEERING COURSES

Requirements for the degree are found on Page 90.

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; two 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 and environmental engineering problem solving. Topics include computer operations, an overview of computer programming, input/output file operations, algorithms, control statements, strings, arrays, and functions. Computer applications in civil and environmental engineering are included. Offered in Spring semester. One semester; three credits.

CE 115. FIELD MEASUREMENTS

CE 200. MECHANICS OF SOLIDS I

CE 213. MECHANICS OF SOLIDS II

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. Prerequisites: CE 105, 200. 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. Corequisite: CE 299. Offered
in the Spring semester. \textit{One semester; one credit}

\textbf{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: Junior standing. Offered depending on enrollment. \textit{One semester; three credits}

\textbf{CE 310. ANALYSIS AND DESIGN OF STEEL STRUCTURES}

\textbf{CE 311. ANALYSIS AND DESIGN OF CONCRETE STRUCTURES}
Integrated structural analysis and design of concrete structures. Approximate methods in the analysis of indeterminate structures. Design of concrete structures and structural elements (such as beams, one-way slabs, columns, and spread footings) in accordance with ACI 318 Code. Introduction to pre-stressed concrete. Hands-on laboratory experiments. Prerequisite: CE 213. Offered depending on enrollment. \textit{One semester; three credits}

\textbf{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. \textit{One semester; three credits}

\textbf{CE 314. ENGINEERING ECONOMY (Formerly CE 314 Economic Factors in Design)}

\textbf{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 Junior Standing; to be taken three semesters preceding the student’s graduation. Offered in the Fall and Spring semesters. \textit{One semester; zero credit}

\textbf{CE 316. TIMBER DESIGN}
Design of beams, tension and compression members, members with combined loading, wall and floor plywood sheathing. Connections, nails, bolts, and split rings. Sawn lumber and glued laminated timber. Design for wind and seismic forces, horizontal diaphragms and shear walls. Concrete formwork. Crate/Container design. Individual design project. Oral and written communication skills are required. Prerequisite: CE 213 or equivalent. \textit{One semester; three credits}

\textbf{CE 317. INTRODUCTION TO ENVIRONMENTAL ENGINEERING}
Introduction of pollution in Environmental Engineering, mass balance, environmental regulations, water/wastewater characteristics, water/wastewater treatment, solid and hazardous waste management, and air pollution and control. Written communication skills are required. Prerequisites: CHEM
115, 115L and junior standing. 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 intermodal systems. Computer applications. Oral and written communication skills are required. Prerequisite: CE 115. 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 320. TRANSPORTATION AND URBAN PLANNING**

Urban transportation planning, data collection and analysis, growth of cities, study of transportation systems, highway, railroad, air, water, pipeline, conveyor belt, and systems for the future. Public transportation. Offered depending on enrollment. Prerequisite: Junior standing. 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 200, 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 communication skills are required. Corequisite: CE 322. Offered in the Fall semester. One semester; one credit

**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: Junior standing. 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: Junior standing. One semester; three credits
CE 400. THE COMPLEAT ENGINEER (Same as CH E 400, ECE 400, and ME 400)
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. Prerequisite: Permission of the department. 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. 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 31 or equivalent. One semester; three credits

CE 403. COMPUTER ANALYSIS OF STRUCTURES
Theory of matrix algebra and solution of linear algebraic equations. Basic energy principles and virtual work. Analysis of frame and truss structures using the direct stiffness method. Computer applications. Prerequisites: CE 112, 213. 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: Junior standing. 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: Senior standing. Offered depending on enrollment. One semester; three credits

CE 406. AIR POLLUTION
A basic knowledge of air pollution terminology, legislative standards, and fundamentals of control equipment including cyclones, baghouses, electrostatic precipitators, wet scrubbers, carbon adsorbers, and incinerators. Written communication skills are required. Prerequisite: Junior standing. 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 411. ADVANCED STEEL DESIGN
Topics related to steel bridge and bridge and building design, such as building connections, building floor systems, bridge composite beams, and bridge plate girders. Hands-on projects. Topics may vary from semester to semester. Prerequisite: CE 310. One semester; three credits

CE 412. ADVANCED CONCRETE DESIGN
Topics related to concrete bridge and building design, such as building floor systems and prestressed concrete bridge girders. Hands-on projects. Topics may vary from semester to semester. Prerequisite: CE 311. One semester; three credits
## CE 414. DESIGN OF TRANSPORTATION SYSTEMS
Discussion of topics relevant to the design of transportation facilities: design controls and criteria, geometric design, design of drainage structures and cost analysis. Students will be required to prepare a set of plans, including calculations, for a design project assigned by the instructor. Computer applications. Oral and written communication skills are required. Offered depending on enrollment. Prerequisite: CE 318. *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: Junior standing. 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. *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: Junior standing. *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. Prerequisite: CE 315. Taken in sequence during the last two semesters before graduation. *Two semesters; four credits*

## CE 490-495. 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 496, 497, 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*

## CE 499. INTERNSHIP IN CIVIL AND/OR ENVIRONMENTAL ENGINEERING
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 and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior Standing and Permission of department. One semester; three credits

### COMPUTER SCIENCE COURSES

The requirements for the degree are found on Pages 111. Requirements for the dual degree in Computer Science and Mathematics are found on Page 112. Requirements for the dual degree in Computer Science and Electrical Engineering are found on Page 93.

**CS 171. INTRODUCTION TO PROGRAMMING AND ALGORITHMS**  (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. One semester; three credits

**CS 172. INTERMEDIATE PROGRAMMING AND ALGORITHMS**  (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. Corequisite: CS / ECE 172L. One semester; three credits

**CS 172L. INTERMEDIATE PROGRAMMING AND ALGORITHMS LAB**  (Formerly CS 122L)

Lab to accompany CS 172. Corequisite: CS/ECE 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/ECE172. Corequisite: CS 234L/ECE 234L. One semester; three credits

**CS 234L. DATA STRUCTURES LAB**

Lab to accompany CS 234. Corequisite: CS 234/ ECE 234. One semester; one credit

**CS 240. INTRODUCTION TO BIOINFORMATICS**  (Same as BIOL 240.)

**CS 295. DATA COMMUNICATIONS**

This course is designed to cover fundamentals of 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 LANs, wireless LANs and wide area networks as well as network security issues and standards. Prerequisite: CS/ECE 172 and MATH 105 or 131. One semester. Three 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/ECE 172 or CS/ECE 234. One semester; three credits

**CS 370. OPERATING SYSTEMS**  (Formerly CS 380)

The 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 295 or CS/ECE 234. 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 and CS/ECE 360. One semester; three credits

CS 453. COMPUTER GRAPHICS (Formerly CS 423)
(Same as ECE 453) Prerequisites: CS 234 or ECE 112 and Permission of the instructor. 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 instructor. 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: CS/ECE 172. 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 (Formerly EDUC 300, 301)
This is a special training program for selected volunteers chosen as Peer Counselors. The paraprofessional trainee participates in an intensive counseling internship designed to bring about the best possible adjustment of new students to University life in the ORIN 100 course required of all freshmen. Prerequisite: Approval of instructor. Offered in the Fall and Spring. Two semesters; three credits each

COUN 310, 311. CAREER COUNSELOR TRAINING (Formerly EDUC 300, 301)
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 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. SOCIOLOGY 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, transgenderedness, 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, voice identification), memory for everyday events, memory aids, and advertising. The relevant theories and research in each 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 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. 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. One semester; three credits

ECON 303. MONEY AND BANKING
A general survey of credit and credit instruments, activities and policies of financial institutions such as commercial and savings banks, the Federal Reserve System, and investment banks. Study of the place of money in modern economic life, including its relation to prices, employment, and business activity. Prerequisites: ECON 214, 215. 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. 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. 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. 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 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 the Spring semester. One semester; three credits

ECON 422. INTERNATIONAL TRADE AND FINANCE
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. 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 in the Spring semester. 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 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 390. PRINCIPLES AND METHODS OF INSTRUCTION
This course, designed for students seeking secondary licensure, focuses on the skills appropriate to designing and implementing an instructional system suited to various types of learning, student competence levels, and curricular demands. Emphasis is placed on specific competencies in objective setting, lesson planning, testing, diagnosis, remediation, and alternative grading methods. Prerequisite: Admission to Teacher Education Program. One semester; three credits.

EDUC 391. FIELD EXPERIENCE
Direct observation and participation in selected attendance centers. Fifteen clock hours of classroom work are required under the supervision of the classroom teacher and a college supervisor. Prerequisite: Admission to the Teacher Education Program. One semester; one credit.

EDUC 392. FIELD EXPERIENCE
Direct observation and participation in selected schools, either elementary or secondary, depending upon the licensure track of the student. Thirty clock hours of classroom work are required under the supervision of a classroom teacher and a college supervisor. Prerequisite: Admission to the Teacher Education Program.
EDUC 393. FIELD EXPERIENCE
Direct observation and participation in selected schools, either elementary or secondary, depending upon the licensure track of the student. Forty-five clock hours of classroom work are required under the supervision of a classroom teacher and a college supervisor. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 402. PRACTICUM I
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. Weekly one-hour seminar, readings, and 10 hours of field experience. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 405. CURRICULUM AND METHODS IN LANGUAGE ARTS, 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 (Formerly EDUC 407)
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 408. ASSESSMENT OF LEARNING AND PRACTICE, K-12
Elective course in education giving in-depth study in assessment and evaluation methods, including test design and interpretation of results and development of authentic and performance-based approaches to measuring student learning. One semester; three credits.

EDUC 411. CURRICULUM AND METHODS IN SCIENCE, K-8
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, K-8
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 experi-
ence is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits

**EDUC 416. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, 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 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, K-8**
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, 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 426. INTEGRATING CURRICULUM**
This course examines features of integrated curriculum, including standards-driven instruction, concept-and theme-based units, and integration of content to ensure transfer of knowledge. Prerequisite: Admission to Teacher Education Program. One semester; three credits

**EDUC 427. MIDDLE SCHOOL STRATEGIES**
This course analyzes elements of high-performing middle schools in relation to characteristics of young adolescents. Topics include interdisciplinary teaming, block scheduling, teacher-based guidance, exploratory experiences, and the changing roles of middle school teachers. Prerequisite: Admission to Teacher Education Program. One semester; three credits.

**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 429. READING AND WRITING ACROSS THE CURRICULUM, 7-12**
(Formerly EDUC 415) Emphasizes and fosters continued development in student literacy and academic ability in all disciplines taught in the secondary school. Prerequisite: Admission to the Teacher Education Program. 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. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 432, 438. No other courses
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. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 431, 438. No other courses may be taken concurrently except corequisites. Offered in the Fall and Spring semesters. Pass/Fail Grading. One semester; six credits.

EDUC 433. STUDENT TEACHING—ELEMENTARY LEVEL III
Directed student teaching in grades K-6 under the supervision of a selected cooperating teacher and a selected University supervisor. Reserved only for students seeking K-12 licenses who must also complete part of their student teaching experience in a 7-12 setting (see EDUC 437). Offered in the Fall and Spring semesters. Pass/Fail Grading. One semester; six credits.

EDUC 435. STUDENT TEACHING—SECONDARY LEVEL I
Directed student teaching in grades 7-9 is under the supervision of a selected cooperating teacher and a selected University supervisor. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 436, 438. No other courses may be taken concurrently except corequisites. Offered in the Fall and Spring semesters. Pass/Fail Grading. One semester; six credits.

EDUC 436. STUDENT TEACHING—SECONDARY LEVEL II
Directed student teaching in grades 10-12 is under the supervision of a selected cooperating teacher and a selected University supervisor. Prerequisites: Permission of the department chair and admission to Teacher Education Program. Corequisites: EDUC 435, 438. No other courses may be taken concurrently except corequisites. Offered in the Fall and Spring semesters. Pass/Fail Grading. One semester; six credits.

EDUC 437. STUDENT TEACHING—SECONDARY LEVEL III
Directed student teaching in grades 7-12 under the supervision of a selected cooperating teacher and a selected University supervisor. Reserved only for students seeking K-12 licenses who must also complete part of their student teaching experience in a K-6 setting (see EDUC 433). Offered in the Fall and Spring semesters. Pass/Fail Grading. One semester; six credits.

EDUC 438. STUDENT TEACHING SEMINAR
The seminar includes discussion of classroom experiences, lesson plan preparation, lessons taught and observed, as well as ways to integrate resources, to recognize and refer problem students, to study and manage time. Progress on the development of state-mandated knowledge and skills will be reviewed. Prerequisite: Admission to Teacher Education Program. Corequisites: EDUC 431, 432 or 435, 436. One semester; one credit.

EDUC 441. CONTEMPORARY SECONDARY METHODS, 7-12
Strategies for use in the secondary English, mathematics, social studies, science, and foreign language classrooms presented and practiced by students Ten to fifteen hours of field experience required. One semester; three credits

EDUC 444. ART IN THE SCHOOLS.
Perspective on the role of art and art education in the schools. Required curriculum and methods course for prospective art teachers. One semester; three credits.

EDUC 445. SCHOOL HEALTH
This course covers school health knowledge and skills required for teachers, including health services,
healthful school living, health screening, home and school safety, health content skills and materials, and first aid with CPR. One semester; one credit

EDUC 450. TEACHING FOREIGN LANGUAGE, K-12
Required curriculum and instructional methods course for all students completing a licensure program in a foreign language. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 451. RELIGIOUS EDUCATION CURRICULUM AND METHODS, K-6
This course explores appropriate curriculum and instruction for religious education programs and courses in the elementary school or at the elementary level. One semester; three credits.

EDUC 452. RELIGIOUS EDUCATION CURRICULUM AND METHODS, 7-12
This course explores appropriate curriculum and instruction for religious education programs and courses in the secondary school or at the secondary level. One semester; three credits.

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.

■ ELECTRICAL AND COMPUTER ENGINEERING COURSES
Requirements for the degree are found on Pages 91 and 92. Requirements for a dual degree in Electrical Engineering and Computer Science are found on Page 93.

ECE 112. COMPUTERS IN ENGINEERING PROBLEM SOLVING
Introduction to the use of the digital computer in problem solving. Topics include flow of control, functions and user defined functions, pointer, array, strings and File I/O, study structured programming, pseudocode. Some applications will include graphics. Corequisite: MATH 131 or registration therein. Offered in the Fall and Spring. One semester; three credits.

ECE 120. INTRODUCTION TO JAVA PROGRAMMING
Introduction to the use of the digital computer in problem solving. Topics include flow of control, functions and user defined functions, array, strings, and File I/O, study structured programming. Some applications will include graphics. On-Line Course. Offered as needed. One semester; three credits.

ECE 172. INTERMEDIATE PROGRAMMING AND ALGORITHMS (Formerly ECE 112)
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. Corequisite: MATH 117, 129, or 131. One semester; three credits.

ECE 172L. INTERMEDIATE PROGRAMMING AND ALGORITHMS LAB
Lab to accompany ECE 172. Corequisite: ECE 172. One semester; one credit.

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. Corequisite: 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. Prerequisites: ECE 221 and MATH 231. Offered in the Fall and Spring. One semester; three credits

ECE 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: ECE 172. Corequisite: ECE 244. One semester; three credits

ECE 244 DATA STRUCTURES LABORATORY
Lab to accompany ECE 234. 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 112 or CS 122 and 122L. Corequisite: ECE 172. 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 68HC11. Two design projects will be required, one of which must include hardware. Prerequisite: ECE 250. Offered in the Fall semester. One semester; three credits

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 MEA 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. Introduc-
tion to the operational amplifier and some of its applications. Introduction to frequency response of amplifiers. Introduction to oscillation. Prerequisites: ECE 221 and ECE 201. Corequisite: ECE 341. Offered in the Fall semester. One semester; three credits

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, 331. Offered in the Spring semester. One semester; three credits

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. Written reports are required for each of the three design projects. Prerequisites: ECE 222 and MATH 309. Offered in the Spring semester. One semester; three credits

ECE 341. JUNIOR LABORATORY I
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. Prerequisite: ECE 201. Prerequisites: ECE 201,221. Corequisite: ECE 331. Offered in the Fall semester. One semester; one credit

ECE 342. JUNIOR LABORATORY II
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 341. Corequisite: ECE 332. Offered in the Spring semester. One semester; one credit

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 360. OBJECT ORIENTED SYSTEMS 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: ECE 234. One semester; three credits

ECE 370. OPERATING SYSTEMS
The course presents the fundamental topics and principles that govern the behavior of operating systems. Topics include processor scheduling, memory management, input, output, file storage allocation, protection and security. Prerequisite: ECE 234. One semester; three credits

ECE 400. THE COMPLEAT ENGINEER (Same as CH E 400, CE 400, and ME 400)
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. Prerequisite: Permission of the department. 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 403. Offered in the Fall semester. One semester; three credits

**ECE 403. ENERGY CONVERSION LABORATORY**
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; three credits

**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; four 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. One semester; one credit

**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; one credit

**ECE 413. ANTENNA THEORY**
Radiation-oscillating electric dipole, radiation from resonant length antennas. Antenna fundamentals-directional properties, linear arrays, antenna gain and terminal impedance. Wire antennas, broadband techniques, and aperture antennas. Emphasis on design techniques and major written design report. Computer solutions employed. Prerequisites: ECE 405 and PHYS 252. One semester; three credits

**ECE 417. OPTICAL FIBER COMMUNICATION**
A study of the transmission properties of optical fibers; light sources and detectors; power launching and coupling; noise sources; modulation formats, system analysis and design. Prerequisites: ECE 331, 335, 406 and PHYS 252. One semester; three credits

**ECE 418. POWER SYSTEM ANALYSIS**
A study of power system parameters, circuit transposition and per unit computation. Load flow studies. Fault calculation by computer simulation. System stability and protective relaying. Circuit breakers and lightning arresters. Formal reports required for two design projects. Prerequisite: ECE 222, 401 or Permission of the instructor. Offered in the Spring semester. One semester; three credits
ECE 420. DIGITAL CONTROL SYSTEMS

ECE 435. ELECTRONICS III
Continued use of the computer as a tool in analysis and design of electronic circuits. Feedback amplifiers; frequency response of feedback amplifiers including topics in compensation of amplifiers; oscillators; operational amplifiers; active filters; small analog-digital systems; other selected topics of interest to the class. Prerequisite: ECE 332. Corequisite: ECE 445. Offered in the Fall semester. One semester; three credits

ECE 436. POWER ELECTRONICS
History and introduction. Diode rectifiers. Thyristors and controlled rectifiers. AC voltage controllers. Commutation Techniques. Power transistors, DC choppers, PWM inverters, DC and AC drivers. Protection of devices and circuits. Prerequisites: ECE 332, 417. Offered in Spring semester. One semester; three credits

ECE 445. ELECTRONICS III LABORATORY
Design projects paralleling ECE 435. Projects will be proposed by the students and submitted to the instructor for approval prior to the initiation of the work. Use of engineering logbook/notebook. Prerequisite: ECE 342. Corequisite: ECE 435. Offered in the Fall semester. One semester; one credit

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 234 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 112 or CS 122. 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. (Same as CS 453) Prerequisites: Permission of the instructor and ECE 112 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 and Senior standing. One semester; three credits
ECE 457. CONNECTIONIST ARTIFICIAL INTELLIGENCE
Fundamental concepts of neurocomputing, biological versus artificial neurons, parallel and distributed computing, learning by adjusting connection weights. Mapping networks, including Associative Memory, Backpropagation, and Counterpropagation. Recurrent networks, including Hopfield and Boltzmann Machine. Self-organizing networks, including Kohonen and Adaptive Resonance Theory. Neurofuzzy systems. Using genetic algorithms as network-training algorithm. Prerequisites: ECE 112 or equivalent; Junior or senior standing. 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. Offered in the Fall semester. One semester; three credits

ECE 471. DESIGN OF DATABASE SYSTEMS
Comprehensive introduction to the design of databases and the use of database management systems for the implementation of database applications. 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. One semester; three credits

ECE 472. DATABASE SYSTEM IMPLEMENTATION
File organization and access, buffer management, performance analysis, and storage management. Database system architecture, query optimization, transaction management, recovery, concurrency control. Reliability, protection, and integrity. Design and management issues. Prerequisite: Junior standing. One semester; three credits

ECE 473. HUMAN COMPUTER INTERACTION
This course focuses on issues involved in the design of computer systems as they relate to the interaction between people and computers. Techniques demonstrating effective human computer interaction are assessed. Students will evaluate the human factors and theories associated with human-computer interaction. Prerequisite: Junior standing. One semester; three credits

ECE 475. DIGITAL TELEPHONY
Analysis of telephone transmission media. Study of linear distortion, echo and losses. Pulse Code Modulation. Logarithmic and A-Law compounding. Study of signal to noise ratio of digital modulation schemes. Digital Switching time and space. Switch complexities and ASDL. Fundamentals of traffic analysis and teletraffic theory. ISDN. Study of framing. Quality of Service (QoS) and timing of current telephone trends and services such as Frame-Relay, IP telephony, ATM and AIN networks. Prerequisites: ECE 335, Senior standing, or Permission of instructor. One semester; three credits

ECE 476. MODELING AND SIMULATION OF COMMUNICATION NETWORKS
(Formerly EE 476) Computer modeling of communication networks including voice, data and integrated networks. Analysis, modeling, and statistical validation of network traffic. Design of simulation experiments-Factorial, Fractional-Factorial, and advanced designs. Validation, analysis and interpretation of network simulations. The students are required to implement three designs of communication networks. Prerequisite: ECE 335. One semester; three credits

ECE 477. DIGITAL SIGNAL PROCESSING
Discrete time signals and systems. The discrete time Fourier transform. The z-transform. The inverse

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 47 and 48.

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 rhetorical modes and methods for critical reading. Writing sequences with practical application of specific 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. Offered in the Fall and Spring. 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. 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; three credits

ALL 300 AND 400 LEVEL COURSES ARE OPEN TO STUDENTS WHO HAVE COMPLETED ONE 200 LEVEL ENGLISH COURSE (211, 212, 221, 222, 231, 232). ENGLISH, ECC, AND ENGLISH EDUCATION MAJORS MUST HAVE COMPLETED ENG 215.

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
EN 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

EN 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

EN 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

EN 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

EN 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

EN 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

EN 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

EN 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

EN 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

EN 362. WOMEN IN LITERATURE
An examination of literature by women in light of feminist literary theory. One semester; three credits

EN 370. ADVANCED PRACTICAL GRAMMAR
The forms, relationships, and functions of language with emphasis on the elements of words and sentences. One semester; three credits

EN 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

EN 373. ADVANCED COMPOSITION
A study of rhetorical theory and rhetorical models accompanied by advanced practice in composition. One semester; three credits

EN 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 workshop in writing fiction and/or poetry. Texts will be assigned for discussion of techniques and form. *One semester; three credits*

**ENG 377. TECHNOLOGY FOR THE ARTS**
A practical introduction to the working world of electronic texts and electronic publication. Students will design and create websites as well as publishing projects while they explore the world of digital photography. To provide the language and conceptual context for cybertext, lectures and discussions include the history of ink-and-fiber publishing as well as the emergence of hypertext and the internet. *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; 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. *One semester; one to four 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 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; three credits each*

**ENG 479. JUNIOR SEMINAR**  
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**  
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 each*

**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. *Pass/Fail Grading. One semester; one credit*

**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. *One to two semesters; one to three credits*

**ENG 488. WRITING CENTER TUTOR PRACTICUM**  
A practical introduction to the problems and management of a writing center and to the skills of one-to-one intervention in the student’s writing process. Enrollment limited to Writing Center Tutorial Staff. Students may enroll in this course more than one time. *Pass/Fail Grading. One semester; one credit*

**ENG 489. INTERNSHIP**  
Major-related work experience through which students apply English subject matter skills to professional activity. Prerequisite: Junior standing and Permission of the English faculty. Offered in the Spring Semester. One hour per week in class required. *One semester; three credits each*

**ENG 490-498. RESEARCH TOPICS IN ENGLISH**  
Original writing projects or independent study and research in literature pursued under the guidance of a member of the English faculty. Syllabus and credit hours contracted by the student with the English Department. *One semester each; one to three credits each*

### **ENGINEERING COURSES**

**ENGR 100. EXPLORING ENGINEERING**  
Exploration of the Engineering profession, Engineering disciplines, and careers. Basic engineering calculations, unit conversions, etc. *One semester; two to three credits.*
FINANCE COURSES
Requirements for the major are found on Page 76.

FIN 300/301 CAREERS IN FINANCE
Intended to provide students with an overview of the various types of career opportunities available to finance and accounting graduates and how to prepare for each. Finance and Accounting professionals from industry will make presentations to the class regarding their own career experiences, the skills and knowledge required to obtain entry level positions in their field and internship opportunities. Students will be expected to develop a career plan as part of the course. Required of all Finance majors. Open to any interested student. No prerequisites but recommended for spring of the sophomore or junior years. (Same as ACCT 300/301). Pass/Fail. One semester; three credits

FIN 303. MONEY AND BANKING
A general survey of credit and credit instruments, activities and policies of financial institutions such as commercial and savings banks, the Federal Reserve System, and investment banks. The study of the place of money in modern economic life, including its relation to prices, employment, and business activity. (Same as ECON 303). Prerequisite: ECON 24, 25. One semester; 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, ITM 153, and MATH 105. Corequisite: ACCT 270 or 320. 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. 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. Co-requisite with FIN 340. 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. One semester; three credits

FIN 350. FINANCIAL MARKETS
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, ECON 303. 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. **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. **One semester; three credits**

**FIN 430-436. SPECIAL TOPICS 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. **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. **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. **One semester; three credits**

**FIN 450. INVESTMENT CHALLENGE I**
Students learn the essentials of portfolio management by making investing decisions for an actual client. Students will prepare, buy, hold, and sell recommendations to present to an investment committee. These recommendations will be used to invest $350,000 of the Tennessee Valley Authority’s portfolio. Students will compete with other colleges and universities for prize money. Class enrollment is limited. Application for participation must be made prior to registration. Permission of TVA Investment Challenge Coordinator required. For further information or an application form, contact Dr. Bevalee Pray at bpray@cbu.edu. Prerequisite: FIN 327. **One semester; three credits**

**FIN 451. INVESTMENT CHALLENGE II**
Students gain advanced knowledge of portfolio management by determining sector weightings, choosing equity investment recommendations, and tracking performance of an actual portfolio. Students will deal directly with a client, TVA, and compete among other schools for prize money. Class enrollment is limited. Application for participation must be made prior to registration. Permission of TVA Investment Challenge Coordinator required. For further information or an application form, contact Dr. Bevalee Pray at bpray@cbu.edu. Prerequisite: FIN 450. **One semester; three credits**
FIN 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. Open to any interested student. Prerequisite: ACCT 265; FIN 427. (Same as ACCT 480). 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 and Languages.

■ FOREIGN LANGUAGE COURSES
FORN 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

■ FRENCH COURSES
FREN 101, 102. ELEMENTARY FRENCH
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 sequence in the Fall and Spring. Two semesters; six credits

FREN 201, 202. INTERMEDIATE FRENCH
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 sequence in the Fall and Spring. Two semesters; six credits

FREN 301, 302. COMPOSITION AND CONVERSATION
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 sequence in the Fall and Spring. Two semesters; six 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 Spring 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; 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; three credits*

*The remainder of the foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of the School of Arts concerning these classes.*

■ 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

*Advanced foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.*

**GRM 101-102. ELEMENTARY GERMAN.**  
Fundamentals of the German language: pronunciation, grammar, speaking, reading and writing. Offered in sequence in the Fall and Spring. Two semesters; eight credits

**GRM 201-202. INTERMEDIATE GERMAN.**  
Continued practice of the basic language skills. Particular emphasis is placed on the reading and discussion of modern texts of literary and cultural interest, systematic vocabulary building, and simple composition. Continued oral practice in language laboratory and in small groups with native speakers. Prerequisite: German 102 or the equivalent. Offered in sequence in the Fall and Spring. Two semesters; eight credits

**GRM 301. COMPOSITION AND CONVERSATION**  
Training in written and oral German expression; intensive work with tapes; discussion of topical subjects, based on readings from newspapers and magazines and German news programs; individual reports. Prerequisite: GRM 202. Offered in Fall semester. One semester; three credits

**GRM 302. ADVANCED GRAMMAR**  
A study of the more difficult aspects of the German language. Further training in written and oral communication, translation exercises. Prerequisite: GRM 301. Offered in the Spring semester. One semester; three credits

**GRM 350-359. SPECIAL TOPICS IN GERMAN.**  
Topics of special interest related to German literature, language, or culture. Prerequisite: German 202 or the equivalent. Offered in Fall or Spring. One semester; three credits

**GRM 450-459. SPECIAL TOPICS IN GERMAN.**  
Topics of special interest related to advanced study of German literature, language, or culture. Prerequisite: at least three 300-level courses in German or permission of instructor. Offered in Fall or Spring. 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 foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.

GREEK 101-102. ELEMENTARY GREEK.
An introduction 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 Spring and Fall. Two semesters; eight credits

GREEK 201. INTERMEDIATE GREEK.
The final course in the elementary language sequence. To prepare students for the advanced reading courses, the course will emphasize reading and discussing documents primarily from the fifth and fourth centuries BCE. In addition to developing their reading comprehension, students will continue to work on their aural-oral proficiency. Prerequisite: Greek 102 or the equivalent. Offered in Spring. One semester; four credits

GREEK 210-219. READING COMPONENT IN GREEK.
Readings from classic texts of literature, history, culture, biography, or religion. Prerequisite: Greek 201 or the equivalent. Offered in Fall or Spring. One semester; one to three credits

HEBREW COURSES

The foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.

HEBR 101-102. BIBLICAL HEBREW.
Introduction to the grammar and vocabulary of the Hebrew Bible/Christian Old Testament. By the end of a year's study, students should be able to read much of the prose material of the Bible. Offered in sequence in Fall and Spring. Two semesters; six credits

HEBR 201. INTERMEDIATE HEBREW.
Readings in biblical Hebrew prose emphasizing grammar, vocabulary, syntax, and translation. Prerequisite: Hebrew 102 or the equivalent. Offered in Fall. One semester; three credits

HISTORY COURSES

Requirements for the degree are found on Page 50.

HIST 107. WORLD CIVILIZATION TO 1500
An introduction to the political, economic, social, and cultural histories of Asia, the Middle East, Africa, and pre-Columbian Central and South America to 1500. One semester; three credits

HIST 108. WORLD CIVILIZATION SINCE 1500
An introduction to the political, economic, social, and cultural histories of Asia, the Middle East, and Africa since 1500. One semester; three credits

HIST 151. AMERICAN SOCIETY TO 1877
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
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 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  

**HISTORY 307. FOUNDATIONS OF ISLAMIC CIVILIZATION**  
This course will examine the origins of Islam and the expansion of the Islamic state out of Arabia into the Mediterranean and Central Asian regions. In addition to political history, the course will examine intellectual, social, and economic topics. This course is cross-listed with the Department of Philosophy and Religion. Prerequisite: either HIST 107 or RS 270 or permission of the instructor.  
One semester; three credits  

**HISTORY 309. MODERN MIDDLE EAST, 1800 TO PRESENT**  
This class will detail the history of the Modern Middle East from a political, economic, and social perspective. The course will cover the region from North Africa to Iran, and it will address such issues as the confrontation with Europe, the rise of nationalism and nation-states, the role of imperialism, the Arab-Israeli conflict, and the rise of political and radical Islamic movements. Prerequisite: HIST 108 or permission of the instructor.  
One semester; three credits  

**HIST 311. ARAB-ISRAELI CONFLICT**  
This course examines the origin and history of the modern state of Israel and its relationships with its neighbors in the Middle East. Beginning with the early movements of Zionism, this course will explore the factors responsible for the creation of the state of Israel, the reaction of peoples and states in the Middle East to the new state, and the military, cultural, and ideological consequences of this conflict. 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 IN THE AGE OF EMPIRE**  
This course will examine the evolution of modern imperialism from the 18th through the early 20th century. In addition to the military and political expansion of Europe abroad, the course will examine the economic and cultural impact of modern imperialism on the colonized, as well as the colonizer.
HIST 338. RUSSIA SINCE 1861
A study of the political, economic, social, and intellectual history of 19th Century Imperial Russia, the Soviet Union, and Post-Soviet Russia. Prerequisite: 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. THE WEIMAR REPUBLIC AND NAZI GERMANY, 1919-1945
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: HIST 108 or POLS 113 or POLS 320 or permission of the instructor. (Same as POLS 340) One semester; three credits

HIST 341. MODERN EUROPE
This course provides a survey of European history since 1750. Major topics include the French Revolution, the industrial Revolution, Imperialism, the World Wars, and the rise and fall of the Soviet Union. 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 eleven former Confederate states
HISTORY COURSE DESCRIPTIONS

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 or permission of the instructor. One semester; three credits

HIST 360. AMERICAN POLITICAL THOUGHT
( Same as POLS 360) Prerequisite: HIST 151 or POLS 112 or permission of instructor. Offered in the Fall semester. One semester; three credits

HIST 375. UNITED STATE 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 CARRIBBEAN
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 NON-WESTERN 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. 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 each

HIST 490-497. TOPICS IN HISTORY
Topics vary with instructor. Prerequisite: permission of instructor. 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. Offered in the Fall and Spring. 

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 254. CHRISTIANITY AND PEACE (Formerly HUM 354)

(Same as RS 254) 

One semester; three credits

HUM 256. RELIGION AND NON-VIOLENT SOCIAL CHANGE (Formerly HUM 356)

(Same as RS 256) 

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 INTEGRATIVE SEMINAR
As a required capstone experience, each Honors student will participate in the Honors Integrative Seminar 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 or four credits

INFORMATION TECHNOLOGY MANAGEMENT COURSES
Requirements for the major are found on Page 77. ITM courses with an asterisk (*) are “Key ITM Skill Courses,” and as such have a final comprehensive exam. A student must get a passing grade to pass the entire course.
ITM 153. INTRODUCTION TO COMPUTERS AND BUSINESS APPLICATIONS
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 database 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. Both verbal and written communication skills will be developed with projects and assignments using the computer tools. The integration of these tools will also be covered. Offered in the Fall and Spring. One semester; three credits

ITM 171. INTRODUCTION TO COMPUTERS AND PROGRAMMING (formerly 251)
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

ITM 172. INTERMEDIATE COMPUTERS AND PROGRAMMING (formerly 252)
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, arrays and graphical user interfaces. It uses the Java language for programming exercises and projects. Prerequisite: CS 71/ITM 171. Corequisite: CS 72L/ECE 72L/ITM 72L. Offered in the Spring semester. One semester; three credits

ITM 172L. INTERMEDIATE COMPUTERS AND PROGRAMMING LAB
Lab to accompany ITM 172. Prerequisite: CS 171/ITM 271. Corequisite: CS 172/ECE 172/ITM 172L. Offered in the Spring semester. One semester; one credit

ITM 231. INTRODUCTION TO MIS
The 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 management systems, marketing information systems, accounting information systems, knowledge management systems, and internet ethics and security issues. Prerequisite: ITM 153. Generally offered in the Fall and Spring. One semester; three credits

ITM 271-279. ITM SEMINARS
Through contractual arrangements with companies, government agencies, and/or organizations, the ITM Department of the School of Business will offer courses on selected topics. Students may take up to nine seminars as long as titles and content are clearly distinctive. Credit awarded may be used as free elective 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

ITM 295. DATA COMMUNICATION
This purpose of this course is to introduce the fundamentals of 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 network security issues and standards. Prerequisite: ITM 171 and MATH 105. Generally offered in the Spring semester. One semester; three credits

ITM 320. JAVA PROGRAMMING
This course formally introduces the Java language with a focus on developing object oriented solutions
to business problems. Programming topics covered are: data types, classes including inheritance and composition, conditional logic, iteration and looping, general program control flow and structured design, functions, data structures, strings, file and database I/O, graphical user interfaces, exception handling, multi-threading, multimedia, and animation. Object oriented design concepts are also covered including the UML. Prerequisites: ITM 171 and ITM 172. Generally offered in the Fall semester. *One semester; three credits*

**ITM 351. SYSTEMS ANALYSIS AND DESIGN**

This course presents methods for analyzing and designing appropriate and defensive solutions to business IT systems. The course emphasizes the Systems Development Life Cycle (SDLC) methodology. Classical and structured 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 and the underlying SDLC methodology. A case study is employed to provide a practical “hands-on” approach. Prerequisite: ITM 231 or permission of instructor. Generally offered in the Fall semester. *One semester; three credits*

**ITM 356. ADVANCED C++ PROGRAMMING**

An introduction to object oriented programming using the C++ language to solve business problems. This class includes a solid understanding of C pointers and C++ classes and references. Topics such as object oriented analysis and design, member functions, templates, composition, inheritance, and graphical user interfaces will be covered. Prerequisites: ITM 171/172 or Permission of the instructor. *One semester; three credits*

**ITM 360. OBJECT ORIENTED ANALYSIS AND DESIGN**

The course uses object oriented analysis and design techniques (including use case diagrams, structure/class diagrams, and activity/event diagrams) and tools to design, develop, and implement object oriented solutions to problems in business, engineering and science. Prerequisite: ITM 320 or CS/ECE 234 or permission of the instructor. Generally offered in the Spring semester. *One semester; three credits*

**ITM 370. OPERATING SYSTEMS AND NETWORKS**

This course examines the design, implementation, philosophy, and structure of modern operating systems and telecommunication networks. Topics include designing TCP/IP networks, wireless networks, virtual LANs, virtual private network, data transmission security, file structures, memory structures, process control, protection, commands, shells, and usage. Lab exercises involving planning, implementation and configuration of distributed systems are used to reinforce concepts presented. The course compares and examines the design, philosophy, and structure of modern operating systems such as Unix/Linux, Microsoft Windows, IBM’s MVS, etc. Prerequisite: ITM 231 & 295. Generally offered in the Spring semester. *One semester; three credits*

**ITM 400/401. INFORMATION TECHNOLOGY MANAGEMENT INTERNSHIP**

Under the supervision of an ITM 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 ITM web site. Special CBU approval forms must be completed. A student may take two internships, but only one per organization. Prerequisites: 171, 172, 231, 295, and 351. Offered as needed Pass/Fail Grading. *One semester; three credits*

**ITM 455. INFORMATION SYSTEMS MANAGEMENT**

This course is designed to explore and put to practical use the entire body of knowledge gained in previous ITM courses. Topics will principally focus upon the managerial aspects of effective information technology deployment. Case studies will be utilized to challenge students to understand the
management of technology coupled with technology skills necessary to recommend effective technology solutions. Project Management concepts will be covered including use of project management tools. A final project will test student’s ability to apply technology and business skills to develop a workable, manageable, and effective information systems solution. Prerequisites: ITM 171, 172, & 351 with prerequisite or corequisites ITM 471 or permission of the instructor. Generally offered in the Spring semester. One semester; three credits

**ITM 457 SPECIAL TOPICS IN ITM**
Course designed to permit intensive study into topics of special interest and timeliness in the area of Information Technology Management. Prerequisites depend upon topics and approval of instructor. Offered as needed. One semester; three credits

**ITM 458. VISUAL BASIC**
This course introduces students to Visual Basic environment and its applications in the business world. The students will using the Visual Studio and its development tools. Visual Basic fundamentals such as working with objects, methods, procedures, subroutines, and using various control objects will be covered. Through projects and hands-on exercises, students will learn to design and develop visual interfaces for data manipulations and data storage management. Prerequisites: ITM 171/172 or instructor’s permission. Generally offered in the Fall semester. One semester; three credits

**ITM 460-466. SPECIAL TOPICS IN INFORMATION TECHNOLOGY MANAGEMENT**
Courses are designed to permit intensive study into topics of special interest and timeliness in the area of information technology management. One semester; three credits

**ITM 470. INTERNET PROGRAMMING**
This course familiarizes students with the total Internet programming environment, teaches students the basics of key Internet programming technologies (HTML, JavaScript, Dynamic HTML, CSS, CGI, ASP, PHP, Servlets/JSP, Cold Fusion and XML), and trains students in the application and usage of key Internet programming tools. Upon completion of this course, students will be able to create and maintain modern advanced dynamic web sites. Prerequisites: ITM 171/172, or permission of instructor. Generally offered in the Spring semester. One semester; three credits

**ITM 471. DATA BASE DESIGN**
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, and security. Prerequisite: ITM 153 and ITM 231, or permission of the instructor. Generally offered in the Fall semester. One semester; three credits

**ITM 480. DECISION SUPPORT**
This course provides an examination of the role of technology and information systems in the business decision making process. The focus will be on decision support systems and will provide introductions to important modern decision-aiding tools and quantitative approaches including network and pert/cpm analysis, transportation and routing, linear and non-linear programming, optimization, goal and dynamic programming, simulation and queuing, artificial intelligence (expert systems, neural networks, genetic programming), analytic hierarchy processes, executive information systems, data warehousing, and data mining. Prerequisites: ITM 153, 231, & 471; or instructor’s permission. Offered as required. One semester; three credits

**INTERDISCIPLINARY STUDIES COURSE**
**IDS 101. DIMENSIONS OF FAITH AND COMMUNITY**
This interdisciplinary course provides an introduction to faith and citizenship through an introduction to the Christian Brothers University community. The course asks students to identify and
assess their roles and responsibilities as citizens in the multiple communities to which they belong. The core CBU and Lasallian values of faith, community, service, and integrity provide a context for understanding local, national, and global dimensions of faith and citizenship. Opportunities for community service will be offered. This course is designed as part of a shared first-year experience. All students enrolled in a section of IDS 101 will be required to enroll in a paired section of ENG 111, forming a learning community. One semester; three credits

**LATIN COURSES**

*The foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.*

**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**

The final course in the elementary language sequence. To prepare students for the advanced reading courses, the course will emphasize reading and discussing documents primarily from the late republic and Augustan Age. In addition to developing their reading comprehension, students will continue to work on their aural-oral proficiency. Prerequisite: Latin 102 or the equivalent. Offered in Fall. *One semester; four credits*

**LATN 210-219. READING COMPONENT IN LATIN.**

Readings from classic texts of literature, history, culture, biography, or religion. Prerequisite: Latin 201 or the equivalent. Offered in Fall or Spring. *One semester; one to three credits*

**MANAGEMENT COURSES**

*Requirements for the degree are found on Page 78.*

**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. *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 with approval from the Dean of the School of Business. Students must have a valid passport. Course may be repeated for different countries. (Same as MKTG 300) *One semester; three credits*

**MGMT 337. PRINCIPLES OF ORGANIZATION AND MANAGEMENT**

An examination of the management functions and the basic concepts and principles of management. Major topics include the history of management, planning and decision making, organizational
structure and design issues, leadership theory, and control. Social, legal and ethical principles and an international perspective are also developed. Prerequisite: ECON 214, ECON 215, and STAT 222. 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: STAT 222 and MGMT 337. One semester; three credits

MGMT 352. ORGANIZATIONAL BEHAVIOR
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. Prerequisite: MGMT 337 and Junior standing. (Same as PSYC 352) 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 337. One semester; three credits

MGMT 420. 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: MGMT 337. 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 337. 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. Prerequisite: ACCT 270 or 320; BLAW 301, 302; FIN 327; MGMT 337; MKTG 311; STAT 222. One semester; three credits

■ MARKETING COURSES
Requirements for the major are found on Page 79.

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: ECON 214, ECON 215, and STAT 222. One semester; three credits

MKTG 324. MARKETING RESEARCH AND INTELLIGENCE
The study of techniques and principles for systematically monitoring environments—collecting, 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. 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. 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. 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 developments, strategic alliances and partnerships, and JIT. Prerequisite: MKTG 311. 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 aimed at bridging the gap between classroom training and the business/marketing environment. Case studies are developed to address marketing opportunities and problems. A methodology is developed to evaluate marketing situations within a logical and practical framework. This framework is supported by sound marketing theories and concepts. Instruction by the case method requires high participation by students. Emphasis is placed on the development and implementation of marketing strategies to accomplish missions of organizations. Prerequisite: MKTG 311. One semester; three credits

MKTG 418. SUPPLY CHAIN MANAGEMENT
This course offers the basic elements of physical distribution. Topics include inventory management, warehouse location and management, packaging and materials handling, transportation modes and selection, and the interaction of these elements in an integrated physical distribution center. Prerequisite: MKTG 311. One semester; three credits
MKTG 419. GLOBAL SUPPLY CHAIN MANAGEMENT.
An introduction to global strategy and a description of the role of supply chain management. Topics include: understanding global supply chains and supply chain management; key issues in global supply chain management; global logistics management; extending global supply chains; and global purchasing and supply management. Prerequisite: MKTG 311 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 an 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. 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 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 337 and MKTG 311. 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. One semester; three credits

MATHEMATICS COURSES
Requirements for the degree are found on Page 114 - 116.
Note: Most Mathematics courses require the use of a graphing calculator.

MATH 100. BASIC ALGEBRA
This course is designed for students who need a refresher in basic math skills. Topics include reviews of fractions, signed numbers, order of operations, factoring, exponents; algebraic expressions; linear equations and inequalities in one variable; graphing points and lines in the Cartesian coordinate system; equations of lines. The course does not supply any portion of the mathematics credits required in any CBU degree program. You may not receive credit for MATH 100 after completing any mathematics course numbered above 100. A student can receive credit for only one of MATH 100 or MATH 103. One semester; three credits

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, rational exponents, quadratic equations, and functions. The course does not supply any portion of the mathematics credits required in any
CBU degree program. You may not receive credit for MATH 103 after completing any mathematics course numbered above 103. A student can receive credit for only one of MATH 100 or MATH 103. Prerequisite: One year of high school algebra and passing a placement exam. 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, introduction to counting functions, polynomial, exponential and logarithmic models, financial math. Prerequisites: MATH 100 or 103 or Passing a placement exam. Offered in the Fall and Spring. See Math Center web page. One semester; three credits

MATH 106. APPLIED MATH WITH AN INTRODUCTION TO CALCULUS
(Formerly MATH 111) 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 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, right triangle trigonometry, 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 117 or 129. A grade of “C” or better in this course is required to proceed to MATH 131. Prerequisite: MATH 103 or equivalent. Offered in the Fall and Spring. One semester; three 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 function; 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 117 or MATH 129 and for only one of MATH 129 or MATH 131. Six lectures and two recitation period per week. Prerequisite: MATH 103 or equivalent. 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 117. 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; three 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 integration including parts, partial fractions and use of tables, applications of integration, differential equations and modeling, approximations using Taylor and Fourier polynomials and series. Prerequisite: MATH 129 or 131. 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, 106 or 117 or MATH 129 or 131. Offered in the Spring semester. 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: MATH 100 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: MATH 100 or equivalent. Offered in the fall semester.

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 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 23. 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 every other year. 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, covari-
ance, moment generating functions, common distributions such as binomial, hypergeometric, Poisson, geometric, uniform, normal, exponential, chi-square, T and F distribution, 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 the Fall of every other year. 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 of every other year. 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.*

### MECHANICAL ENGINEERING COURSES

*Requirements for the degree are found on Page 94.*

#### 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 Fortran programs. Also covered: interfacing Fortran codes with other languages and high-level applications, syntax for other computer languages. Corequisite: MATH 131. Offered in the Spring semester. *One semester; three credits*

#### ME 121. SOLIDS MODELING

(Formerly ME 111)

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 200. MECHANICS OF SOLIDS

Principles of statics, equilibrium of coplanar and non-coplanar force systems. Axial load, shear and bending moment diagrams. Differential equations of beams. Study of stresses due to axial, bending and torsional loads and combined loading. Mohr's circle of stress. Design techniques. Column design equations. Prerequisite: PHYS 150. (Same as CE 200) *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 Fall 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: ME 200. 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) Corequisite: 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 convection, 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 30, 33. 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 114 or 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. Prerequisite or corequisite: MATH 329. Offered in the Spring semester. *One semester; three credits*

**ME 313. FLUID MECHANICS**

**ME 314. ENGINEERING ECONOMY** (Formerly ME 314 Engineering Factors in Design)

**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. 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 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**
(Same as CH E 319). *One semester; three credits*

**ME 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING**
(Same as CH E 320). *One semester; three credits*

**ME 400. THE COMPLETE ENGINEER** (Same as CH E 400, ECE 400, and CE 400)
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. Prerequisite: Permission of the department. *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. Un-damped 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 201, 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 and ME 202. Offered in the Spring semester. One semester; three credits

ME 424. DESIGN OF MACHINE ELEMENTS
An examination of the processes commonly used in the design of typical mechanical system components. Exploration of standardized design conventions, including design codes and handbooks, and the original design of non-standard components. Case studies and code histories are discussed. Subjects include: screw threads, mechanical connections, welding, bonded joints, springs, lubrication, bearings, shafts, clutches and brakes, couplings, and mechanical drive systems. Two lectures and one discussion class each week. Prerequisites: ME 401, 420. One semester; three credits

ME 425. DISCRETIZATION METHODS
An introduction to the numerical solution of ordinary and partial differential equations. The concepts of round-off error, truncation error, consistency and stability. Solution methods for elliptic, parabolic,
and hyperbolic partial differential equations. Comparisons and contrasts of various finite-difference, finite-element, and finite-volume methods. Students will apply various techniques to obtain solutions for mechanical and energy system problems. A design project is required. Prerequisites: ECE 112, MATH 232, and ME 200, 313. One semester; three credits

ME 428. MATERIALS SCIENCE
Fundamental concepts of materials science including the structure and properties of materials. The internal structures of metals, ceramics, and polymers are examined to develop an understanding of their mechanical, electrical, physical, and chemical properties. Prerequisites: 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 200. One semester; three credits

ME 432. PRINCIPLES OF GAS DYNAMICS

ME 433. PROPULSION SYSTEMS
Design and operating fundamentals of air-breathing and rocket engines. Propulsion dynamics. Flow and combustion thermodynamics. Engine system and component performance characteristics. Advanced propulsion systems. Prerequisites: ME 313, 316. One semester; three credits

ME 435. INTERMEDIATE MANUFACTURING
Introduction to advanced parametric computer-aided design and manufacturing (CADM) techniques. Students learn to design parts and 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 444. DESIGN OPTIMIZATION
An intermediate design synthesis course with emphasis on strategies for determining optimum design. Includes optimum design problem formulation, numerical methods for constrained and unconstrained optimization, heuristic procedures, algorithmic strategies, thermal and mechanical systems applications. Industrial design cases are studied. Prerequisite: Permission of instructor. One semester; three credits

ME 445. CONCURRENT DESIGN
An advanced design methods course with emphasis on concurrency of analysis, design, and manufacturing. Working in teams, students take several mechanical engineering projects from “blank sheet” to working hardware. Aggressive schedules highlight the inadequacy of traditional sequential design methods; extensive use of computer aided design and manufacturing (CADM) technology
allows realistic training in modern product design practice. Two lectures and one three-hour team activity each week. Prerequisites: ME 435, Junior standing and Permission of instructor. *One semester; three credits*

**ME 446. DESIGN OF MECHANISMS**
A fundamental design course with emphasis on graphical and analytical mechanism synthesis techniques for path generation, function generation, and rigid body guidance. A design project is required. Prerequisite or corequisite: ME 420. *One semester; three credits*

**ME 448. ROBOTICS**
An intermediate level treatment of the multifaceted nature of robotics. Overview of robotic components and subsystems. Autonomous robots; industrial robots. Kinematics, statics, and dynamics of manipulators; trajectory planning and control; sensors for unstructured environments; hierarchical control; machine vision based control; applications. One design and testing project is required. Prerequisites: ME 37 and Permission of the instructor. *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. 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*

**Musc 113. FUNDAMENTALS OF MUSIC THEORY**
Open to all students. A study of the basic elements of music including scales, intervals, triads, meter, note values, simple ear training, harmony, sight singing. *One semester; three credits*

**Musc 115-116; 125-126; 135-136; 145-146. CHORALE**
Performance-oriented class. Choral music of various periods and styles studied, rehearsed and performed. Admission by audition. One credit each semester. Offered in the Fall and Spring. *Eight semesters; one credit each*

**Musc 117-118; 127-128; 137-138; 147-148. CB SINGERS**
Special performing ensemble selected from Chorale membership. This group provides numerous programs for campus, civic, and area activities during the academic year. One to two hours credit granted per semester. Includes chorale participation. Offered in the Fall and Spring. *Eight semesters; one to two credits each*

**Musc 131-132; 231-232; 331-332; 431-432. PRIVATE PIANO INSTRUCTION**
Arranged only by audition. One half-hour lesson per week is given for which daily practice is required. Offered in the Fall and Spring. *Eight semesters; one credit each*
MUSC 133-134; 233-234; 333-334; 433-434. PRIVATE VOICE INSTRUCTION
Arranged only by audition. One half-hour lesson per week is given for which daily practice is required. Offered in the Fall and Spring. Eight semesters; one credit each

MUSC 290-299. SPECIAL TOPICS IN MUSIC
Selected topics of special interest at an introductory level. One semester; three credits

MUSC 475. SENIOR RECITAL
A public recital using a culmination of music literature studied within the department. Program will be evaluated and approved by instructor prior to public performance. One semester; three credits

MUSC 480-485. SPECIAL STUDIES IN MUSIC
Content and credit variable with interest and instructor. Prerequisite: Approval by Department Chair. One semester; one to three credits

■ NATURAL SCIENCE COURSES
Requirements for the degree are found on Page 117.

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 114. CHEMISTRY IN CONTEXT
This course is intended to impart a greater understanding of science to students who will be future legislators, philosophers, poets, lawyers, and business men and women. Some issues addressed are: air quality; the ozone layer; nutrition; alternative energy sources. Chemical concepts are introduced as needed. Students’ own experiences will be used in class. Prerequisite: MATH 105 or higher. Corequisite: NSCI 114L. Offered as needed. One semester; three credits

NSCI 114L. CHEMISTRY IN CONTEXT LAB
Laboratory to accompany NSCI 114. Corequisite: NSCI 114. Offered as needed. 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 118. FUNDAMENTALS OF PHYSICAL SCIENCE
This course provides an introduction to physics, chemistry, astronomy, meteorology, and geology. It also provides elements of the history and philosophy of science as well as the interrelationships among the sciences and the interrelationships of science and other disciplines. The course is designed to cover many of the general/physical science knowledge and skill areas required for
secondary school science teaching. May be taken by arts and business students to meet the science requirement but on a space available basis. Prerequisite: MATH 105 or higher. Corequisite: NSCI 118L. One semester; three credits

**NSCI 118L. FUNDAMENTALS OF PHYSICAL SCIENCE LAB**
Laboratory to accompany NSCI 118. Corequisite: NSCI 118. 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**
Corequisite: NSCI 126L (Same as ANTH 126) One semester; three credits

**NSCI 126L. FORENSIC ANTHROPOLOGY LAB**
Laboratory to accompany NSCI 126. Corequisite: NSCI 126 (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 128. (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

**NSCI 190L-199L. SPECIAL TOPICS IN NATURAL SCIENCE LABORATORIES**
Laboratories to accompany NSCI 190-199. Corequisite: Corresponding NSCI 190-199 course. One semester; one credit

**NSCI 410. SENIOR THESIS I**
An independent investigation in some area of the natural sciences. A choice of topic for research is made, and a written description of the proposed research including bibliographical references is submitted. Required of Natural Science majors. Prerequisite: Senior standing. One semester; one credit

**NSCI 411. SENIOR THESIS II**
The research proposed in NSCI 410 is carried out. A formal written report and an oral presentation are required. Required of Natural Science majors. Prerequisite: NSCI 410. One semester; one credit

■ **NAVY ROTC CLASSES**
Navy ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.
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 C.B.U. It is conducted in small groups by a special corps of paraprofessional upperclass persons who have successfully completed intensive summer training. ORIN 100 is under the supervision of the Director of Counseling. Pass/Fail Grading. One semester; zero credit

PHILOSOPHY COURSES
Requirements for the Religion and Philosophy degree are found on Page 52.

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. Offered in the Fall semester. 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) 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. Offered in the Spring semester. 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. Offered in the Fall semester. 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. One semester; three credits.

PHIL 317. ANCIENT PHILOSOPHY
An in-depth treatment of selected philosophers from the ancient and medieval periods including Plato and Aristotle. Prerequisites: HUM 150 or one previous Philosophy course. 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: HUM 150 or one previous Philosophy course. 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,
PHIL 321. SCIENCE AND HUMAN VALUES
A study of ethical and value issues relating to science. The course will consider both the historical significance of the development of science for the values of Western culture and the ethical and social implications of contemporary scientific developments and practices. Prerequisite: Junior standing. One semester; three credits

PHIL 322. MEDICAL ETHICS (Formerly PHIL 422)
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. One semester; three credits

PHIL 323. BUSINESS ETHICS
An analysis of business ethics, the responsibilities of business firms to employees, owners, consumers, and society. Prerequisite: Junior standing. Offered in the Fall and Spring. One semester; three credits

PHIL 324. TECHNOLOGY AND HUMAN VALUES
A philosophical examination of social and ethical issues relating to technology. Topics include the ethical responsibilities of engineers; ethical and social issues associated with risk assessment, environment and resources, and technology in a global context; and the impact of modern technology on human values. Prerequisite: Junior standing. 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, and the relevance of the scientific, technological, economic, legal, and socio-political considerations in the analysis of current issues in environmental ethics. One semester; three credits

PHIL 335. PHILOSOYPHY 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) 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: HUM 150 or one previous Philosophy course. Offered in the Fall semester. One semester; three credits

PHIL 350. PHILOSOYPHY 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. One semester; three 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. Satisfies the moral values General Education Requirement. One semester; three credits

PHIL 491-496. SPECIAL TOPICS IN PHILOSOYPHY
Selected philosophical topics; content variable with instructor. One semester each; one to three credits
PHIL 499. SENIOR SEMINAR
The seminar, for Religion and Philosophy majors in their Senior year, includes an independent study project on a topic related to their previous years of study toward the major. One semester; three credits

PHYSICAL EDUCATION COURSE
PE 201. RHYTHMIC ACTIVITIES AND GAMES
Activities and games designed for teaching of elementary students. Offered in the Spring semester. One semester; one credit

PHYSICS COURSES
Requirements for the degree are found on Page 118.

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 337. ELECTRICITY AND MAGNETISM
(Same as ECE 406) Offered in the Fall semester. One semester; four 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=mc². Prerequisite: PHYS 252. Offered once every two years. One semester; one credit

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 the Fall semester. One semester; three credits

PHYS 380. ADVANCED MECHANICS
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 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 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; two credits*

**PHYS 460. THEORETICAL PHYSICS**
A continuation of the study of selected topics in physics. Topics vary depending on student and faculty interest. Topics from mechanics and optics are typically covered including accelerated reference frames, Lagrangian and Hamiltonian mechanics, Fourier optics and nonlinear optics. Prerequisites: PHYS 380, 415. Offered in the Spring semester of odd numbered years. *One semester; three credits*

**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 credits*

**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. Up to three hours credit. *One semester; one to three credits*

**PHYS 499. SENIOR COMPREHENSIVES**
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 credits*

### 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. Topics of study include: global actors and institutions (nation-states, international organizations, and non-governmental organizations, multinational corporations), conflict and cooperation, and the role of culture, ideology, and economics, and geography. No prerequisite. *One semester; three credits*

**POLS 210. COMPARATIVE POLITICS**
Comparison of contemporary nation-states in different regions of the world. The political, governmental, and economic systems of specific countries will be emphasized. The course will include discussion of democratic and non-democratic regimes, and different constitutional models (federal, unitary, parliamentary, presidential). The role of culture, history, ideology, religion, and geography in shaping political systems will be included. *One semester; three credits*

**POLS 220. POLITICS AND SCIENCE FICTION**
Examination of political and social themes contained in science fiction and fantasy literature and film. Issues include identity, the Self and the Other, conflict and war, the organization of society, and
utopia/anti-utopia. Activities include critical reading of texts and the use of metaphors in fiction.

*One semester; three credits*

**UPPER DIVISION COURSES ARE OPEN TO STUDENTS WHO HAVE SOPHOMORE STANDING AND MEET SPECIFIC COURSE PREREQUISITES, IF ANY.**

**POLS 320. POLITICAL IDEAS**

Theories of the origin of the state and political ideologies, including Nationalism, Democracy, Democratic Socialism, Anarchism, Classical Liberalism and Conservatism, Authoritarianism, Totalitarianism, Marxism, Leninism, Maoism, Fascism, National Socialism, race, gender, and third-world ideologies. Prerequisite: POLS 113 or permission of the instructor. *One semester; three credits*

**POLS 340. THE WEIMAR REPUBLIC AND NAZI GERMANY, 1919-1945**

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: HIST 108 or POLS 113 or POLS 320 or Permission of the instructor. (Same as HIST 340) *One semester, three credits*

**POLS 360. AMERICAN POLITICAL THOUGHT**

From the Colonial Period to the present with emphasis on the European origins, the American Revolution, the Constitution, the slavery issue, 20th Century reform, and contemporary liberal and conservative ideas and movements. Prerequisite: POLS 112 or HIST 151 or permission of instructor. Offered as needed. *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. *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: Permission of instructor. *One semester each; one to three credits each*

**POLS 480-489. TOPICS IN LAW**

Topics vary with instructors, e.g. Criminal Justice, Legal Research, etc. Prerequisite: Permission of the department head. *One semester each; one to three credits each*

**POL 490-499. INTERNSHIPS**

Content varies with specific internship program. Prerequisite: Permission of Political Science Intern-
ship Director. *One semester each; one to three credits.*

**PRE-LAW COURSE**

**PREL 200. PRE-LAW PRACTICUM**
The Pre-Law Practicum will prepare students for the challenges of law students. Emphasis will be on personal-statement preparation, LSAT preparation, and the application process. Students will also have an opportunity to investigate a number of different areas of the law through collaboration with local law professionals. *One semester; one credit*

**PSYCHOLOGY COURSES**

*Requirements for the degree are found on Page 51.*

**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 for one hour. Each session will be led by a Behavioral Sciences faculty member. Offered in the Spring semester. *One semester; one 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 05. *One semester; three credits*

**PSYC 219. PERSONALITY**
A survey of major personality theories in terms of conceptions, applications, and research. Emphasis is placed on the psychodynamic, dispositional, social-cognitive, and humanistic approaches. Prerequisite: PSYC 05. *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 05. *One semester; three credits*

**PSYC 226. PSYCHOLOGY IN THE CINEMA**
This course will focus on the psychology of movies with an emphasis on the psychology of movie viewers. The course will consider movie viewing as a collective experience, the use of psychological techniques in movie-making, and the influential role of movies in society. The class will do an in-depth analysis of several movies that deal with psychological concepts. 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. REALITY, FANTASY, AND 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 (Same as SOC 228) One semester; three credits

**PSYC 229. HONORS REALITY, FANTASY, AND 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. (Same as SOC 229) One semester; three credits

**PSYC 230. PSYCHOPATHOLOGY (Formerly PSYC 220)**
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 232. PSYCHOLOGY AND THE CINEMA II**
This class is a study of the interaction of the individual and movies. We will look at how this medium reflects and forms attitudes and ideas. Students will write in-depth analyses of selected movies. PSYC 226 is NOT a prerequisite for this class. Prerequisite: PSYC 105. 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 Correllational or Experimental Methods and Statistics courses. Students will also learn other research reporting methods including PowerPoint and poster presentations. Students will complete certification in APA ethics. Psychology and Applied Psychology majors must complete the course with a grade of “C” or better. 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 through 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: 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.  
One semester; one to four credits

PSYC 300. DYNAMICS OF DEPRESSION
Understanding depression involves learning how it can affect daily experiences and the very course of people's lives. This course will investigate biological factors and predispositions, the relationship of depression to other disorders, mechanisms of antidepressant drugs, and coping and treatment strategies. Prerequisite: PSYC 105. One semester; three 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. There are certain basic limitations to human performance. 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 expert draws on this knowledge. The organization of the class is based on viewing the human as an information-processing system. The information-processing approach provides a common referent for studying both humans and machines. Human factors research and design decisions must be based on a thorough understanding of basic principles of human performance. The theoretical 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. This course has a service learning component. Prerequisite: PSYC 105. One semester; three credits

PSYC 302. HONORS DYNAMICS OF DEPRESSION
Understanding depression involves learning how it can affect daily experiences and the very course of people's lives. This course will investigate biological factors and predispositions, the relationship of depression to other disorders, mechanisms of antidepressant drugs, and coping and treatment strategies. This course has a service learning component. Prerequisite: Membership in the Honors Program. 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 philoso-
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 320) Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as SOC 320) 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 or SOC 101. 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 study 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. 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. One semester; three credits

PSYC 352. INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
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, motivations and supervision, employee selection and development, legal considerations, evaluation, and organizational development. Prerequisite: Junior standing. (Same as MGMT 352) 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 or SOC 101. One semester; three credits

PSYC 354. 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 basics of research methodology and basic statistical techniques with an emphasis on correlational methods. Students will conduct a correlational research project.
Prerequisite: PSYC 235 and MATH 100 or above. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. 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. 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, transgenders, pornography, mental illness, sexualities, and physical disability. (Same as CJ 365 and SOC 365) One semester; three credits

**PSYC 370. APPLICATIONS OF MEMORY**
(Same as CJ 370 and SOC 370) One semester; three credits

**PSYC 375. PSYCHOLOGY AND LAW**
This course takes an empirical perspective on the relationship between psychology and law/criminal justice. Students will have an introductory overview of forensic psychology covering the following topics: investigative interviewing, deception detection, eyewitness recall and testimony, eyewitness identification, pretrial publicity, trial strategy, jury decision-making, comprehension of judicial instructions, dealing with the guilty offender, Americans with Disabilities Act, Social Security disability, expert testimony, sexual assault, and the insanity defense. Prerequisite: PSYC 105. One semester; three credits

**PSYC 380-387. SELECTED TOPICS IN PSYCHOLOGY**
Directed work on a special topic or project in psychology. One semester; one to three credits

**PSYC 390. HISTORY OF WOMEN IN PSYCHOLOGY**
This course examines the history of women psychologists from the field’s inception in the 19th century to the present. Contributions of women to the field of psychology will be discussed as well as the cultural, educational and economic barriers faced throughout the field’s history. Prerequisite: PSYC 105. One semester; three credits

**PSYC 393. HISTORY AND SYSTEMS OF PSYCHOLOGY**
This course deals with the history of ideas that laid the foundation for the present science of psychology. Emphasis is placed on the origins of modern and contemporary psychology within the context of nineteenth and twentieth century thought. The philosophical origins of the study of psychology are also explored. Prerequisite: PSYC 105. 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. 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. One semester; three credits

**PSYC 450, 451. INDEPENDENT RESEARCH IN BEHAVIORAL SCIENCES**
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 or sociology 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. Two semesters; two credits each

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 pro-
gram 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 as-
sist 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 teaching assistant to a full-time faculty member. This option may
be particularly valuable to students seeking careers in academic fields. The guidelines and require-
ments for this option will be 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

PSYCHOLOGY 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 de-
partmental 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. 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 and Philosophy degree are found on Page 52.

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 inquiry into the nature of religious experience guided by the observation that the religious consciousness of individuals and cultures is reflected in story, myth, and symbol. Questions of meaning and value will be raised and examined. This course culminates with the student describing his/her own religious journey in a term paper. 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 destruction of the Second Temple (70 C.E.) 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. Offered in the Fall semester. One semester; three credits

RS 220. CLASSICAL CHRISTIAN THOUGHT (Formerly RS 222)
An examination of major themes and issues in Christian 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. 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 256. RELIGION AND NONVIOLENT SOCIAL CHANGE**
An inquiry into the traditions and practice of nonviolence in various world religions with special attention paid to how religiously based nonviolence has led to social change. Individuals such as Gandhi, Martin Luther King, Jr., and Dorothy Day, along with social movements will be considered in light of their theological commitments, social analysis, and organizational approaches. (Same as HUM 256) 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 religious traditions of the eastern and western worlds. Emphasis will be placed on their literature and expression in contemporary life. The religions studied are Hinduism and Buddhism from India, Confucianism and Taoism from China, Zen and Shinto from Japan, Judaism and Christianity from Palestine/Israel, and Islam from Arabia. Offered in the Spring semester. One semester; three credits

**RS 274. 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 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 290-299. SELECTED TOPICS IN RELIGION**
Selected topics of special interest at an introductory level. Topics vary with 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 200 level Scripture course—217, 218, 219, or 225. 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 335. PHILOSOPHY OF RELIGION
(Same as PHIL 335) 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. One semester; three credits

RS 355. JUDAISM
A study of the beliefs and practices of the Jewish faith with particular emphasis on the time from the French Revolution to the present. 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 371. SOCIOLOGY OF RELIGION
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 37). Prerequisite: SOC 101. 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 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 390-396. HONORS SPECIAL TOPICS
Special topics in religious studies open to members of the Honors Program or by permission of the instructor. One semester: one to four 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 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 490-496. 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 499. SENIOR SEMINAR
The seminar for Religion and Philosophy majors in their senior year includes an independent study project on a topic related to their previous years of study in the major. One semester; three credits

RUSSIAN COURSES
The foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.

RUSS 101-102. ELEMENTARY RUSSIAN
Elementary grammar, reading, and conversation, supplemented by assignments in the Language Center. 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 205-215. SPECIAL TOPICS IN RUSSIAN.
Topics of special interest related to Russian history, literature, or culture. Offered in alternate years. One semester; three 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 the equivalent. Offered in sequence in Fall and Spring. Two semesters; six credits

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 228. REALITY, FANTASY, AND MEDIA
(Same as PSYC 228) Prerequisite: PSYC 105 or special permission of the instructor. One semester; three credits

SOC 229. HONORS REALITY, FANTASY, AND MEDIA
(Same as PSYC 229) Prerequisite: Membership in the Honors Program or special permission of the instructor. One semester; three credits

SOC 270. DYNAMICS OF GENDER
(Same as PSYC 270) Prerequisite: PSYC 105 or 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 30) 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 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. One semester; three credits

SOC 353. SOCIAL PSYCHOLOGY
(Same as PSYC 353) Prerequisite: PSYC 105 or SOC 101. 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 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 371. SOCIOLOGY OF RELIGION
(Same as RS 371) Prerequisite: SOC 101. 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, 102. ELEMENTARY SPANISH
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. Two semesters; six credits

SPAN 103, 104. SPANISH CONVERSATION AND CULTURE I
Fundamentals of Spanish grammar and conversation applied to a specific cultural context, such as
business. Does not fulfill the language requirement for Arts majors. Offered in sequence in the Fall and Spring. Two semesters; six credits

SPAN 201, 202. INTERMEDIATE SPANISH
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. Two semesters; six credits

SPAN 203, 204. INTERMEDIATE SPANISH CONVERSATION AND CULTURE
Intermediate level Spanish grammar and conversation applied to a specific cultural context, such as business. Prerequisites: SPAN 103, 104 or the equivalent. Does not fulfill the language requirement for Arts majors. Two semesters; six credits

SPAN 301, 302. COMPOSITION AND CONVERSATION
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. Two semesters; six credits

SPAN 303, 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; 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 each

The remainder of the foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of the School of Arts concerning these classes.

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; 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
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 or equivalent. Prerequisite: ITM 153. One semester; three 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 106 and STAT 221. Corequisite: MKTG 311. One semester; three 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 Chair of Fine Arts and Speech 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
INTERDISCIPLINARY STUDIES
Master of Arts in Executive Leadership
SCHOOL OF ENGINEERING
Master of Engineering Management
Master of Science in Engineering Management

GRADUATE ADMISSIONS POLICIES
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;
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) scores from the TOEFL if English is not their native language or was not the language of instruction for their baccalaureate degree (a proficiency in English at least the equivalent to a TOEFL score of 550 paper-based, 23 computer-based must be demonstrated);
5. official tests from GMAT or GRE for the M.B.A. program, GRE for the M.E.M. program, GMAT, GRE, or strong PRAXIS II scores for the M.Ed. or M.S.E.L. programs. The GMAT and GRE may not be required for those seeking the M.Ed. or M.S.E.L. degree if the undergraduate cumulative average is 3.0 on a 4.0 scale, if the individual already holds a graduate degree, or if the individual is already a fully licensed professional teacher in the State of Tennessee.
6. and any other requirements set by a specific graduate program.

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 the colleges and universities at which the credits were earned.

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 two weeks 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 graduate students in that program 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 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 who is not eligible for financial assistance.

Conditional: One who has not satisfied all of the admissions requirements but who is allowed to
take approved courses while completing the admissions prerequisites. The graduate programs in the Department of Education will no longer accept students on a conditional basis.

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 Bulletin, 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 GRADES**

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>P</td>
<td>0.0</td>
<td>Pass (Master of Education-Student Teaching)</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>Satisfactory Audit</td>
</tr>
<tr>
<td>UA</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 **INCOMPLETE GRADE “I”** is earned when a student fails to complete part of the requirements of the course. 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 a contract, complete the contract 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 one week prior to the deadline for entering grades.
The “I” grade is not computed in the GPA. The “I” grade is removed when the student fulfills the course requirements. The “I” grade is then replaced with the new grade. Should the student not complete the required course work by the end of the following semester, the “I” grade is replaced with an “F,” which is computed into the GPA. A student must retake any course in which they have earned an “F,” if that course is required to complete the degree. Each Graduate Program Director will review the performance of students who receive more than one “I” grade in a semester or an “I” grade in two or more consecutive semesters to determine the eligibility of those students to continue in the program. When the “I” grade is replaced, the “I” grade will show on the transcript next to the corrected grade. The “I” grade does not satisfy the prerequisite if this course is needed to continue on to the next course. Students may pick up the form in the Registrar’s Office or the individual Master’s Program office prior to meeting with the instructor. The form is also available on the web for downloading.

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 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 two weeks 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.

**REPEATING COURSES**
A graduate course may be repeated only once 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.

**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.

**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 May or August can walk in the graduation ceremony. Graduating students also have two weeks 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 using the deadline dates listed on page 33. 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.

The amount of and conditions for transfer credit are at the discretion of each program director.

**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.

**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 may notify the Office of the Registrar of the withdrawal by completing the on-line “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 necessary information needed is Name, Social Security Number, Phone Number during the Day, whether receiving Financial Assistance, i.e. Stafford Loans, Pell Grants, etc., Name of Class (s), Name of Instructor (s), Date of Last Attendance, and Name of Advisor. The date on 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 any refunds.

**TUITION REFUND**
Tuition refund policies are the same as given for the undergraduate program on Page 25.

**APPEAL PROCEDURES ON MATTERS CONCERNING ACADEMIC GRIEVANCES**
All academic appeals should begin with the individual professor. Failing to gain satisfaction, the student may appeal to the Director of the corresponding Graduate Program and to the Dean of the School. If the case is not resolved, the student may appeal to an appeals committee composed of five
members-three appointed by the Graduate Council, one by the instructor involved, and one by the student. The recommendation of the appeals committee will be followed by the instructor.

**OBTAINING A SECOND MASTERS DEGREE AT CBU**

Any student interested in completing a second masters degree at CBU can do so (at the discretion of the Program Director of the particular program) by taking an additional 21-24 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. In addition, the MBA program will waive the GMAT requirement for those students who have completed either the MEM or MAEL at CBU.

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 MBA and MAEL programs an additional 21 credit hours are required. The courses that count toward the requirements for both programs are MMKT 640 (Strategic Marketing) and MAEL 660 (Organizational Behavior and Change Management); MMGT 601 (Organizational Behavior) and MAEL 680 (Organizational Behavior and Change Management); and MFIN 620 (Managerial Finance) and MAEL 630 (Accounting and Finance for Executives). For those students seeking a second degree in the MEM program, an additional 24 credit hours are required. The three approved courses will count toward the elective requirement.

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 AND FEES**

**TUITION:**
- Master of Business Administration, per semester hour ....................................................... $510.00
- Master of Arts in Executive Leadership, per semester hour (includes books) ...................... $600.00
- Master of Engineering Management, per semester hour .................................................... $510.00
- Master of Education, per semester hour .......................................................................... $440.00
- Master of Arts in Teaching, per semester hour .................................................................... $440.00
- Master of Science in Educational Leadership, per semester hour .................................. $440.00
- Master of Science in Engineering Management ............................................................... $510.00
- Master of Arts in Catholic Studies .................................................................................... $300.00

**FEES:**
- Application Fee, all programs excluding Graduate Education (payable only once) Non-Refundable ................................................................. $50.00
- Application Fee, (Graduate Education)(payable only once) Non-Refundable .................. $35.00
- Late Registration, Non-Refundable .................................................................................. $150.00
- Technology Fee ................................................................................................................. $65.00
- Intern/Student Teaching Fee ............................................................................................ $150.00
- Alternative Licensure Type I/II Fee .................................................................................. $525.00
- M.S.E.L. Administrative Internship Fee ........................................................................... $100.00

For further information about each Master’s Program, please contact the Graduate and Professional Studies office at (901) 321-3291.
GRADUATE PROGRAMS IN EDUCATION

— SCHOOL OF ARTS —

ADMINISTRATION
DR. MARIUS M. CARRIERE, Dean

DR. TALANA VOGEL, Chair of Education and Director of Graduate Education

DR. SAMANTHA M. ALPERIN, Director of Graduate M.A.T. Program

FACULTY

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

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

BROTHER IGNATIUS BROWN, Adjunct Assistant Professor
B.S.S., M.Ed., St. Mary’s College; Ph.D., The Ohio State University

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

MERWIN A. McCOY, Assistant Professor
B.S., University of Mississippi; M.A., Memphis State University; Ed.D., The University of Memphis

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

LAVERN TERRELL, Assistant Professor
B.M., Stamford University; M.A., Clark Atlanta University; Ed.D., East Tennessee State University

TALANA VOGEL, Assistant Professor
B.S., M.S., Florida State University; Ed.D., 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 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.

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 three basic levels, Elementary (K-6), Middle School (4-8), and Secondary (7-12). 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.

Licensure requirements include the successful completion of undergraduate or other content deficiencies, field experiences, and internal and external assessments, including the Praxis II tests. Completion of coursework for the degree must be complemented by successful completion of all licensure requirements before CBU recommends for the license.

COMMON REQUIREMENTS FOR ALL M.A.T. PROGRAM CONCENTRATIONS
Professional Foundations I and II, EDFD 600 and CIED 600 ........................................... 6 hours
Educating Special Needs Learners, EDDL 630 ................................................................. 3 hours
Classroom Management, CIED 604 .............................................................................. 3 hours
Portfolio and Practicum II, CIED 609 .............................................................................. 1 hour
Teaching Practicum III, CIED 673 .................................................................................. 4 hours
Professional Seminar and Portfolio III, CIED 674 ....................................................... 19 hours
Total for Common M.A.T. Requirements ....................................................................... 18 hours

ADDITIONAL COURSES REQUIRED FOR THE ELEMENTARY EDUCATION CONCENTRATION
Child Development and Learning, EDFD 615 ................................................................. 3 hours
Curriculum and Methods in Reading/Language Arts, K-3, READ 605 ......................... 3 hours
Curriculum and Methods in Reading/Language Arts, 4-8, READ 606 ....................... 3 hours
Curriculum and Methods in Mathematics, K-8, CIED 622 ......................................... 3 hours
Curriculum and Methods in Science, K-8, CIED 611 .................................................... 3 hours
Curriculum and Methods in Social Studies, K-8, CIED 612 ......................................... 3 hours
Rhythmic Activities and Games, CIED 615 ................................................................. 1 hour
Creative Expression In Elementary Schools, K-6, CIED 624 ....................................... 1 hour
Total for Additional Elementary Concentration Courses ............................................. 20 hours

ADDITIONAL COURSES REQUIRED FOR THE MIDDLE GRADES CONCENTRATION
Instructional Strategies, CIED 604 ............................................................................... 3 hours
Adolescent Development and Learning, EDFD 617 ....................................................... 3 hours
Middle School Strategies, CIED 627 ............................................................................ 3 hours
Curriculum and Methods in Reading/Language Arts, 4-8, READ 606 ....................... 3 hours
Curriculum and Methods, choose two courses from CIED 611, 612, 622, READ 628 .... 6 hours
Reading and Writing Across the Curriculum, READ 629 .......................................... 3 hours
Total for Additional Middle Grades Concentration Courses .......................................................... 21 hours

ADDITIONAL COURSES REQUIRED FOR THE SECONDARY CONCENTRATION
Adolescent Development and Learning, EDFD 617 ................................................................. 3 hours
Curriculum and Assessment in Secondary Schools, CIED 630 ................................................. 3 hours
Reading and Writing Across the Curriculum, READ 629 .......................................................... 3 hours
Curriculum and Methods, choose one course from CIED 646, 647, 648, 649, 650 ....................... 3 hours
Electives ........................................................................................................................................ 6 hours
Total for Additional Secondary Concentration Courses ............................................................... 8 hours

MASTER OF ARTS IN TEACHING (M.A.T.) ALTERNATIVE 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 an alternative 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 an alternative 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 alternative 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 an alternative licensure program take a series of practica courses in conjunction with their status in the program. Each course holds 0 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. The Teacher Leadership concentration is offered in an accelerated cohort format. Other concentrations in the M.Ed. degree may also 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 30 graduate credit hours is required to award the M.Ed. degree.

COMMON REQUIREMENTS FOR ALL M.ED. PROGRAM CONCENTRATIONS
The Teacher as Leader: Renewing the Profession, LEAD 601 .................................................... 3 hours
Professional and Portfolio Development, EDFD 602 ............................................................... 1 hour
Mid-Point Assessment, EDFD 604 ......................................................................................... 1 hour
Inquiry Course, EDFD 640 or EDFD 64 ................................................................................. 3 hours
Capstone Project, EDFD 675 ................................................................................................. 4 hours

TEACHER LEADERSHIP CONCENTRATION
Policy Perspectives for Educators, LEAD 605 ....................................................................... 3 hours
Strategies for Whole School Renewal, LEAD 615 ................................................................. 3 hours
Assessment of Learning and Practice, CIED 608 ................................................................. 3 hours
Curriculum Design and Development, CIED 610 ................................................................. 3 hours
Contemporary Classroom Methods, CIED 603, or Instructional Strategies, CIED 604 ........... 3 hours
Teaching Diverse Learners, EDDL 632 ................................................................................ 3 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 Beginning Administrator License (BAL) in Tennessee. The program leading to the M.S. degree in Educational Leadership requires a minimum of 32 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
- **LEAD 630. Organizational Inquiry (or other inquiry/research course)** ............................ 3 hours
- **LEAD 648 Law for School Leaders** .............................................................................. 3 hours
- Elective, chosen with advisor .......................................................................................... 3 hours
- **LEAD 674 Administrative Internship** ........................................................................... 3 hours
- **LEAD 675 & 676. Portfolio I and II** ............................................................................. 2 hours
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. In addition through the study of Catholicism, that individuals will come to understand and deepen their knowledges 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.

Students will take the courses in this program in a cohort fashion where students will begin their program together and end it together. The degree is a thirty-hour degree program with the courses being offered on the CBU campus and be supported with significant on-line components. Traditional classes will meet one day a month for six hours with each course lasting six hours.

**REQUIRED COURSES-FIRST YEAR:**
MACS. 600. Catholic Thought and Culture Through the Ages ........................................ 3 hours
MACS. 610. Catholic Biblical Studies ............................................................................ 3 hours
MACS. 620. Catholics Spirituality .................................................................................... 3 hours
MACS. 630. God and Human Person .............................................................................. 3 hours

**REQUIRED COURSES-SECOND YEAR:**
MACS 640. Christology .................................................................................................... 3 hours
MACS 650. Theology of Sacraments and Worship ............................................................ 3 hours
MACS 660. Moral Theology ............................................................................................ 3 hours

**REQUIRED COURSES-THIRD YEAR:**
MACS 670. Catholics and Social Ethics ............................................................................ 3 hours
MACS 680. Catholicism and Other Faith Traditions ....................................................... 3 hours
MACS 690. Ecclesiology and Ministry ............................................................................. 3 hours
GRADUATE PROGRAM IN BUSINESS

— SCHOOL OF BUSINESS —

ADMINISTRATION
JAMES T. RHODES, Interim Dean
DR. BEVALEE B. PRAY, Executive Director Center for Ethical Leadership

FACULTY
DALE G. BAILS, Professor of Economics
B.S.B.A., University of South Dakota; M.A., University of Missouri;
Ph.D., University of Nebraska

DANIEL M. BRANDON, JR., Professor of Information Technology Management
B.S., Case-Western Reserve University; M.S., Ph.D., University of Connecticut

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

LYNN P. KUGELE, Associate Professor of Finance
B.S., M.S., Memphis State University; M.B.A., Christian Brothers University;
Ph.D., University of Memphis

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

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

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

JOHN E. MEGLEY III, Professor of Management
A.B., University of Illinois; B.S.B.A., Christian Brothers University;
M.B.A., Roosevelt University; Ph.D., University of Missouri

CLARECE Y. NASH, Associate Professor of Accountancy
B.S., Eastern Illinois University; M.A., Ph.D., University of Mississippi; C.P.A.

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

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

BEVALEE B. PRAY, Associate Professor of Finance
B.B.A., M.B.A., University of Central Arkansas; Ph.D., University of Memphis

KRISTEN O. PRIEN, Assistant Professor of Management
A.B., Mount Holyoke College; M.B.A., Ph.D., University of Memphis

LAWRENCE J. SCHMITT, Professor of Information Technology Management
B.B.A., M.B.A., Ph.D., University of Memphis
MASTER OF BUSINESS ADMINISTRATION PROGRAM
The Master of Business Administration at Christian Brothers University (MBA at CBU) is tailored for working adults interested in continuing their advanced education. The MBA at CBU is structured around cohort groups of 20 to 25 students. Two new cohorts will be formed each year, one in August and one in January. Students will remain with the same cohort group for the entire two years of the program. Courses will be taken sequentially, in a lock-step format. All courses meet one night a week for four hours over an eight-week time frame. Additionally, students will meet one Saturday once every two months for each class’ final exam.

The thirty hour MBA curriculum consists of 10 courses. The curriculum for the MBA is designed so students can focus on one subject area at a time, allowing for more in-depth learning, concentration, and application of each business discipline. The curriculum culminates in a capstone experience in which students take part in a case analysis application applying and integrating all prior course work.

MBA ELECTIVE COURSES:

- MMGT 601 Organizational Behavior ................................................................. 3 hours
- MITM 690 Management of Information Systems ............................................. 3 hours
- MMGT 608 Project Management ................................................................. 3 hours

ROTATION OF MBA COURSES

- MMGT 601 Organizational Behavior
- MMGT 608 Project Management
- MITM 690 Management of Information Systems
- MACC 660 Managerial Accounting
- MMGT 670 Social, Legal, Ethical Aspects of Business
- MMGT 602 Operations Management
- MMKT 640 Strategic Marketing
- MECO 680 Managerial Economics
- MECO 620 Managerial Finance
- MMGT 699 Business Policy

OTHER MBA COURSES OFFERED:

- MACC, MECO, MFIN, MITM, MMGT, MMKT 652, Special Topics .................. 3 hours
- MMGT 681 Project Management (MMPA Certificate) ..................................... 3 hours
- MMGT 682 Project Organization, Planning, and Leadership ......................... 3 hours
- MMGT 683 Project Analysis and Control ..................................................... 3 hours

In addition, students applying for the Master of Business Administration program must show successful completion of certain prerequisites for the degree. The prerequisites must be completed prior to entering the masters degree program. Students must also demonstrate successful scores on either the GMAT or GRE exam. The prerequisites may be taken at the undergraduate level through CBU’s Professional Studies program.

PREREQUISITES REQUIRED:

- Principles of Accounting I and II ................................................................. 6 hours
- Principles of Macroeconomics and Principles of Microeconomics ............... 6 hours
- Basic Computing ....................................................................................... 3 hours
- Statistics ...................................................................................................... 3 hours
- Principles of Marketing ................................................................................ 3 hours
- Principles of Organization and Management .............................................. 3 hours
- Principles of Financial Management I ...................................................... 3 hours
- Business Law I or II .................................................................................. 3 hours
GRADUATE PROGRAM IN INTERDISCIPLINARY STUDIES

ADMINISTRATION
DR. BEVALEE B. PRAY, Director of Interdisciplinary Studies Program

MASTER OF ARTS IN EXECUTIVE LEADERSHIP PROGRAM
The Graduate School of Business began a new master’s program during the 2005-2006 academic year. It consists of 30 semester hours done in a cohort format similar to the MBA. The courses for this degree are listed below.

The Master of Arts in Executive Leadership (MAEL) targets the executive or rising executive in all styles of organizations and businesses including for profit, non-profit, civic, education, religious and government.

During your studies you will learn from and work with an outstanding faculty with diverse academic, business, consulting and community service experience. These faculty members have been selected to teach in the MAEL program because of their dedication to teaching and the wealth of knowledge they bring to their academic areas.

We seek experienced and successful students who have a desire to develop their leadership skills in a rigorous and exciting academic environment. The occupational diversity of program participants creates an atmosphere which fosters learning from both peers and professors. By choosing to pursue the MAEL program at CBU you will have demonstrated your commitment to expand your horizons in a challenging way.

The program is a cohort-based approach to adult education. You enter the program with a group of 15-20 students (your cohort) and progress through the sequence of classes, one class at a time. The program takes two years to complete, although students interested in a “fast-track” approach can complete the degree in as little as one year.

Students attend class only one night a week and take only one class at a time. This allows students to focus on school, while still maintaining a balance among work, family, community, and social activities. Also, by concentrating on only one subject area at a time, students are better able to immediately apply their new knowledge and skills to their workplace setting.

Prerequisites to the program are: (1) a bachelor’s degree in any field, (2) management/leadership experience documented in a resume, (3) 2 letters of recommendation, (4) an essay, and (5) an interview. Cohorts begin twice a year in August and January.

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<tr>
<th>Course Number</th>
<th>Course Title</th>
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<td>Executive Leadership</td>
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<td>MAEL 610.</td>
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<td>MAEL 620.</td>
<td>Accounting and Finance for Executives</td>
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<td>MAEL 630.</td>
<td>High Performing Teams</td>
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<td>MAEL 640.</td>
<td>Leadership Classics</td>
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<td>MAEL 650.</td>
<td>Organizational Behavior and Change Management</td>
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<td>MAEL 660.</td>
<td>Service to Society</td>
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<td>MAEL 670.</td>
<td>Conflict Resolution and Negotiation</td>
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<td>MAEL 680.</td>
<td>Strategic Marketing and Planning for Executives</td>
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<tr>
<td>MAEL 690.</td>
<td>Leadership Practicum</td>
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GRADUATE PROGRAMS IN ENGINEERING

— SCHOOL OF ENGINEERING —

ADMINISTRATION
DR. ERIC B. WELCH, Dean
DR. NEAL JACKSON, Director of Engineering Management

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

NEAL JACKSON, Professor, Engineering Management
B.S., Memphis State University, M.S., University of Arkansas;
Ph.D., University of Mississippi

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

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

PHILIP J. MALONEY, Associate Professor, Religion and Philosophy
B.A., M.A., University of Montana; Ph.D., University of Memphis

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

JUAN CARLOS OLABE-BASOGAIN, Professor, Electrical Engineering
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, Associate Professor, Electrical Engineering
B.S., M.S., Ph.D., Mississippi State University

MISSION
Graduate Engineering offers the MASTER OF ENGINEERING MANAGEMENT and the MASTER OF SCIENCE IN 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 ENGINEERING MANAGEMENT program was developed for the engineer or technically prepared individual who has professional industrial experience and who expects
to move up the management ladder to take an increasingly active role in his or her organization's decision-making process. The capstone of the program will be the completion of the Engineering Management Project. The Master of Engineering Management degree consists of thirty-three semester hours of academic work, which consists of eight core courses including the Engineering Management Project and three elective courses.

**CORE MEM COURSES:**
- ENGM 601. Engineering Management
- ENGM 602. Engineering Accounting
- ENGM 603. Engineering Finance
- ENGM 604. Social Legal, and Ethical Considerations for Engineering
- ENGM 605. Quality Assurance
- ENGM 606. Computer Applications
- ENGM 607. Operations Research
- ENGM 690. Engineering Management Project

**ELECTIVE MEM COURSES:**
- ENGM 621. Engineering Law
- ENGM 624. Knowledge Engineering
- ENGM 636. Computer Networks
- ENGM 637. File Organization and Database Management
- ENGM 691, 692, 693. Special Topics
- ENGM 698. Professional Seminar
- ENGM 699. Research

**THE MASTER OF SCIENCE IN ENGINEERING MANAGEMENT** 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 nine core courses including the Thesis and two elective courses.

**CORE MSEM COURSES**
- ENGM 600. Engineering Management Theory
- ENGM 602. Engineering Accounting
- ENGM 603. Engineering Finance
- ENGM 604. Social Legal, and Ethical Considerations for Engineering
- ENGM 605. Quality Assurance
- ENGM 606. Computer Applications
- ENGM 607. Operations Research
- ENGM 696. Thesis

**ELECTIVE MSEM COURSES:**
- ENGM 621. Engineering Law
- ENGM 624. Knowledge Engineering
- ENGM 636. Computer Networks
- ENGM 637. File Organization and Database Management
- ENGM 691, 692, 693. Special Topics
- ENGM 698. Professional Seminar
- ENGM 699. Research
GRADUATE COURSES

INTERDISCIPLINARY STUDIES

■ Master of Arts in Executive Leadership Courses

MAEL 600. EXECUTIVE LEADERSHIP
This course is designed to look at leadership from the inside of an individual out toward the group and eventually the organization. It is a fundamentals course covering a broad range of leadership topics from self-development and understanding self, to group behavior, organizational design, ethics and teamwork. Three credits

MAEL 610. ETHICS AND MORAL PHILOSOPHY.
A study of how decisions and actions are related to moral philosophy and world views. The course examines the ethical foundations of, responsibilities for, and consequences of decisions and practices in our personal lives, business lives, and societal lives. Three credits

MAEL 620. SERVICE TO SOCIETY
This course has two components. (1) A study of the critical nature of mission, vision, and values. Personal and organizational core purposes and values that direct strategies and define measures of success are identified and developed. (2) An analysis of how personal and organizational mission, vision, and values interact with the pursuit of social justice. Particular societal issues addressed will include poverty, affordable and accessible health care, safe and affordable housing, sustainable agriculture, quality education, discrimination, and care for the environment. Three credits

MAEL 630. ACCOUNTING AND FINANCE FOR EXECUTIVES
This course is designed to increase skills in understanding and using financial statements. The course will expose students to the major topics in accounting and finance including: analysis of primary financial statements, break-even analysis, valuation techniques, time value of money, accounting fraud, and Sarbanes-Oxley Act. Three credits

MAEL 640. HIGH PERFORMING TEAMS
A study of group behavior and how group function effectively. Emphasis is placed on group decision making and increasing efficient and productive group management. The course material will emphasize team building and team interaction from leadership, psychology, and social psychology perspectives. Three credits

MAEL 650. LEADERSHIP CLASSICS
This course examines executive leadership by exploring leadership theory and great leaders through the lens of classic and contemporary literature. The course allows students to develop a deeper personal and philosophical understanding of ethical leadership by reading and discussing such works as Plato’s, Republic, Machiavelli’s, The Prince, The Bible, and biographies of great leaders (e.g., George Washington, Abraham Lincoln, Robert E. Lee, Winston Churchill, Martin Luther King, Jr., or Mahatma Gandhi). Three credits

MAEL 660. ORGANIZATIONAL BEHAVIOR AND TRANSFORMATIONAL CHANGE
This course studies individual and group behavior as they relate to organizational effectiveness. Emphasis is placed on motivation, power and politics, the effect of organization design on effectiveness and how to best manage change. Behavioral science concepts are applied to the management of organizations. Methods of analyzing and improving performance are also addressed. Three credits

MAEL 670. CONFLICT RESOLUTION AND NEGOTIATION
This course studies conflict, its underlying dynamics, and ways to deal with conflict more productively. The course covers the major causes of conflict, the effects of personality and perception on
conflict, and recommended strategies to manage the conflict in our lives and our organizations. We will explore the skills required for the productive management of conflict and discuss how to use and combat (distributive) win-lose style negotiation. Conflict and negotiation in situations involving ethnic, racial, or religious differences are emphasized. \textit{Three credits}

**MAEL 680. STRATEGIC MARKETING AND PLANNING FOR EXECUTIVES**

This course focuses on decision making within a context of strategic marketing and planning. In particular, this course emphasizes decision making as it relates to (1) establishing objectives, given anticipated environmental conditions and existing organizational constraints, and (2) developing a marketing strategy to achieve the objectives. \textit{Three credits}

**MAEL 690. ETHICAL LEADERSHIP PRACTICUM**

Working individually or in small groups, students utilize learning from other courses in practical ways to provide solutions to real world problems. Working in conjunction with a supervising faculty member, students select an organization, conduct a needs assessment, design and implement an appropriate intervention and evaluate the project’s effectiveness. \textit{Three credits}

**BUSINESS**

■ **M.B.A. Required Core Courses**

**MMGT 601. ORGANIZATIONAL BEHAVIOR** (Formerly MBA 601)

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. Behavioral science concepts are applied to the management of organizations. Methods of analyzing and improving performance are also addressed. Prerequisite: MGMT 337. \textit{Three credits}

**MMGT 602. PRODUCTION/OPERATIONS MANAGEMENT**

Investigates relationship of Production/Operations Management to other functional areas. The course covers basic production techniques for both manufacturing and service operations. Problems and special issues encountered in the Production/Operation Management environment will be explored. Special emphasis will be placed on the process of improving productivity and quality. \textit{Three credits}

**MMGT 608. 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. \textit{Three credits}

**MFIN 620. MANAGERIAL FINANCE** (Formerly MBA 620)

Studies management of the firm from the financial perspective. The principal concern of the course is the acquisition of the proper quantity of funds under conditions as favorable as possible, and the efficient allocation of these funds among the various types of assets. Topics include valuation theory, capital budgeting, and working capital management, capital structure analysis, dividend policy, and a survey of sources of short-term and long-term funds. Prerequisite: FIN 327. \textit{Three credits}

**MMKT 640. STRATEGIC MARKETING** (Formerly MBA 640)

Provides a foundation for an understanding of the variables and functions in the strategic management of the enterprise’s marketing efforts. It includes the study of theory, while developing a practical knowledge of the marketing management system and key concepts. This course is designed to
enable managers to achieve a higher quality of decision making in micro as well as macro marketing. Prerequisite: MKTG 311. Three credits

**MECO 650. ECONOMICS OF PUBLIC 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. One semester; three credits

**MACC 660. MANAGERIAL ACCOUNTING** (Formerly MBA 660)

Acquaints students with the information managers need to manage manufacturing, merchandise, and service organizations. Consideration is given to traditional managerial uses of information from a company's financial accounting system. It critiques the usefulness of adjusted financial accounting information for managerial decisions and explores and evaluates new approaches to designing systems for cost management information. Prerequisites: ACCT 260, 270, or the equivalent. Three credits

**MMGT 670. ETHICAL, SOCIAL AND LEGAL ASPECTS OF MANAGEMENT** (Formerly MBA 670) Studies the modern corporation as a social entity as well as an economic force. The course retains the perspective of a business as a profit oriented producer and/or distributor of products and services. Ethical, social and legal dimensions are added to this perspective and the corporation comes to be seen as an entity with responsibilities to society-at-large. Prerequisites: BLAW 30; MGMT 337. Three credits

**MECO 680. MANAGERIAL ECONOMICS** (Formerly MBA 680)

Applies micro economic theory to management decisions. The topics of the course include: demand theory (including revenue and elasticity concepts); production and distribution theory; cost theory and cost function derivation; economic profit analysis; market structure analysis; pricing models; and other selected applications of microeconomics principles. Prerequisites: ECON 211, 212. Three credits

**MITM 690. MANAGEMENT OF INFORMATION SYSTEMS** (Formerly MBA 690)

Explores and examines the management of information systems from both a business and technical perspective. This course studies the business dimensions of information technology (IT) such as strategic planning and development of operations along with the technical dimensions such as hardware, software, and networks as well as intersections between the two. Topics include leadership and strategic planning, managing information resources, managing information systems operations, managing the new universe of computing, and managing the IT organizational relationships. Three credits

**MMGT 699. BUSINESS POLICY** (Formerly MBA 699)

Develops business strategy from a senior management perspective through an integrated approach. Emphasis is placed on creative approaches to defining the problem, identifying alternatives and developing solutions. Complex problem areas encountered in contemporary business environments are analyzed and interpreted. Case studies and simulations are used to develop the student's skills. Prerequisite: 18 hours of MBA core courses—MACC 660, MECO 680, MFIN 620, MMGT 630, MMGT 670, MMKT 640. Three credits

**M.B.A. Elective Courses**

**MACC, MECO, MFIN, MITM, MMGT, MMKT 652. 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
MMGT 681. PROJECT MANAGEMENT
(Description listed under MMGT 608)

MMGT 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 68. Three credits

MMGT 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: MGMT 68. 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 Church. Selected texts from the Old and New Testaments will then be studies 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 sacrament especially in relation to Christology and eschelology. 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*

**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. INSTRUCTIONAL STRATEGIES** (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. *One credit*

**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. 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, K-8**

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, K-8* (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 621. CONCEPTS OF MATHEMATICS IN ELEMENTARY EDUCATION**

Candidates study number theories and systems, decimals and fractions, probability and statistics, data analysis and display, algebra, geometry, problem-solving, and quantitative reasoning skills with applications for teaching in the elementary classroom. Placement assessment determines whether course is required for graduation and licensure. *Three credits*

**CIED 622. CURRICULUM AND METHODS IN MATHEMATICS, K-8**

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 623. CURRICULUM AND METHODS IN LANGUAGE ARTS, K-8
(Formerly MED 655)
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 elementary and middle school language arts curriculum. Specialized instruction in teaching elementary and middle school students how to read is an integral part of this course. Three credits

CIED 624. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, 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 SECONDARY 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. One semester; three credits

CIED 634. TEACHING SCIENCE, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary science. One semester; 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. One semester; 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. One semester; 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. One semester; three credits

CIED 641. CONTEMPORARY SECONDARY METHODS, 7-12
Strategies for use in the secondary English, mathematics, social studies, science, and foreign language classrooms presented and practiced by students. Ten to fifteen hours of field experience required.  
**Three Credits**

**CIED 645. SCHOOL HEALTH**  
Students learn about school health knowledge and skills required for teachers, including health services, healthful school living, health screening, home and school safety, health content skills and materials, and first aid with CPR.  
*One credit*

**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 658. TEACHING PRACTICUM I**  
Students are placed in a K-12 classroom for a minimum of 30 clock-hours of observing and assisting a licensed teacher.  
*One credit*

**CIED 663. TEACHING INTERNSHIP I**  
Students are assigned to a K-12 classroom with increasing levels of responsibility for a full semester and are required to attend a weekly one-hour seminar. During the Teaching Internship I, students not only improve their instructional and classroom methods, but they also become reflective and analytical about their professional practice, utilizing clinical methods, assessment strategies, and classroom inquiry techniques to learn about their impact on student learning. Students begin to compile a final portfolio to represent their total learning in the initial licensure program. Both University supervision and school-site mentoring is a part of Teaching Internship I. Restricted to students in the MAT program. Restricted to students in the M.A.T. program who entered under previous catalogs.  
**Three credits**

**CIED 664. TEACHING INTERNSHIP II**  
Students are assigned to a K-12 classroom with increasing levels of responsibility for a full semester and are required to attend a weekly one-hour seminar. During the Teaching Internship II, as students continue to improve instructional and classroom methods, they complete a culminating classroom inquiry project with reference to the knowledge base in education and to data about their impact on student learning. Students also complete a final portfolio to represent their total learning in the initial licensure program. Both University supervision and school-site mentoring is a part of Teaching Internship II. Restricted to students in the MAT program. Restricted to students in the M.A.T. program who entered under previous catalogs.  
**Three credits**

**CIED 665. ALTERNATIVE LICENSURE I**  
Students admitted to an alternative licensure program participate in a seminar during their first half-year of teaching in a K-12 environment and are coached in their performance, while developing the first phase of a teaching portfolio.  
*One credit*

**CIED 666. ALTERNATIVE LICENSURE II**  
Students admitted to an alternative licensure program participate in a seminar during their second half-year of teaching in a K-12 environment and are coached in their performance, while developing
the second phase of a teaching portfolio. One credit

CIED 667. ALTERNATIVE LICENSURE III
Students admitted to an alternative licensure program participate in a seminar during the first half of their second year of teaching in a K-12 environment and are coached in their performance, while developing the third phase of a teaching portfolio. One credit

CIED 668. ALTERNATIVE LICENSURE IV
Students admitted to an alternative licensure program participate in a seminar during the second half of their second year of teaching in a K-12 environment and are coached in their performance, while completing their teaching portfolio. 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
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. Three 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 TYPE I/TYPE II ALTERNATIVE 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 $525.00 fee will be automatically assessed to those enrolled. One semester, 0 credits

CIED 676 TYPE I/TYPE II ALTERNATIVE 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 $525.00 fee will be automatically assessed to those enrolled. One semester, 0 credits

CIED 677 TYPE I/TYPE II ALTERNATIVE 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 $525.00 fee will be automatically assessed to those enrolled. One semester, 0 credits
CIED 678 TYPE I/TYPE II ALTERNATIVE LICENSURE D
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 $525.00 fee will be automatically assessed to those enrolled. **One semester, 0 credits**

CIED 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. **Three credits**

- **Education of the Diverse Learner (EDDL)**

  EDDL 630. EDUCATING SPECIAL NEEDS LEARNERS (Formerly MED 630)
  Students conduct a comprehensive survey of exceptionalities and disabilities among learners. Students learn to identify exceptionalities and become familiar with referral processes, classroom accommodations and interventions, and resources for facilitating services to exceptional learners. **Three credits**

  EDDL 631. INCLUSION TECHNIQUES (Formerly MED 631)
  Students explore classroom strategies and management techniques in dealing with exceptional students who are included in regular classroom settings. **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. LEARNING/styles AND STRATEGIES (Formerly MED 633)
  Students investigate the implications of learning style diversity for the practice of teaching and learning while identifying and examining their own learning styles from a variety of theoretical perspectives. Evaluating these perspectives in the light of recent research about teaching and learning, students examine and propose ways in which learning style theory can be used to improve differentiated instruction. **Three credits**

  EDDL 634. DIFFERENTIATING INSTRUCTION
  Students explore the special issues and challenges of differentiating instruction to meet the needs and utilize the gifts of individual learners, including modification of methods and strategies, adaptation of assessment techniques, and management of differentiated classrooms. **Three credits**

  EDDL 638. CLASSROOM AND BEHAVIOR MANAGEMENT
  Candidates learn about the vast array of behaviors associated with K-12 students with a wide variety of special needs and the impact of those behaviors in the classroom. Strategies for promoting positive behaviors and effective verbal and non-verbal communication strategies are highlighted in this course. **Three credits**

  EDDL 640. ASSESSMENT AND EXCEPTIONALITY
  Candidates gain an understanding of various formal and informal procedures for assessing K-12 students with a range of special needs. The candidate administers, scores, interprets, and reports scores from a battery of measurements. **Three credits**

  EDDL 651. CONSULTATION AND CONTEXTS
  Candidates learn that schools, families, and surrounding communities are important contexts for working with K-12 students with special needs. Collaboration with teachers, support personnel, families, and the broader community as well as their roles and responsibilities are considered. **Three credits**

  EDDL 680-690. SPECIAL TOPICS
  Selected topics of interest. Permission of the Director of the Graduate Education Program required.
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. *One credit*

**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 604. MIDPOINT ASSESSMENT**
This is a required course for Master of Education students. It is to be taken during the third semester of the program. *One semester; one credit*

**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 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 630. AMERICAN EDUCATION: PAST, PRESENT, FUTURE (Formerly MED 642)
Students examine the cultural, social, political, and economic forces that have influenced the history of American education, shaping the schools we have today. Particular attention is paid to various reform movements in the past and present and their power to change American education. Students analyze and evaluate current efforts to redesign schools, to rethink teaching and learning practice, and to shape a new future for American education. *Three 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 641. INQUIRY FOR TEACHERS (Formerly MED 604)
Students acquire research skills appropriate for ongoing classroom research into practice as conducted by teachers. Engaging primarily qualitative methods, students learn to design and conduct classroom and school studies in the emerging tradition of teacher inquiry. This course is especially appropriate for students who are not contemplating additional graduate work beyond the master’s degree and who will not write a thesis or dissertation during their foreseeable future careers. *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. *Three credits*

Educational Technology (EDTC)
EDTC 620. USING TECHNOLOGY IN INSTRUCTION (Formerly MED 620)
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 the computers in the classroom, (2) evaluating a variety of software packages for instructional use, and (3) using the Internet as a resource in education. *Three credits*

**EDTC 625. INTERNSHIP IN EDUCATIONAL TECHNOLOGY** (Formerly MED 625)
This course is designed for students who are prepared to develop a solution to an educational problem through the use of technology. Interns receive direction from a supervisor currently working in the field of information technology. *Three credits*

**EDTC 626. EDUCATIONAL TECHNOLOGY PROJECT** (Formerly MED 626)
Students with good background in computer and information technology implement and assess an educational technology project under the guidance of an assigned professor. Permission of a professor and faculty advisor required. *Three credits*

**EDTC 680-690. SPECIAL TOPICS**
Selected topics of interest. Permission of the Director of the Graduate Education Program required. *Three credits*

## Education (EDUC)

Note: For students enrolled in a non-degree initial teaching licensure-only program at CBU, their practica and/or culminating experiences of practice teaching are conducted at the 500 level, rather than at the 600 level. This is because these individuals are not seeking a graduate degree from CBU. The applicable courses are EDUC 550, 551, 552, 553, 554. These courses do not count toward a graduate degree in education at Christian Brothers University.

The courses in this section may also be recommended to or required of individual students for the following reasons: (1) failure to successfully complete admissions requirements to an initial teaching licensure program; (2) need for remediation to meet the writing or speaking standards required for initial teaching or administrative licensure; (3) need for development and review of general knowledge; (4) difficulties with or desire to prepare intensively for Praxis II tests; and (5) lack of orientation to and participation in teacher education at CBU, the conceptual model, or required assessment processes. These courses, numbered at the 500 level rather than at the 600 level, do not count toward graduate degrees in education at CBU.

**EDUC 500. ORIENTATION TO TEACHER EDUCATION**
Students who have not attended required orientations for initial teaching licensure programs may be recommended to or required to take this course. *One credit*

**EDUC 520. PROFESSIONAL WRITING I**
Students who are seeking initial teaching or administrative licensure whose writing skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. *One credit*

**EDUC 521. PROFESSIONAL WRITING II**
Students who are seeking initial teaching or administrative licensure whose writing skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. *Two credits*

**EDUC 522. PROFESSIONAL WRITING III**
Students who are seeking initial teaching or administrative licensure whose writing skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. *Three credits*
EDUC 525. PROFESSIONAL SPEAKING I
Students who are seeking initial teaching or administrative licensure whose speaking skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. One credit

EDUC 526. PROFESSIONAL SPEAKING II
Students who are seeking initial teaching or administrative licensure whose speaking skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. Two credits

EDUC 527. PROFESSIONAL SPEAKING III
Students who are seeking initial teaching or administrative licensure whose speaking skills require improvement in order to meet State of Tennessee and national standards for educators may voluntarily take this course, or they may be required to take this course by advisors in consultation with a program director. Three credits

EDUC 537. TEACHER LEADERSHIP
Students seeking initial teaching licensure through Christian Brothers University who have not been adequately inducted into or oriented to CBU’s conceptual model of teacher leadership will be required to take this seminar as part of the program of study. See description of LEAD 637 for content. One credit

EDUC 538. TEACHER INQUIRY AND ASSESSMENT
Students seeking initial teaching licensure through Christian Brothers University who have not been adequately inducted into or oriented to CBU’s approach to teacher inquiry and teacher work sample methodology as a component of the assessment of K-12 student learning will be required to take this seminar as part of the program of study. See description of EDFD 638 for content. One credit

EDUC 540. GENERAL EDUCATION REVIEW I
Students seeking initial teaching licensure who have been identified by faculty, advisors, and program directors as having weaknesses in their general knowledge may be required to engage in review and research activities to remedy these deficits. One credit

EDUC 541. GENERAL EDUCATION REVIEW II
Students seeking initial teaching licensure who have been identified by faculty, advisors, and program directors as having weaknesses in their general knowledge may be required to engage in review and research activities to remedy these deficits. Two credits

EDUC 542. GENERAL EDUCATION REVIEW III
Students seeking initial teaching licensure who have been identified by faculty, advisors, and program directors as having weaknesses in their general knowledge may be required to engage in review and research activities to remedy these deficits. Three credits

EDUC 543. GENERAL EDUCATION ASSESSMENT
Students seeking initial teaching licensure who have been identified by faculty, advisors, and program directors as having weaknesses in their general knowledge or who have completed EDUC 541, 542, or 543 engage in assessment and evaluation activities designed to provide evidence of adequacy in meeting the State of Tennessee standards for general education. One credit

EDUC 550. PRACTICUM I
Students are placed in a K-12 classroom for a minimum of 30 clockhours of observing and assisting a licensed teacher. See description of CIED 650. One credit
EDUC 551. PRACTICUM II
Students are placed in a K-12 classroom for a minimum of 60 clockhours of observing and assisting a licensed teacher. See description of CIED 651. Two credits

EDUC 552. PRACTICUM III
Students are placed in a K-12 classroom for a minimum of 90 clockhours of observing and assisting a licensed teacher. See description of CIED 652. Three credits

EDUC 553. INTERNSHIP
Under the guidance of an assigned cooperating or mentor teacher and a University supervisor, the candidate 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 a licensure program. See description of CIED 653. Three credits

EDUC 554. PROFESSIONAL SEMINAR
A weekly seminar for intern teachers. Students review professional development and resolve issues arising from the intern experience. Students must also be enrolled in EDUC 553. See description of EDUC 553. One credit

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 sociolgy 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 626. MANAGING THE PRIVATE SCHOOL**
Students planning to lead a private school acquire background about the context for private school operations and the multiple management functions of private school leaders, including responsibilities for academic programs, student services, human resources, institutional advancement and development, fiscal management, facilities and technology, community, parent and public relations, and legally sound operations. Through a problem-based approach, students integrate these multiple functions and experience the complexity of leading in the private 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 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. Three credits

**LEAD 675. PORTFOLIO I**
The portfolio and overall professional development of the program participant is reviewed and assessed by a team of mentors and faculty members. One credit

**LEAD 676. PORTFOLIO II**
The portfolio and overall professional development of the program participant is reviewed and assessed by a team of mentors and faculty members. One credit

**LEAD 679. ADVANCED LEADERSHIP SEMINAR**
Program participants seeking the PAL license engage in a culminating integrative seminar to reflect on current issues in school leadership, analyze their strengths and weaknesses, and set professional development goals for themselves. Two 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, K-3**

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. READING AND WRITING 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*

### 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. *Three credits*

**ENGINEERING MANAGEMENT**

**ENGM 600. ENGINEERING MANAGEMENT THEORY**
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 FINANCE**
(Formerly MEM 603)
Understanding of financial decisions by corporations. 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. 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 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
ACADEMIC CALENDARS
2007-2008
## DAY UNDERGRADUATE PROGRAM 2007-2008

### Fall Semester 2007

<table>
<thead>
<tr>
<th>AUG.</th>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>16</td>
<td>Thursday</td>
<td>President’s Workshop</td>
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<tr>
<td>17</td>
<td>Friday</td>
<td>Transfer Student Orientation</td>
<td></td>
</tr>
<tr>
<td>18-19</td>
<td>Sat-Sun</td>
<td>New Student Orientation</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Monday</td>
<td>First Day of Classes</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Monday</td>
<td>Final Registration</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
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<tbody>
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<td></td>
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<tr>
<td>15-19</td>
<td>Monday</td>
<td>Fall break</td>
<td></td>
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<tr>
<td>22-25</td>
<td>Thurs-Sun</td>
<td>Thanksgiving Holidays</td>
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<tr>
<td>22-25</td>
<td>Thurs-Sun</td>
<td>Thanksgiving Holidays</td>
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<th>Event</th>
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<td>10-14</td>
<td>Mon-Fri</td>
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<td>17</td>
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### Spring Semester 2008

<table>
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<tr>
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<td>Monday</td>
<td>New Student Orientation</td>
<td></td>
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<tr>
<td>15</td>
<td>Monday</td>
<td>Mid-Term Grades Due 10:00 a.m.</td>
<td></td>
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<tr>
<td>11</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Monday</td>
<td>Martin Luther King Day - Holiday</td>
<td></td>
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<table>
<thead>
<tr>
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<th>Date</th>
<th>Day</th>
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<tbody>
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<table>
<thead>
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<tbody>
<tr>
<td>3-7</td>
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<td>Spring Break</td>
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<td>3</td>
<td>Monday</td>
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<tr>
<td>20-24</td>
<td>Thurs-Mon</td>
<td>Easter Holiday</td>
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<tr>
<td>25</td>
<td>Thursday</td>
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<tr>
<td>29</td>
<td>Tuesday</td>
<td>Study Day</td>
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<tr>
<td>30-6</td>
<td>Wed-Tues</td>
<td>Final Exams (No Saturday Exams)</td>
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<table>
<thead>
<tr>
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<tr>
<td>7</td>
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<tr>
<td>9</td>
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# DAY UNDERGRADUATE SUMMER TERMS 2008

## June Session 2008 (5 week session)

<table>
<thead>
<tr>
<th>JUNE</th>
<th>Day</th>
<th>Events</th>
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<tbody>
<tr>
<td>2</td>
<td>Monday</td>
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<tr>
<td>3</td>
<td>Tuesday</td>
<td>Last Day to Add/Drop Courses</td>
</tr>
<tr>
<td>23</td>
<td>Monday</td>
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</tbody>
</table>

## July Session 2008 (5 week session)

<table>
<thead>
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<th>JULY</th>
<th>Day</th>
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<tbody>
<tr>
<td>7</td>
<td>Monday</td>
<td>First Day of Classes</td>
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<tr>
<td>8</td>
<td>Tuesday</td>
<td>Last Day to Add/Drop Courses</td>
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<tr>
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<td>Monday</td>
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## AUG. 2008

<table>
<thead>
<tr>
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<th>Day</th>
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<tbody>
<tr>
<td>8</td>
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<tr>
<td>11</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
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</tbody>
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President’s Workshop will be Thursday, August 14, 2008.
# UNDERGRADUATE PROFESSIONAL STUDIES 2007-2008

## First Fall Term 2007

<table>
<thead>
<tr>
<th>AUG.</th>
<th>18</th>
<th>Saturday</th>
<th>Classes Begin</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
<td>Friday</td>
<td>Last Day to Drop Courses*</td>
</tr>
<tr>
<td>SEPT.</td>
<td>1-3</td>
<td>Sat-Mon</td>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Friday</td>
<td>Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td>OCT.</td>
<td>12-13</td>
<td>Fri-Sat</td>
<td>Final Exams</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

## Second Fall Term 2007

<table>
<thead>
<tr>
<th>OCT.</th>
<th>20</th>
<th>Saturday</th>
<th>Classes Begin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26</td>
<td>Friday</td>
<td>Last Day to Drop Courses*</td>
</tr>
<tr>
<td>NOV</td>
<td>23</td>
<td>Friday</td>
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<tr>
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<td>22-25</td>
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<td>Fri-Sat</td>
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## First Spring Term 2008

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<thead>
<tr>
<th>JAN.</th>
<th>5</th>
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<tr>
<td></td>
<td>21</td>
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<tr>
<td>FEB.</td>
<td>8</td>
<td>Friday</td>
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</tr>
<tr>
<td></td>
<td>29-1</td>
<td>Fri.-Sat.</td>
<td>Final Exams</td>
</tr>
<tr>
<td>MAR.</td>
<td>3</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
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</tbody>
</table>

## Second Spring Term 2008

<table>
<thead>
<tr>
<th>MAR.</th>
<th>8</th>
<th>Saturday</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>Friday</td>
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</tr>
<tr>
<td></td>
<td>20-24</td>
<td>Thurs-Mon</td>
<td>Easter Holiday</td>
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<tr>
<td>APR.</td>
<td>11</td>
<td>Friday</td>
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## Summer Professional Studies Term 2008

<table>
<thead>
<tr>
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<th>31</th>
<th>Saturday</th>
<th>Classes Begin</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUNE</td>
<td>6</td>
<td>Friday</td>
<td>Last Day Drop Courses*</td>
</tr>
<tr>
<td>JULY</td>
<td>4</td>
<td>Friday</td>
<td>Independence Day Holiday</td>
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<tr>
<td></td>
<td>25-26</td>
<td>Fri-Sat</td>
<td>Final Exams</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

* Courses may be ADDED only prior to the second class meeting of any course
## GRADUATE PROGRAMS 2007-2008

(8-WEEK COHORT COURSE OFFERINGS)

### First Fall Term 2007

<table>
<thead>
<tr>
<th>AUG.</th>
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<th>Classes Begin</th>
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<tbody>
<tr>
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<td>24</td>
<td>Friday</td>
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<table>
<thead>
<tr>
<th>SEPT.</th>
<th>1-3</th>
<th>Sat-Mon</th>
<th>Labor Day Holiday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>Friday</td>
<td>Last Day to Withdraw from Courses</td>
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<table>
<thead>
<tr>
<th>OCT.</th>
<th>12-13</th>
<th>Fri-Sat</th>
<th>Final Exams</th>
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<tbody>
<tr>
<td></td>
<td>15</td>
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### Second Fall Term 2007

<table>
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<th>Friday</th>
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<td>Thurs-Sun</td>
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<th>Fri-Sat</th>
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### First Spring Term 2008

<table>
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<tbody>
<tr>
<td></td>
<td>29-1</td>
<td>Fri.-Sat.</td>
<td>Final Exams</td>
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<table>
<thead>
<tr>
<th>MAR.</th>
<th>3</th>
<th>Monday</th>
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<td></td>
<td>9</td>
<td>Friday</td>
<td>Commencement</td>
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### Summer Term 2008

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<th>31</th>
<th>Saturday</th>
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<td>6</td>
<td>Friday</td>
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<table>
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<th>Thursday</th>
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<td>Friday</td>
<td>Independence Day Holiday</td>
</tr>
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<td>25-26</td>
<td>Fri-Sat</td>
<td>Final Exams</td>
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* Courses may be ADDED only prior to the second class meeting of any course
# Graduate Engineering Programs 2007-2008

## (Full Semester Course Offerings)

### Fall Semester 2007

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
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<tbody>
<tr>
<td>AUG. 16</td>
<td>Thursday</td>
<td>President’s Workshop</td>
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<td>Friday</td>
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<td>Friday</td>
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<tr>
<td>15-19</td>
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<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>NOV. 1</td>
<td>Thursday</td>
<td>Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td>22-25</td>
<td>Thurs-Sun</td>
<td>Thanksgiving Holidays</td>
</tr>
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<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC. 7</td>
<td>Friday</td>
<td>Last Day of Classes</td>
</tr>
<tr>
<td>10-14</td>
<td>Mon-Thurs</td>
<td>Final Exams</td>
</tr>
<tr>
<td>17</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

### Spring Semester 2008

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>JAN. 7</td>
<td>Monday</td>
<td>First Day of Classes</td>
</tr>
<tr>
<td>11</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
</tr>
<tr>
<td>21</td>
<td>Monday</td>
<td>Martin Luther King Day - Holiday</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>FEB. 29</td>
<td>Friday</td>
<td>Last Day to Remove “I” Grades</td>
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<tr>
<td>MAR. 3-7</td>
<td>Mon-Fri</td>
<td>Spring Break</td>
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<tr>
<td>3</td>
<td>Monday</td>
<td>Mid-Term Grades Due 10:00 a.m.</td>
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<tr>
<td>20-24</td>
<td>Thur-Mon</td>
<td>Easter Holiday</td>
</tr>
<tr>
<td>25</td>
<td>Thursday</td>
<td>Last Day to Withdraw from Courses</td>
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<thead>
<tr>
<th>Date</th>
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<th>Event</th>
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<tbody>
<tr>
<td>APR. 28</td>
<td>Monday</td>
<td>Last Day of Classes</td>
</tr>
<tr>
<td>29</td>
<td>Tuesday</td>
<td>Study Day</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>APR-MAY 30-6</td>
<td>Wed-Tues</td>
<td>Final Exams (No Saturday Exams)</td>
</tr>
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<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>MAY 7</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
</tr>
<tr>
<td>9</td>
<td>Friday</td>
<td>Commencement</td>
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### Summer Semester 2008 (8 Weeks)

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
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<tbody>
<tr>
<td>MAY 31</td>
<td>Saturday</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>JUNE 6</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>JULY 3</td>
<td>Thursday</td>
<td>Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td>4</td>
<td>Friday</td>
<td>Independence Day Holiday</td>
</tr>
<tr>
<td>25-26</td>
<td>Fri-Sat</td>
<td>Final Exams</td>
</tr>
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*Courses may be added only prior to the second class meeting of any course*

**Presidential’s Workshop will be Thursday, August 14, 2008**
MASTER OF EDUCATION 2007-2008
(16-WEEK COURSE OFFERINGS)

Fall Semester 2007

AUG.
16 Thursday President’s Workshop
17 Friday Transfer Student Orientation
18-19 Sat-Sun New Student Orientation
20 Monday First Day of Classes
24 Friday Last Day to Add/Drop Courses

SEPT.
3 Monday Labor Day Holiday

OCT.
12 Friday Last Day to Remove “I” Grades
15-19 Mon-Fri Fall Break
15 Monday Mid-Term Grades Due 10:00 a.m.

NOV.
1 Thursday Last Day to Withdraw from Courses
22-25 Thurs-Sun Thanksgiving Holidays

DEC.
7 Friday Last Day of Classes
10-14 Mon-Thurs Final Exams
17 Monday Grades Due 10:00 a.m.

Spring Semester 2008

JAN.
7 Monday First Day of Classes
11 Friday Last Day to Add/Drop Courses
21 Monday Martin Luther King Day - Holiday

FEB.
29 Friday Last Day to Remove “I” Grades

MAR.
3-7 Mon-Fri Spring Break
3 Monday Mid-Term Grades Due 10:00 a.m.
20-24 Thur-Mon Easter Holiday
25 Thursday Last Day to Withdraw from Courses

APR.
28 Monday Last Day of Classes
29 Tuesday Study Day

APR-MAY
30-6 Wed-Tues Final Exams (No Saturday Exams)

MAY
7 Monday Grades Due 10:00 a.m.
9 Friday Commencement

Summer Semester 2008 (8 Weeks)

MAY
31 Saturday Classes Begin

JUNE
6 Friday Last Day to Add/Drop Courses

JULY
3 Thursday Last Day to Withdraw from Courses
4 Friday Independence Day Holiday
25-26 Fri-Sat Final Exams
28 Monday Grades Due 10:00 a.m.

* Courses may be ADDED only prior to the second class meeting of any course

President’s Workshop will be Thursday, August 14, 2008
### Fall Semester 2007

<table>
<thead>
<tr>
<th>AUG.</th>
<th>DAY</th>
<th>EVENT</th>
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<tbody>
<tr>
<td>16</td>
<td>Thursday</td>
<td>President’s Workshop</td>
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<tr>
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<td>Friday</td>
<td>Transfer Student Orientation</td>
</tr>
<tr>
<td>18-19</td>
<td>Sat-Sun</td>
<td>New Student Orientation</td>
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<tr>
<th>SEPT.</th>
<th>Monday</th>
<th>Labor Day Holiday</th>
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<td>12</td>
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**President’s Workshop will be Thursday, August 14, 2008**
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• Swashbuckler Fitness Center - Thomas Center (lower level, east)
— T —
• Tutoring - Barry Hall 39 (lower level)
— W —
• Writing Center - Plough Library (lower level)

RESIDENCE HALLS
Avery Apartments Capstone Apts. 170
Maurelian Hall O’Hara Hall
Pender Hall Rozier Hall
Stritch Hall
LASALLIAN COLLEGES AND UNIVERSITIES
SPONSORED BY
THE CHRISTIAN BROTHERS
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LEWIS UNIVERSITY
Romeoville, Illinois

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Riverdale, New York

SAINT MARY’S COLLEGE
Moraga, California

SAINT MARY’S UNIVERSITY
Winona, Minnesota