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

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

General Information

- President
- Vice President for Academic Affairs
- Vice President for Enrollment Management
- Vice President for University Administration
- Director of Athletics

Scholarships and Financial Aid
- Director of Student Financial Assistance

Payment of University Bills
- Director of Finance

Adult Professional Studies Applications and Information
- Dean of Adult Professional Studies

Graduate Education Applications and Information
- Dean of Graduate Studies

Graduate Program Applications and Information
- Director of Graduate Programs

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: https://www.cbu.edu

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

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

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

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MISSION STATEMENT

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

HERITAGE

Let us remember that we are in the holy presence of God. Live Jesus in our hearts... forever.

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

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

THE BROTHERS IN MEMPHIS

The De La Salle Christian Brothers arrived in Memphis in 1871 from Chicago, and immediately opened a Catholic school that, within a few years, contained elementary and secondary grades, college classes and granted graduate degrees. Christian Brothers College, as it was then, became the first Catholic college in West Tennessee. The First World War brought an end to the college program as men went off to war. The elementary school declined and closed in 1920, while the high school prevailed. The college came into existence once more in 1940, and moved to its current location on East Parkway South. In 1965, the high school program moved to its present location on Walnut Grove Road, and the college, later to become a university, stood alone on East Parkway. In 2000, the Brothers agreed to the request of the Diocese of Memphis to administer one of the Jubilee Schools, De La Salle/Blessed Sacrament. The circle was once more complete, with the Christian Brothers offering elementary, secondary and college programs with graduate degrees, continuing the tradition of committed Catholic education throughout the city of Memphis for more than 140 years.

OUR IDENTITY

Christian Brothers University is a Catholic university founded on the heritage of Lasallian education. While large enough to provide educational opportunities in the arts, business, education, engineering and sciences, the University is small enough to promote teaching as ministry and to provide substantial opportunities in the arts, business, education, engineering and sciences.

MISSION

TOUCHING HEARTS

INSTITUTIONAL GOALS

EDUCATING MINDS

1. CBU will provide the resources and expertise required to nurture and sustain the intellectual and academic formation of its students.

2. CBU will offer innovative, accessible programs and resources to ensure that all students are prepared for careers success.

TOUCHING HEARTS

1. CBU will provide faculty with the resources and expertise necessary to nurture and sustain the intellectual and academic formation of its students.

2. CBU will offer innovative, accessible programs and resources to ensure that all students are prepared for careers success.

REMEMBERING THE PRESENCE OF GOD

1. CBU will provide academic opportunities for students to investigate matters of faith and religious experience and will provide experiences in support of students' spiritual formation.

2. CBU will offer academic and enrichment experiences promoting Catholic and Lasallian heritage.

NOTICE OF NON-DISCRIMINATORY POLICY AS TO STUDENTS

Christian Brothers University does not discriminate on the basis of race, color, religion, sex, sexual orientation, national or ethnic origin, or disability, or in any of its education programs or activities, or in its employment or admissions policies.
Further information about the Counseling Center can be found at the University's website under Student Life (Student Counseling). Relevant reading and reference materials are available in the Counseling Center. Services of the University's consulting clinical psychologist are 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. Services of the University's consulting clinical psychologist are available by appointment through the Director of Counseling.

Further information about the Counseling Center can be found at the University's website under Student Life (Student Counseling).
POLICY ON CHILDREN ON CAMPUS

All veteran students are required to submit a DD214, military transcript, VA certificate of eligibility or notice of wishing to apply to Christian Brothers University should contact the Veterans Services Coordinator at (901) 321-3265 for information pertaining to particular courses of study. All veteran students are required to submit a DD214, military transcript, VA certificate of eligibility or notice of wishing to apply to Christian Brothers University should contact their local U.S. Department of Veteran Affairs Office for information on earned benefits. Veterans may realize his/her potential--intellectually, socially, and culturally. Contracts for residence hall living may be obtained from the Office of Student Life. Contracts will be considered complete only with the proper down payment on file with the Director of Residence Life and the Business Office. During the summer, requests for an assignment to a particular room or with a particular roommate will be honored whenever possible. Housing contracts filed by returning students during their published registration times will be given priority over new residents. Housing assignments are prioritized by class rank, years of residency, and date of completed contract. Housing assignments are made without regard to race, color, or national origin. Contracts with the appropriate deposit should be submitted to the Director of Residence Life by May 1.

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

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

Each resident is under the supervision of the Director of Residence Life, Resident Directors, and Resident Assistants. The residence hall staffs' duties include hall management, policy enforcement, and programming. For additional information about Residence Life, go to the Web site at http://www.cbu.edu/reslife/reslife.html. 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. Women's sports are volleyball, cross country, soccer, softball, basketball, golf, and tennis. Information regarding Equity in Athletics is available in the office of the Director of Athletics.

VETERANS SERVICES

Most programs and courses are approved for veterans' training. Registration is verified after the Add/Drop period. Veterans who wish to attend Christian Brothers University should contact their local U.S. Department of Veteran Affairs Office for information on earned benefits. Veterans wishing to apply to Christian Brothers University should contact the Veterans Services Coordinator at (901) 321-3265 for information pertaining to particular courses of study. All veteran students are required to submit a DD214, military transcript, VA certificate of eligibility or notice of basic eligibility. Veterans must maintain Veterans' Services every semester that they as well as when they withdraw from classes. No VA certification can be sent in unless the VA student fills out the Request for Verification Form in the Veteran's Services Office each semester that the VA student is enrolled.

POLICY ON CHILDREN ON CAMPUS

CBU recognizes that children under 18 years of age often accompany adults during visits to campus. To ensure the safety and security of children and to safeguard the educational and work environment of the University, no employee, student, or visitor may leave a child unattended. This policy includes all CBU facilities, grounds, and vehicles located in the CBU parking lots. Children are not permitted in classrooms except in emergency situations with permission of a faculty member.
The decision of the Admissions Committee may be appealed to the Academic Vice President upon the initiation of the Dean of Admissions or the Dean of Adult Professional Studies.
**CREDIT FOR MILITARY SERVICE AND SCHOOLING**

All post-secondary education/training included in military will be evaluated, and credit granted appropriately.

**ADVANCED PLACEMENT, INTERNATIONAL BACCALAUREATE, AND COLLEGE LEVEL EXAMINATION PROGRAMS**

Students who have successfully completed all 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 may be allowed for college courses sufficiently completed through the Defense Activity for Non-Traditional Education Support (Dantes-Military CLEP), subject to the usual rules involving credit of this nature. Christian Brothers will evaluate higher level International Baccalaureate course credit for students scoring between a 4 and 7. An official transcript from the IB school must be sent to CBU before credit can be evaluated. The maximum number of credit hours that can be granted through any combination of the above is 30.

Credit is usually granted for AP scores of 4 and 5. AP scores of 3 are evaluated by the Chair of the Department where the course resides. That 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 factors such 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 non-accredited institutions, believe that they might already possess knowledge comparable to that expected in certain courses may receive credit and placement based on acceptable scores of selected Subject Examinations administered by CLEP. Acceptable CLEP scores on specified exams are determined by individual departments. A student may not receive CLEP credit for any course which was previously failed either at Christian Brothers University or elsewhere.

Only official scores from Advanced Placement and CLEP are acceptable and must be sent to the Office of the Registrar. A final, official copy of the IB transcript from the high school involved in the International Baccalaureate Program must be sent to the Office of the Registrar after graduation from the high school. Accepted scores for AP CLEP and IB are posted on the CBU Web-site. [http://www.cbu.edu/registrar/courses.html](http://www.cbu.edu/registrar/courses.html)

**EXPERIENTIAL ASSESSMENT**

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

**COURSE CREDIT FOR EMPLOYER-BASED OR OTHER NON-ACADEMIC ORGANIZATION INSTRUCTION**

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

**REGISTRATION**

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

Students who have not completed advising 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 few weeks of class. Such late registration requires the payment of a fee of $250.00. An academic advisor is assigned to help counsel the student in course selection.

It is the student who is ultimately responsible for knowing and following the courses and graduation requirements published in the catalog.
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EXPENSES & FINANCIAL AID

2014-15 Academic Catalog

100% No Adjustment for 1st 8-Week Term Classes

Upon notification of acceptance, day applicants must submit an ENROLLMENT DEPOSIT of $300.00. This will ensure a place in the University.

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 Fee and Tuition Deposits) are non-refundable.

The following schedules apply to Fall & Spring Terms ONLY. Summer sessions and special workshops will be on a TBA basis.

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

Official Notification Date During the Semester: Percentage of Tuition

Drop/Add Period of Semester ............... 100%  
First 25% of 1st 8-Week Term .......... 50%  
26-60% of 1st 8-Week Term .......... 25%  
Over 60% of 1st 8-Week Term ........ No Adjustment  

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

Official Notification Date During First 8-Week Term: Percentage of Tuition

Drop/Add Period of 1st 8-Week Term .... 100%  
First 25% of 1st 8-Week Term .... 50%  
26-60% of 1st 8-Week Term .... 25%  
Over 60% of 1st 8-Week Term .... No Adjustment  

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

Official Notification Date During Second 8-Week Term: Percentage of Tuition

Drop/Add Period of 2nd 8-Week Term ... 100%  
First 25% of 2nd 8-Week Term ... 50%  
26-60% of 2nd 8-Week Term ... 25%  
Over 60% of 2nd 8-Week Term ... No Adjustment  

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

Official Notification Date During First or Second 8-Week Term: Percentage of Tuition

Drop/Add Period of 1st 8-Week Term .... 100%  
First 25% of 1st 8-Week Term .... 50% of 1st 8-Week Term Classes  
100% of 2nd 8-Week Term Classes  
25% of 1st 8-Week Term Classes  
26-60% of 1st 8-Week Term ... 25% of 1st 8-Week Term Classes  
Over 60% of the 1st 8-Week Term and Prior to the Beginning of the 2nd 8-Week Term ... No Adjustment for 1st 8-Week Term Classes  
75% of 2nd 8-Week Term Classes  
Drop/Add Period of 2nd 8-Week Term ... No Adjustment for 1st 8-Week Term Classes  
50% of 2nd 8-Week Term Classes  
First 25% of 2nd 8-Week Term ... No Adjustment for 1st 8-Week Term Classes  
25% of 2nd 8-Week Term Classes  
After 25% of 2nd 8-Week Term ... No Adjustment for 1st 8-Week Term Classes  
No Adjustment for 2nd 8-Week Term Classes  

* There is an administrative fee retained by CBU for all complete withdrawals. It is the lesser of a) $100.00 or b) 5% of Institutional Charges.

RETURN OF FEDERAL TITLE IV FUNDS

If a student completely withdraws from CBU, the unearned amount of Federal Financial funds must be returned to the appropriate Federal Financial Assistance programs. The unearned amount of the Federal Financial Assistance is calculated by dividing the number of days completed in the term 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 sixty percent (50%).
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 http://www.cbu.edu/financialaid/scholarship-policy.html for more information.

RETENTION OF SCHOLARSHIPS AND OTHER AID

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

NAMED SCHOLARSHIPS AND AWARDS

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

FINANCIAL ASSISTANCE

Christian Brothers University is committed to being a partner along with the student and family in financing a CBU education. Resources may also be available from the state or federal government or private donors. After acceptance to the University, students are encouraged to fill out the Free Application for Federal Student Aid (FAFSA) form and to submit this at www.fafsa.gov. Components of the financial aid package may include scholarships, academic awards, federal, University, or privately funded grants, federal, University or privately 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 Federal Aid Satisfactory Progress Policy and Letter of Scholarship renewal policy. This is available to students online. The Federal Government selects approximately 33% of those who apply for Title IV aid to go through a process of verification. This will be indicated on the Student Aid Report the student receives from the central processor and communicated to the student from the Financial Aid Office: Documents needed to complete the verification process (such as an IRS tax transcript) will be requested from the student. Policies concerning the verification process are available in the Student Financial Assistance Office.

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 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 64 for more details.

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

- American Studies
- Behavioral Sciences
- Biology
- Business Administration
- Chemistry
- Computer Science
- *Criminal Justice
- Criminology
- *Diversity Studies
- Economics
- Electrical Engineering
- Engineering Psychology

*CAPS majors/minors are specialized degree programs for students who have been admitted into the College of Adult Professional Studies. These programs are not offered for traditional students. For more information on these programs, please refer to the CAPS section of the catalog.
THE DAY PROGRAM
The DAY PROGRAM presents curricula leading to degrees in fields listed above except the BS in Nursing. The day program calendar is 16-weeks per semester as well as a summer session and two 5-week sessions in the summer.

ADULT PROFESSIONAL STUDIES PROGRAM (Refer to College of Adult Professional Studies section, pages 191-202)
The Adult Professional Studies Program presents a curriculum for a student which may be earned by their degree and attending classes at times compatible with full employment. Bachelor of Arts degrees offered at a Bachelor of Arts in Applied Psychology, Business, Early Childhood Education, and Special Education Modified K-12 and a Bachelor of Science in Nursing. Available concentrations in Applied Psychology are Organizational Psychology, Consumer Behavior and Criminal Justice. Thirty semester hours of credit may be earned in each academic year (six hours in each class eight-week term), making it possible for a student to complete all degree requirements in fewer than five years. Academic work transferred from other colleges will shorten this time proportionally.

The evening academic year is divided into four eight-week accelerated terms, which are bridged into two semesters. Students must enroll for both eight week terms at the beginning of the semester. In addition, there is one eight-week session in the summer. Most classes meet for one night per week usually beginning at 5:45 PM. Exams for the Monday or Tuesday classes are Friday of the last week of class and for the Wednesday or Thursday classes Saturday afternoon of the last week of class and Saturday classes having its exam takes place one week after the last session of classes to give a sufficient time between to prepare for the next term.

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

OFF-CAMPUS COURSES
After a student matriculates at Christian Brothers University, all courses must be taken at the University. The Dean of the School in which the student is majoring must approve any exception to this policy. Under certain circumstances, Christian Brothers University students may request to take courses at other regionally accredited colleges or universities, provided that the student is not repeating a course previously attempted at Christian Brothers University. CBU students who have attained junior status (60 or more credit hours) may request to take courses only at four-year regionally accredited colleges and universities, or through CBU-approved study abroad program.

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

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

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

For more information, please refer to http://www.cbu.edu/housing/livinglearningcenter.html

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 nature that may be tailored for acceptance by professional schools. In general, a Bachelor’s Degree in any field will be accepted as a prerequisite for admission to a professional school. Certain additional courses may be required by the various schools and programs. Interested students should, very early in their University career, consult the catalog of the school to which they will seek admission in order to determine these special requirements.

Pre-professional counselors are available on campus in addition to the student’s major advisor.

PRE-HEALTH (DENTISTRY, MEDICINE, PHARMACY, ETC.)
While a major in Biology, Biomedical Science, Biochemistry, Chemistry or Physics will probably be most advantageous for students preparing for these health 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 wish to 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 Biology, Embryology, Anatomy, Physiology, Psychology, Principles of Chemistry, Organic Chemistry, and Calculus. For further information, please visit our Web page at facstaff.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 Services. Students are also encouraged to participate in law school visitation days, recruitment interviews, and the Pre-Law Club.

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

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

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

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

B. Knowledge of religion, culture, society, and self
1. Knowledge of World Religions. Students will demonstrate an understanding of the influence of religion on individuals, cultures, and societies from both historical and contemporary perspectives.
2. Knowledge of Cultural and Global Issues. Students will demonstrate an understanding of personal, cultural, social, and global influences on the individual, cultures, and societies for the next level are knowledge of religion, culture, society, self, and knowledge of the natural world, the scientific method, and its application. At the peak of the pyramid are moral, ethical, and aesthetic principles.

THE PYRAMID OF LEARNING
At CBU, the goals for student learning have been grouped into four major areas, represented by a pyramid. The most basic goals are at the base of the pyramid: critical thinking, quantitative reasoning, and effective communication. At the next level are knowledge of religion, culture, society, self, and knowledge of the natural world, the scientific method, and its application. At the peak of the pyramid are moral, ethical, and aesthetic principles.

M. Limitations and Impacts of Science. Students will demonstrate an understanding of the nature and limits of the scientific method and its application to draw inferences from experimental data.

C. Knowledge of the natural world, the scientific method, and its application
1. Scientific Method. Students will demonstrate an understanding of the relationship between experimentation and theory, and will be able to draw inferences from experimental data.

D. Impacts of Science. Students will demonstrate an understanding of the nature and limits of the scientific method and the impact of science and technology on society.

MATRIX OF G.E.R. OUTCOMES
△ indicates this outcome is assessed in this category.
* indicates that this outcome is reinforced in some of the courses in this category.
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. Assessments also provide students with feedback that assists them in monitoring progress toward their own educational goals.

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. Assessment results also provide 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 Course-By-Course Assessment of Academic Programs (C3AP) 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. C3AP 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 Transfer Students

All new freshmen or Transfer students who have earned fewer than 12 hours are required to successfully complete an Orientation course. To qualify for a Bachelor’s Degree from Christian Brothers University, a student must complete all degree requirements as outlined while maintaining an overall Grade Point Average of at least 2.0 as well as a minimum average of 2.0 in satisfaction of major requirements. The 2.0 minimum Grade Point Average is also required in each of the optional minors. Specific course requirements in major and minor fields are listed under Degree Requirements for each school. Continuously enrolled students may graduate under the catalog in effect when they enter Christian Brothers University or any subsequent catalog. Students must notify the Registrar’s Office, the Dean of Academic Services, or the Dean of Adult Professional Studies when they want to upgrade to a subsequent catalog.

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

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

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 polices, 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 the student’s academic success, it is ultimately the student’s responsibility for meeting all stated requirements for the degree and the policies associated with the degree. All CBU students must have a CBU email address. The student is also responsible for any changes that might occur that are posted in the CBU Connection, sent through the official CBU email address, or posted to the University Web site; as these are the primary forms of communication with all students.

Fresh Start

Fresh Start is a system enabling former CBU students who encountered academic difficulty to return to the University and petition for a zero GPA. The petitioner must: (1) have been absent from all institutions of higher education for a period of at least five years and (2) have a minimum of 35 hours earned from Christian Brothers University. Upon returning to CBU, a student must complete a minimum of twelve semester hours with a cumulative GPA of 2.0 or higher. The student must submit a formal letter to the Vice President for Academics requesting an Academic Fresh Start during their second semester. The student is to explain their past academic record and any extenuating circumstances that may have contributed to their poor academic performance. As part of their appeal for an Academic Fresh Start, the student must explain the plans they have to make academic success. The student’s request for an Academic Fresh Start will be reviewed by the Vice President for Academics. Once the Academic Fresh Start is granted, the student will forfiit all earned credit prior to the Fresh Start. CBUs academic transcript will reflect all previous coursework with a notation beside it indicating an Academic Fresh Start. The academic transcript will also denote that the GPA and credits are based on work beginning with the date of the Academic Fresh Start. A student on financial aid must still meet the requirement for satisfactory progress in order to be eligible for financial assistance.

Course Load

Fall and Spring Semesters: Under normal conditions each student is expected to register for no fewer than 15 semester hours of credit per semester and not more than 18 hours per semester. Any student who registers for fewer than 12 hours of credit will be classified as a part-time student.

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, the course load is considered a full-time student, the student must be enrolled in at least 12 semester hours. In any one term, a student cannot enroll for more than 7 hours. A student may not register for more than a total of 14 hours without the written permission of the Dean of the School in which the student is majoring. If a student takes a school-sponsored trip immediately after the May graduation date and needs the course for graduation, he or she will be an August graduate. If the course is not needed for graduation, he or she may be a May graduate. Tuition for summer session courses is charged by the credit hour.

Class Attendance

Even though classes meet at designated times and not during lunchtime, 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 that is more stringent than the University’s. NB: Class attendance at CBU is recorded and students are assessed tuition based on the number of attendances recorded.
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, 36 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 restrictions on courses in the major area.
2. For optional minor, 50% of required courses must be taken at Christian Brothers University.
3. Only courses with grades of "C" or better (2.0 on a 4.0 scale) will be accepted for transfer from other accredited institutions.
4. Only the hours of credit in accepted courses will be posted on the student’s permanent record with no grade point average transferring from other institutions.
5. Permission to take any courses off-campus must be received prior to the approval of the student’s department chair, Dean of the School, and the Associate Registrar.

Wavers to any of these requirements must be made through the Vice President for Academics.

Technology intensive courses that are over seven (7) years old are subject to review and may not be applicable towards the major; however, such courses may be used as free electives in the overall program.

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

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. Only semester grades are kept on permanent record. For the purpose of computing grade point 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 PER CREDIT HOUR</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 - 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 "I" is used to indicate passing, and the mark "P" 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 "I" are marks that are used also in some non-credit courses.

"W" indicates a student withdraw from a course without penalty. "NIK" grade is given when an instructor fails to turn in a grade report. Instructors will penalize a student for failing to submit required work. Alternatively, an instructor may agree to give a student a temporary grade of "I" if all required work is submitted within a reasonable time. Instructors are under no obligation to agree to give a grade of "I". The grade of "I" can only be given after the student, the instructor, and the dean of the particular school in which the incomplete grade is being given sign an "Incomplete Grade Contract" specifying the work to be completed and return it to the Registrar's Office for the posting of the incomplete grade. Incompletes can only be given if the paperwork is completed at least one week prior to the deadline for entrance to the next class. Exceptions to this deadline may only be made by the Dean of Academic Services (day students) or the Associate Registrar (APS students). These will only be granted for a documented illness, a serious family emergency, or another issue of comparable magnitude. Requests made by students for an exception to this deadline must be received by the Dean of Academic Services or Associate Registrar by the last day of exams. The "I" grade will not be computed in the GPA. When the "I" is changed to a grade the final grade will be calculated in the final GPA, and the "I" will show next to the new grade. The "I" grade does not satisfy the prerequisite if the course is needed to continue to the next course. The grade is changed to "IP" if all the work is not completed by the mid-term of the following semester for day courses or the end of the following term for evening courses. The "Incomplete Grade Contract" form is available online at http://www.cbu.edu/studentlife/compass.html through the Registrar's Office.

Failure to attend a class or ceasing to attend a class does not constitute a drop, and a grade of "I" will be recorded.

Grade Changes
A change in grade, other than the removal of an incomplete 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.

Grade Appeals
A student who has evidence that he or she has been assigned a final grade in a capricious, prejudicial, or arbitrary manner may appeal the assigned grade within two weeks after the beginning of the subsequent academic semester (or term). The student should file for a grade appeal formally in the Academic Affairs Office. Then, the student should discuss the grade in question with the instructor involved. If not satisfied, the undergraduate student should discuss the situation with his advisor, the graduate student with his graduate director. The student should discuss the matter with the Department Chair of school. If still not satisfied, the request is resolved in the student’s matter to the Dean of the appropriate school. If the matter remains unresolved, the student may then appeal the case to the Grade Appeals Committee. The judgment of the Committee is final.

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

Course Audit
Students may register to audit courses, only during the first week of school, with the approval of the advisor (special students are assigned to the department chair) and the instructor. 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” grade 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 earned a minimum of 12 hours with a grade point average of 3.50 or级以上 to a 3.69 will be awarded honors of MAGNA 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 3.49 will be awarded honors of CUM LAUDE.

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

Graduation Honors
A graduating student who has attained a Grade Point Average of 3.70 to 4.00 will be awarded honors of SUMMA CUM LAUDE. A graduating student who has attained a Grade Point Average of 3.50 to 3.69 will be awarded honors of MAGNA CUM LAUDE. A graduating student who has attained a Grade Point Average of 3.20 to 3.49 will be awarded honors of CUM LAUDE.

Academic Continuation
To be eligible to continue at Christian Brothers University, a student must maintain a cumulative Grade Point Average (GPA) at or above the minimum acceptable level shown in the following chart:
To receive an honorable academic dismissal a student must either remain until the end of the semester or obtain written permission from the Dean for Probation. A student who does not attain the minimum acceptable 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 GPA during the probationary semester and does not attain a semester GPA of 2.00, the student has failed probation and will be suspended from the University for one semester (Fall or Spring). Any student who has been suspended because of a failing average will not be eligible to reenter the University until he or she has stayed out at least one semester (Fall or Spring). Credits earned during the semester of suspension because of academic probation are not transferable for re-entry into the University. After the suspension semester, the student may supply to the University; however, readmission is not guaranteed.

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

Technology intensive courses that are over seven (7) years old are subject to review and may not be applicable towards the major; however, such courses may be used as electives in the overall program.

Students who have 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.

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

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

DROPPING, ADDING, WITHDRAWING
Students are allowed a certain number of days at the beginning of each semester to try out their courses and alter their schedule 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 and may add no new courses. Such courses will be entered on the permanent record with the mark of “W.” The last day for withdrawing from a course is also listed in the University Calendar posted on the CBU Web site.

All withdrawals, both partial and complete, must be made by the student through the Office of the Registrar. A student requesting to withdraw must notify the Office of the Registrar of the withdrawal by completing the online “Withdrawal” form on the Registrar’s Web page at https://fina.cbu.edu/registrar/withdrawal/. If a student requests a “complete withdrawal” from all classes, all work for the semester will be dropped and the student’s academic progress will be reset to the point of enrollment. The student’s academic progress for the semester will be set to the course enrollment status, classification (level), photo, electronic images, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received, the most recent previous educational institution attended by the student, and any other information needed by the University to comply with the Family Educational Rights and Privacy Act of 1974. All fees will be refunded in full if a student withdraws by the last day for enrollment. Withdrawals received after the last day for enrollment will not be eligible for a refund of fees.

RHODES COLLEGE LANGUAGE COURSES
Through an agreement with Rhodes College, full-time students at Christian Brothers University have the opportunity (on a space-available basis) to enroll in specific language courses taught at Rhodes College that provide the requisite requirements. There is no additional charge to full-time students for courses taken at another consortium school except for course/labouratory/supplies required specifically for the registered course. Students taking courses during summer sessions are not covered by the consortium agreement. To be eligible to take classes at any consortium schools under the consortium agreement, students taking undergraduate courses must take 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 or CBU to be considered full-time. While in some cases, students categorized as graduate students under the consortium agreement, students taking undergraduate courses must have at least twelve (12) of these undergraduate hours are required to be taken at CBU in order consider full-time status for Consortium purposes. If a student is taking a mix of undergraduate and graduate courses, at least twelve (12) hours are required to be considered full-time.

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

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

INTER-COLLEGE COOPERATIVE PROGRAM:
(Greater Memphis Consortium): Christian Brothers University is a charter member of the Greater Memphis Consortium. The other participating colleges are: LeMoyne-Owen College, Memphis College of Art, and Memphis Theological Seminary. Each college is represented by each full-time student in good standing majoring in a discipline offered by a single college. Students are limited to one upper division course per semester, and all students may maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students must maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses. RN to BSN students to maintain a 2.0 grade point average overall and earn a grade of C or better in all nursing courses.

HUM 498, Honors Capstone, graduating with a 3.2 GPA, and participating in the required number of Honors Program activities each semester. The Compass, located at http://www.cbu.edu/studentlife/compass.html.

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 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 number, email address, major field of study, enrollment status, classification (level), photo, electronic images, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received, the most recent previous educational institution attended by the student, and any other information needed by the University to comply with the Family Educational Rights and Privacy Act of 1974. All fees will be refunded in full if a student withdraws by the last day for enrollment. Withdrawals received after the last day for enrollment will not be eligible for a refund of fees.
STUDY ABROAD PROGRAM: Christian Brothers University views study abroad as a challenging educational and cross-cultural experience. Additionally, research confirms that in today's global economy, exploring one's worldview enhances employment opportunities. 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, economic 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, semester or travel study (short trip), in consultation with their Academic Advisor and the Director of International Initiatives. Travel Study trips are open to all students with approval of the Director of International Initiatives. Final approval for semester study abroad comes from the student's advisor, the Department Chair of the student's major, and the Director of International Initiatives. Requirements for semester study abroad include:

1. Sophomore year standing or higher.
2. Minimum cumulative GPA and major GPA of 2.5.
3. Brief essay outlining the student's goals for study abroad.
4. Any additional requirements of the specific program.

Information may be obtained from the Director of International Initiatives at (901) 321-3461 or studyabroad@cbu.edu.
MISSION
To advance the LaSallian synthesis of knowledge and service by teaching students to think, communicate, evaluate, and appreciate.

OVERVIEW
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:

B EHAVIORAL SCIENCES which includes study in Psychology and Sociology as well as Anthropology and Criminal Justice. The department offers a BA degree in both Applied Psychology and Psychology and minors in Behavioral Sciences, Criminology, Engineering 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 44 for details).

VISUAL & PERFORMING ARTS which includes studies in Art, Speech, and Theatre. The department offers a BFA in Visual Art with concentrations in Graphic Design, Studio Arts, and Art Therapy and minors in Art and Theatre Arts. Courses are offered under the following headings: Art, Speech, and Theatre.

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

LITERATURE & LANGUAGES which offers majors and minors in English, a major in English for Corporate Communications, a major in Creative Writing and minors in French and Spanish.

RELIGION & PHILOSOPHY which offers courses under the headings of Humanities, Philosophy, and Religious Studies, and programs in Peace Studies and Women’s Studies. The Religion & Philosophy major offers concentrations in Philosophy and Religion; the history and disciplines 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 serves to provide opportunities for students to make conscious connections between specialized learning and basic human concerns and to build a durable foundation for lifelong learning.
Core courses seek the development of skills in different forms of inquiry, abstract logical thinking, critical analysis and informed judgment. Particular emphasis is placed on the development of the ability to bring what one has learned in one context to another, from one discipline to another, and from one community to another. These goals are sought within an atmosphere of free inquiry, dialogue, and interfaith concern.

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

### Foreign Language Cluster

A Foreign Language course must be chosen from a single language: Chinese, French, German, Greek, Latin, Russian or Spanish. Students must pass a foreign language course at the 202 level. If this requires less than 12 hours credit, course work as determined by a placement test, the remaining hours are free electives. Students may request a challenge exam for courses at the 202 level (or higher) in a foreign language. Challenge exams are not offered for foreign language courses below the 202 level, but students may take a placement test upon enrollment or anytime thereafter. For foreign languages not offered at CBU, please contact the chair of Literature and Languages to determine placement and credit options.

### Humanities Cluster

- **VISUAL PERFORMING ARTS** (3 hours)
  - Any combination of Art or Theatre courses except ART 475 or THEA 475

- **PHILOSO PH OR HUMANITIES** (3 hours)
  - HUM 150, 200, 210, 498, GS 200, PHIL 246, 568 or 498

- **LITERATURE** (3 hours)
  - ENG 212, 221, 222, 231, 315, 331, 352, 339, 340, 341, 342, 343, 351, 352, 354, 361, 362, 376, 432, 440, 441, 442, 443, 444, 445, 446, 447 or 450

- **HISTORY** (6 hours)
  - Any HIST except HIST 498 or 499

- **Social Science Cluster**

  - **POLITICAL SCIENCE** (3 hours)
    - Any POLS Course

  - **BEHAVIORAL SCIENCE (PSYC, ANTH, SOC)** (3 hours)
    - Any PSYC, ANTH or SOC Course except PSYC 110

*One course from Humanities or Social Science clusters must have a "global perspective". Choose from ANTH 160, ART 101, 211, 212, ENG 231, 232, HIST 107, 108, HUM/GS 200, PHIL 324, 325, POLS 115, 117, RS 270, 355 or 360.

### General Education Requirements

### Liberal Arts Core Requirements

### Applied Psychology Major Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td></td>
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</tr>
<tr>
<td>English Composition I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td></td>
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<tr>
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<td>Religion Studies</td>
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<td></td>
</tr>
<tr>
<td>Social Science or History</td>
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<tr>
<td>Social Science or History</td>
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<tr>
<td>Natural or Physical Science</td>
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<tr>
<td>Moral Values</td>
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<tr>
<td>Aesthetics</td>
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### Total Hours for Liberal Arts Core

33

### Applied Psychology Major Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDIT</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Introduction to Sociology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cultural Anthropology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychology Colloquium</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fundamentals of APA Writing Style &amp; Ethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychopathology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Correlational Research Methods &amp; Statistics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cognitive Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Practicum in Psychology</td>
<td>3</td>
<td></td>
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<tr>
<td>Psychology Comprehensive</td>
<td>0</td>
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</tbody>
</table>

### Total Hours for Apps Major

31

### Core, PSYC or Consumer Behavior Concentration Requirements

### Total Major & Concentration Requirements

61

### Total Credits Required for Bachelor Degree Completion

122

### 2.0 Cumulative GPA Required

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## Concentration Requirements for Bachelor of Arts in Applied Psychology

All Applied Psychology majors are required to select one of the following concentrations:

### Consumer Behavior Concentration (CBKh)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Microeconomics</td>
<td>ECON 214</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>ECON 215</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Marketing</td>
<td>MGMT 311</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Marketing Research &amp; Intelligence</td>
<td>MGMT 324</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Market &amp; Consumer Behavior</td>
<td>MGMT 314</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Selling &amp; Sales Management</td>
<td>MGMT 338</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Promotional Strategy</td>
<td>MGMT 433</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Problem Solving &amp; Decision Making</td>
<td>PSYC 305</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Human Factors</td>
<td>PSYC 306</td>
<td>3</td>
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<tr>
<td>Psychology of Persuasion</td>
<td>PSY 450</td>
<td>3</td>
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</tbody>
</table>

**Total Hours for CBKh Concentration**: 30

### Organizational Psychology Concentration (OPSy)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Law</td>
<td>BLAW 301</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>ECON 214</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>ECON 215</td>
<td>3</td>
<td></td>
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<tr>
<td>International Business</td>
<td>MGMT 320</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Organizational Behavior &amp; Management or Principles of Organization &amp; Management</td>
<td>MGMT 412</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>MGMT 311</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Industrial &amp; Organizational Psychology</td>
<td>PSYC 305</td>
<td>3</td>
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<tr>
<td>School of Business Elective</td>
<td>School of Business Elective</td>
<td>3</td>
<td>Choose from MGMT 352 or MGMT 337</td>
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</table>

**Total Hours for OPSy Concentration**: 30

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## Concentration Requirements for Bachelor of Arts in Creative Writing

### General Education Requirements: *(Refer to page 24 for Course Options)*

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CRWT 101</td>
<td>3</td>
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<tr>
<td>Mathematics</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 211</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 212</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 220</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>#</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musical Values</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>#</td>
<td>3</td>
<td>Fulfilled by English Literature GER</td>
</tr>
</tbody>
</table>

**Total Hours for GER**: 22

### Liberal Arts Core Requirements: *(One Course from Social Sciences or Humanities Cluster Must have a "Global Perspective" Refer to Page 35 for course options)*

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
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<tbody>
<tr>
<td>Foreign Language</td>
<td>ENG 315</td>
<td>3</td>
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<tr>
<td>Fine Arts</td>
<td>ENG 401</td>
<td>3</td>
<td>Must Be in a Single Language</td>
</tr>
<tr>
<td>Literature</td>
<td>ENG 402</td>
<td>3</td>
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</tr>
<tr>
<td>Philosophy / Humanities</td>
<td>ENG 473</td>
<td>3</td>
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<tr>
<td>History</td>
<td>ENG 474</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Behavioral Science</td>
<td>ENG 475</td>
<td>3</td>
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<tr>
<td>Political Science</td>
<td>ENG 476</td>
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</table>

**Total Hours for Liberal Arts Core**: 33

### School of Arts Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>History Upper Level Course</td>
<td>PHL 301</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Introduction to Logic</td>
<td>PHL 301</td>
<td>3</td>
<td>May Not Take HIST 401 or 402</td>
</tr>
<tr>
<td>Ancient, Modern or Contemporary Philosophy</td>
<td>PHL 301</td>
<td>3</td>
<td>Choose From PHL 317, 318 or 320</td>
</tr>
</tbody>
</table>

**Total Hours for Support Requirements**: 9

### Creative Writing Major Requirements: *(2.0 GPA in Major Required)*

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Gateway Course for Majors</td>
<td>ENG 215</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 220</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
<td></td>
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<tr>
<td>Creative Writing</td>
<td>ENG 477</td>
<td>3</td>
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<tr>
<td>Jr Seminar Creative Writing Majors</td>
<td>ENG 478</td>
<td>1</td>
<td>May Take ENG 479</td>
</tr>
<tr>
<td>Sr Project Creative Writing Majors</td>
<td>ENG 481</td>
<td>3</td>
<td>If Completed ENG 479, May Take ENG 480</td>
</tr>
<tr>
<td>Creative Writing Major Courses</td>
<td>ENG 482</td>
<td>3</td>
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</tbody>
</table>

**Total Hours for Creative Writing Major**: 48

### School of Arts Major-Specific Electives: *(Elective hrs. must be outside the student’s major. Only 3 hrs. of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hrs. in English at CBU.)*

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-Specific Electives</td>
<td>ENG 490</td>
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</table>

**Total Hours for Major-Specific Electives**: 9

**Total Credits Required for Bachelor Degree Completion**: 122

2.0 Cumulative GPA Required
**Course Requirements for Bachelor of Arts in English**

**General Education Requirements:** (If - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBN</td>
<td>CBN 101</td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>Statistics</td>
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<td>English Composition I</td>
<td>ENG 111</td>
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<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
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<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>#</td>
<td>4</td>
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</tr>
<tr>
<td>Visual Arts</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>#</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Visual Arts</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>#</td>
<td>3</td>
<td>Fulfilled by English Literature GER</td>
</tr>
</tbody>
</table>

**Total Hours for GER**

|  | 22 |

**Liberal Arts Core Requirements:** (*One Course from Social Sciences or Humanities Cluster Must Have a "Global Perspective" - Refer to Page 35 for course options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language</td>
<td>ENG 211</td>
<td>3</td>
<td>Must Be in a Single Language</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>ENG 212</td>
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<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Literature</td>
<td>ENG 221</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Philosophy / Humanities</td>
<td>ENG 222</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>ENG 223</td>
<td>3</td>
<td></td>
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<tr>
<td>Behavioral Science</td>
<td>ENG 224</td>
<td>3</td>
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<tr>
<td>Political Science</td>
<td>ENG 225</td>
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**Total Hours for Liberal Arts Core**

|  | 33 |

**School of Arts Support Requirements**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
<th>Notes</th>
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<tr>
<td>History Upper Level Course</td>
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<td>May Not Take HIST 401 or 402</td>
</tr>
<tr>
<td>Introduction to Logic</td>
<td>ENG 227</td>
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<tr>
<td>Ancient, Modern, or Contemporary Philosophy</td>
<td>ENG 228</td>
<td>3</td>
<td>Chosen From PHIL 317, 318 or 320</td>
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</tbody>
</table>

**Total Hours for Support Requirements**

|  | 9 |

**English Major Requirements:** (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
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<td></td>
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<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
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<tr>
<td>English Literature</td>
<td>ENG 222</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Gateway Course for Majors</td>
<td>ENG 223</td>
<td>3</td>
<td></td>
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<tr>
<td>Sr. Seminar for English Majors</td>
<td>ENG 224</td>
<td>3</td>
<td></td>
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<tr>
<td>Sr. Seminar for English Majors</td>
<td>ENG 225</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-Level English Courses</td>
<td>ENG 226</td>
<td>3</td>
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<tr>
<td>Group 1 Upper-Division English Major Courses</td>
<td>ENG 227</td>
<td>3</td>
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<tr>
<td>Group 2 Upper-Division English Major Courses</td>
<td>ENG 228</td>
<td>3</td>
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<tr>
<td>Group 3 Upper-Division English Major Courses</td>
<td>ENG 229</td>
<td>3</td>
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<tr>
<td>Group 3 Upper-Division English Major Courses</td>
<td>ENG 230</td>
<td>3</td>
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<tr>
<td>Group 4 Upper-Division English Major Courses</td>
<td>ENG 231</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Group 5 Upper-Division English Major Courses</td>
<td>ENG 232</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Group 6 Upper-Division English Major Courses</td>
<td>ENG 233</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Group 7 Upper-Division English Major Courses</td>
<td>ENG 234</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Group 8 Upper-Division English Major Courses</td>
<td>ENG 235</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours for English Major**

|  | 46 |

**School of Arts Major-Specific Electives:** (Each Elective must be outside the student’s major. Only 3 hrs. of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hrs. in English at CBU)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-Specific Electives</td>
<td>ENG 315</td>
<td>3</td>
<td></td>
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</table>

**Total Hours for Major-Specific Electives**

|  | 12 |

**Total Credits Required for Bachelor Degree Completion**

|  | 122 |

**2.0 Cumulative GPA Required**

**Course Requirements for Bachelor of Arts in English for Corporate Communication**

**General Education Requirements:** (If - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBN</td>
<td>CBN 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>ENG 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>STAT 211</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>#</td>
<td>4</td>
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</tr>
<tr>
<td>Visual Arts</td>
<td>#</td>
<td>3</td>
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</tr>
<tr>
<td>Social Science</td>
<td>#</td>
<td>3</td>
<td></td>
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<tr>
<td>Natural or Physical Science</td>
<td>#</td>
<td>4</td>
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<td>Visual Arts</td>
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**Total Hours for GER**

|  | 22 |

**Liberal Arts Core Requirements:** (*One Course from Social Sciences or Humanities Cluster Must Have a "Global Perspective" - Refer to Page 35 for course options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language</td>
<td>ENG 211</td>
<td>3</td>
<td>Must Be in a Single Language</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>ENG 212</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Literature</td>
<td>ENG 221</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Philosophy / Humanities</td>
<td>ENG 222</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>ENG 223</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Behavioral Science</td>
<td>ENG 224</td>
<td>3</td>
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<tr>
<td>Political Science</td>
<td>ENG 225</td>
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**Total Hours for Liberal Arts Core**

|  | 33 |

**School of Arts Support Requirements**

<table>
<thead>
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<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>History Upper Level Course</td>
<td>ENG 226</td>
<td>3</td>
<td>May Not Take HIST 401 or 402</td>
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<tr>
<td>Introduction to Logic</td>
<td>ENG 227</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ancient, Modern, or Contemporary Philosophy</td>
<td>ENG 228</td>
<td>3</td>
<td>Chosen From PHIL 317, 318 or 320</td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 222</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Gateway Course for Majors</td>
<td>ENG 223</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Business Communications</td>
<td>ENG 371</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Scientific &amp; Technical Writing</td>
<td>ENG 375</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper-Level Literature Courses</td>
<td>ENG 499</td>
<td>3</td>
<td></td>
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</table>

**Total Hours for Support Requirements**

|  | 15 |

**English for Corporate Communication Major Requirements:** (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 221</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 222</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Gateway Course for Majors</td>
<td>ENG 223</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Business Communications</td>
<td>ENG 371</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Scientific &amp; Technical Writing</td>
<td>ENG 375</td>
<td>3</td>
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</tr>
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</table>

**Total Hours for English for Corporate Communication Major**

|  | 60 |

**School of Arts Major-Specific Electives:** (Each Elective must be outside the student’s major. Only 3 hrs. of cross-listed courses may be used to satisfy Major Requirements. Transfer students must take half of their upper-level hrs. in English at CBU)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-Specific Electives</td>
<td>ENG 315</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours for Major-Specific Electives**

|  | 6 |

**Total Credits Required for Bachelor Degree Completion**

|  | 121 |

**2.0 Cumulative GPA Required**
### General Education Requirements (4 - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>HIST 498 or 499</td>
<td>3</td>
<td>Must be in a single language</td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENGL 111</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENGL 112</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Literature</td>
<td></td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS 200 Level</td>
<td></td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS 300 Level</td>
<td></td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Social Sciences / History</td>
<td>HIST 151</td>
<td>3</td>
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<td>Social Sciences / History</td>
<td>HIST 152</td>
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<td>Fulfilled by Major Requirements</td>
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<tr>
<td>Natural or Physical Science</td>
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<td>3</td>
<td>Fulfilled by Major Requirements</td>
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<tr>
<td>Aesthetics</td>
<td></td>
<td>4</td>
<td>Fulfilled by English Literature GER</td>
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**Total Hours for GER:** 25

### General Education Requirements (4 - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
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<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>PSYC 354</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENGL 112</td>
<td>3</td>
<td>May Also Take ENG 232</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENGL 112</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>English Literature</td>
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<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS 200 Level</td>
<td></td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Religious Studies - RS 300 Level</td>
<td></td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Social Sciences / History</td>
<td>SOC 101</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Social Sciences / History</td>
<td>PSYC 105</td>
<td>3</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Natural or Physical Science</td>
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<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Aesthetics</td>
<td></td>
<td>3</td>
<td>Fulfilled by English Literature GER</td>
</tr>
</tbody>
</table>

**Total Hours for GER:** 25

### Psychology Major Requirements - 2.0 GPA in Major Required

<table>
<thead>
<tr>
<th>COURSE</th>
<th>NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Psychology</td>
<td>SOC 101</td>
<td>3</td>
<td>Grade of “C” or Better Required</td>
</tr>
<tr>
<td>Psychological Anthropology</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychology Colloquium</td>
<td>PSYC 101</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Human Development</td>
<td>PSYC 218</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>PSYC 239</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biological Psychology</td>
<td>PSYC 225</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Fundamentals of WR Writing Style &amp; Ethics</td>
<td>PSYC 235</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>PSYC 317</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Psychology</td>
<td>PSYC 353</td>
<td>3</td>
<td>Grade of “C” or Better Required</td>
</tr>
<tr>
<td>Correlational Research Methods &amp; Statistics</td>
<td>PSYC 354</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Experimental Research Methods &amp; Statistics</td>
<td>PSYC 355</td>
<td>3</td>
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<tr>
<td>Cognitive Psychology</td>
<td>PSYC 440</td>
<td>3</td>
<td></td>
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<tr>
<td>Practice in Psychology</td>
<td>PSYC 460</td>
<td>3</td>
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<tr>
<td>Psychology Comprehives</td>
<td>PSYC 497</td>
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<tr>
<td>Behavioral Science Elective</td>
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<tr>
<td>Behavioral Science Non-Psychology Elective</td>
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**Total Hours for Psychology Major:** 49

### Psychology Major Specific Electives

<table>
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<th>COURSE</th>
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<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Electives</td>
<td></td>
<td>15</td>
<td>Must Be in PSYC &amp; One Must Be Outside of PSYC, SOC, ANTH or CJ</td>
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</table>

**Total Credits Required for Bachelor Degree Completion:** 121

2.0 Cumulative GPA Required
### General Education Requirements: (Ref. to page 24 for Course Options)

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Seminar</td>
<td>PHIL 300-Level (or Higher)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy / Topics</td>
<td>PHIL 200-Level (or Higher)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any 3 RS Courses in Major Requirements</td>
<td>PHIL 200-Level or Higher</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>PHIL 200-Level (or Higher)</td>
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<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>PHIL 200-Level (or Higher)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>PHIL 200-Level (or Higher)</td>
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<td></td>
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<tr>
<td>Any 3 RS Courses in Add to Major Requirements</td>
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</tr>
<tr>
<td>Philosophy / History</td>
<td>PHIL 497</td>
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<tr>
<td>Philosophy / Topics</td>
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### School of Arts Support Requirements

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Social Studies - RS (200-Level)</td>
<td>CBU 101</td>
<td>12</td>
<td>Must be in a Single Language.</td>
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<tr>
<td>Fine Arts</td>
<td>ENG 111</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy / Humanities</td>
<td>ENG 113</td>
<td>4</td>
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</tr>
<tr>
<td>History - U.S.</td>
<td>HIST 107</td>
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<tr>
<td>History - Non-U.S.</td>
<td>HIST 108</td>
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<tr>
<td>Behavioral Science</td>
<td>PSYC 201</td>
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<tr>
<td>Political Science</td>
<td>PSYC 202</td>
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<tr>
<td>TOTAL HOURS FOR LIBERAL ARTS CORE</td>
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### School of Arts Support Requirements

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Political Science</td>
<td>PSYC 201</td>
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</tr>
<tr>
<td>Senior Seminar</td>
<td>PSYC 497</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Senior Project</td>
<td>PSYC 498</td>
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### School of Arts Major-Specific Electives

<table>
<thead>
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<th>Course Requirements</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Electives</td>
<td>ENG 111</td>
<td>18</td>
<td>15 Hours Must Be in Courses Outside of Major</td>
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<tr>
<td>TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION</td>
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</table>

2.0 CUMULATIVE GPA REQUIRED
## General Education Requirements: (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>MATH 121</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENGL 111</td>
<td>3</td>
<td>May Also Take ENGL 231</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENGL 112</td>
<td>3</td>
<td>If Completed ENGL 231, May Take ENGL 232</td>
</tr>
<tr>
<td>English Literature</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Moral Values</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
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## Liberal Arts Core: (*One Course from Social Sciences or Humanities Cluster Must Have a “Global Perspective” Refer to Page 35 for course options)

<table>
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<tr>
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<tr>
<td>Foreign Language</td>
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<td>Must be in a Single Language.</td>
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<tr>
<td>Philosophy / Humanities</td>
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<tr>
<td>History</td>
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<td>6</td>
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<td>Behavioral Science</td>
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<tr>
<td>Political Science</td>
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## Visual Arts Major Requirements: (Visual Art Concentration Required/2.0 GPA in Major Required)

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<td>2-D Design</td>
<td>ART 102</td>
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<td>Drawing I</td>
<td>ART 111</td>
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<td>Concepts &amp; Creation in the Visual Arts</td>
<td>ART 209</td>
<td>3</td>
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<td>3-D Design</td>
<td>ART 204</td>
<td>3</td>
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<tr>
<td>World Art History I</td>
<td>ART 211</td>
<td>3</td>
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<tr>
<td>World Art History II</td>
<td>ART 212</td>
<td>3</td>
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<tr>
<td>Figure Drawing / Dr Drawing II</td>
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<td>3</td>
<td>Choose from ART 233 or 300</td>
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<td>Art History elective</td>
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<td>3</td>
<td>Choose from ART 233 or 300</td>
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<td>Introduction To Printmaking</td>
<td>ART 310</td>
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<td>Beginning Digital Imaging / Lab</td>
<td>ART 314</td>
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<tr>
<td>Senior Seminar (Graphic Design)</td>
<td>ART 476</td>
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<td>ART 475 for Non-Graphic Design Majors</td>
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<td>TOTAL HOURS FOR VISUAL ARTS MAJOR</td>
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## Art Therapy, Graphic Design and Studio Arts Concentration Requirements

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## Total Major & Concentration Requirements

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## School of Arts Major-Specific Electives

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<td>TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION</td>
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## 2.0 Cumulative GPA Required

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MINORS WITHIN THE SCHOOL OF ARTS

MINOR IN AMERICAN STUDIES: A minor in American Studies consists of 18 hours including POLS 112, 4 hours required from ENG 331, 332, 341, 342, 361, 3 hours from RS 340 or 320, and 6 hours from HIST 342, 343, 345, 346, 347, 348, 349, 351, 375, or 490-497 (special topics, American History courses).

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

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

MINOR IN ENGINEERING PSYCHOLOGY: A minor in Engineering Psychology requires 30 credit hours including PSYC 105, 225, 306, 359, 440 and 15 hours of Engineering courses. A student may not minor in both Engineering Psychology and Behavioral Science.

MINOR IN FOREIGN LANGUAGE: A minor in Foreign Language requires 12 credit hours above the 200 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 300 level. A student who is proficient in more than one foreign language may choose to pursue a minor in each language, but the total number of credit hours required for the minor cannot exceed 18 hours.

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

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

MINOR IN PEACE STUDIES: A minor in Peace Studies requires eight credit hours. Please note the following requirements: (1) at least 6 of the 8 hours must be at the 300 level or above; (2) no more than 6 hours may be at the 100 level; (3) courses must be taken in at least two different disciplines; (4) no more than 12 of the 18 hours may be taken in any one department; (5) at least 5 hours must be in Religious Studies; and (6) these hours must be chosen from the following courses: ANTH 160; GEOG 280, 340; GS 200; HIST 336, 339, 340, 341, 342, 343, 346, 377; PHIL 219; POLS 112, 213, 340, 350, 370, 378; PSYC 355; RS 254, 270, 320, 330; SOC 101. (Note: The Religion & Philosophy Department has oversight of the Minor in Peace Studies).

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

MINOR IN POLITICAL SCIENCE: A minor in Political Science consists of 18 hours distributed as follows: 3 hours in Political Science (Students must take POLS 112 and either POLS 113 or POLS 115 required), 3 hours required from either PHIL 219 or PHIL 220, 6 hours chosen from Political Science and/or the following: ECON 215, GS/HUM 200, PHIL 219, PHIL 220, RS 346, SPCH 125. A maximum of 5 hours POLS internship credit can apply to a minor. Students are encouraged to take at least one 300 level Political Science course.

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

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

MINOR IN SOCIOLOGY: A minor in Sociology requires 18 credit hours. SOC 101 is required and any four additional Social Science or Anthropology courses may be selected (however, no more than two Anthropology courses will count toward this minor). A student may not minor in both Sociology and Behavioral Science.

MINOR IN THEATRE ARTS: A minor in Theatre Arts requires eighteen (18) credit hours, including THEA 115 or 315 (same as ENG 315), 221, 317, 475, 3 hours of Theatre Production Workshop and 3 hours of electives to be selected in consultation with the Visual & Performing Arts Department Chair.

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

PROFESSIONAL WRITING CERTIFICATE: To earn a Professional Writing Certificate, a student must complete any four of the following classes: ENG 371 Business Communications, ENG 375 Advanced Composition, ENG 375 Scientific and Technical Writing, ENG 376 Creative Writing, ART 314 with ART 314L, or ENG 389 Creative Nonfiction. At least three of these courses must be taken at CBU.

REQUIREMENTS FOR TEACHER LICENSURE

Christians Brothers University does not offer approved teacher licensure programs in the following areas: Undergraduate: Early Childhood (Pre-K - 3) and Special Education Modified (K-12); Masters level (undergraduate plus one year of graduate study toward the MAT degree): Cultural Studies (4-8); Elementary Education in conjunction with a major in Liberal Studies (K-6); secondary licenses in Biology (7-12), Chemistry (7-12), English (7-12), History (7-12), Mathematics (7-12), and Physics (7-12) in conjunction with majors in the School of Arts and in the School of Sciences. Licenses in French or Spanish (Pre-K - 12 or 7-12) is also available as an accompanying second endorsement completed with any of the initial licensure programs. Please see the Director of Education in the Department of Education to learn about the degree and major requirements for the BA in Early Childhood and Special Education Modified (K-12). An undergraduate student who wishes to receive Early Childhood (Pre-K - 3) or Special Education Modified (K-12) teaching licensure in the State of Tennessee should take the following steps:

For admission to the Early Childhood (Pre-K - 3) or Special Education Modified (K-12) teacher licensure program:
(FOR those NOT choosing licensure in combination with the 5th year pre-licensure program. )
• Have a 2.75 grade point average or seek alternative admission.
• Complete EDUC 211 or equivalent.
• Pass all sections of the Pre-Professional Skills Test or present acceptable evidence of a minimum enhanced score of 22 on the ACT Test.
• Pass the Content Knowledge Praxis II in the area in which you are seeking licensure.
• File an application for admission to the Teacher Education Program with the Director of the Undergraduate Education Program.
• Submit a well-written philosophy of education essay and an autobiographical essay.
• Successfully complete spontaneous writing samples and other communication assessments.
• Submit background check application.
• Verify liability insurance.

Complete a successful interview with the Undergraduate Teacher Education Admissions Committee. Those interested in the 5th year Master's track should contact the Director of Teacher Education for application to this program.

For remaining in the Early Childhood (Pre-K - 3) or Special Education Modified (K-12) program and being recommended for teacher licensure:
• Maintain a 2.75 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.
• Pass an English proficiency test administered by the Department of Education as needed.
• Complete, unconditional admission to the Undergraduate Education Program.
• Demonstrate sound professional and ethical behavior and the ability to meet the requirements of all initial assessment and evaluation of early field experiences and other assessments.
• 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.
• Pass the appropriate Praxis II tests for the licensure sought and have the results sent to the Department of Education.
• Present a portfolio of accumulated work in all professional education courses as assigned.
• Before admission to enhanced student teaching, a student must:
  a. Complete all required departmental assessments or evaluations.
  b. Complete all required courses, unless approved by the Director of Education.
  c. Must take and pass the PCT and CK 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 teacher licensure:
  a. Complete all licensure requirements for the State of Tennessee
  b. Complete all University requirements for a baccalaureate degree.
  c. Complete enhanced student teaching.
  d. Pass the remaining Praxis II tests for licensure sought and have the results sent to the Department of Education.
  e. Present a portfolio of accumulated work in all professional education courses as assigned.
  f. Complete any required departmental assessments or evaluations.
  g. File an application for teacher licensure with the Director of Assessment and Records, who is also the state licensing officer for Christian Brothers University, in the Department of Education.

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

Pre-K - 3 and Special Education Modified K-12: Undergraduate students seeking licensure for Pre-K - 3 and special education must also meet the requirements outlined for the BA in Early Childhood and Special Education Modified K-12.

Pre-K, K-5, Elementary School, Secondary Education, and Special Education Modified K-12: Undergraduate students seeking licensure at the MAT level will complete a 5th year program by meeting the requirements for an academic major and degree as outlined on pages 49-64 and completing the Master of Arts in Teaching (MAT) degree as outlined on page 210. Students seeking materials about early admissions into the MAT program during their senior undergraduate year. Early admission to the MAT program consists of an application with sufficient test scores and other items as outlined on page 210.

SCHOOL OF ARTS

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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.

### SCHOOL OF ARTS

#### NOTES
- Must be in a Single Language
- Foreign Language
- Fine Arts
- Literature
- Philosophy / Humanities
- History
- Behavioral Science
- Natural or Physical Science
- Moral Values
- Aesthetics

**LIBERAL ARTS CORE REQUIREMENTS:** (*One Course from Social Sciences or Humanities Cluster Must Have a "Global Perspective" Refer to Page 35 for course options)

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<thead>
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<td>Orientation to CBU</td>
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<tr>
<td>Mathematics</td>
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<td>English Composition I</td>
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**TOTAL HOURS FOR GER**

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#### GENERAL EDUCATION REQUIREMENTS: (If - Refer to page 24 for Course Options)

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**TOTAL HOURS FOR GER**

36

#### CULTURAL STUDIES MAJOR REQUIREMENTS: (2.75 GPA in Major Required)

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<td>Survey of British Literature II</td>
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<td>English Electives in American Lit (300/400 Level)</td>
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<td>American History Since 1877</td>
<td>HIST 107</td>
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<td>Upper Level History Electives</td>
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<td>Survey of Science w/ Lab</td>
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<td>World Politics</td>
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<td>Human Development</td>
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<td>Sociology of the Family</td>
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**TOTAL HOURS FOR CULTURAL STUDIES MAJOR**

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#### PROFESSIONAL EDUCATION REQUIREMENTS

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<td>Practicum in Education</td>
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**TOTAL HOURS FOR PROFESSIONAL EDUCATION**

6

#### TENNESSEE LICENSURE REQUIREMENTS

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<td>Geography Survey</td>
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**TOTAL HOURS FOR MAJOR-SPECIFIC ELECTIVES**

9

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**

122
### GENERAL EDUCATION REQUIREMENTS: (If - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
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**TOTAL HOURS FOR LIBERAL ARTS CORE**: 36

### TOTAL HOURS FOR LIBERAL ARTS CORE: 36

### GENERAL EDUCATION REQUIREMENTS: (If - Refer to page 24 for Course Options)

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**TOTAL HOURS FOR ENGLISH MAJOR**: 49

### ENGLISH MAJOR REQUIREMENTS: (2.0 GPA in Major Required)

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<tbody>
<tr>
<td>English Composition I</td>
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<td>English Composition II</td>
<td>ENGL 112</td>
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<td>English Literature</td>
<td>ENGL 221</td>
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<td>ENGL 223</td>
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<td>Advanced Composition</td>
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<td>Jr Seminar for English Majors</td>
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<td>Adolescent Literature</td>
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**TOTAL HOURS FOR ENGLISH MAJOR**: 49

### PROFESSIONAL EDUCATION REQUIREMENTS

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<tr>
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<td>Speech Communication</td>
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<td>World Civilization Since 1500</td>
<td>HIST 105</td>
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<td>Practicum in Education</td>
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**TOTAL HOURS FOR PROFESSIONAL EDUCATION**: 15

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**: . . . . 125

**2.0 CUMULATIVE GPA REQUIRED**
### School of Arts
#### 2014-15 Academic Catalog

**Course Requirements for Bachelor of Arts in English w/Minor in French**

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<td>Religious Studies—RS 120 (Upper Level)</td>
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<td>Social Science/History</td>
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**General Education Requirements:** (If – Refer to page 24 for Course Options)

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**English Major Requirements:** (3.0 GPA in Major Required)

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**Professional Education Requirements**

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<tr>
<td>Introduction to Education</td>
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<td>Practicum in Education</td>
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**French Minor Requirements**

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<td>Survey of French Literature &amp; A</td>
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**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . . 134**  
2.0 Cumulative GPA Required

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**Course Requirements for Bachelor of Arts in English w/Minor in History**

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<td>Mathematics</td>
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<td>English Literature</td>
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<td>Religious Studies—RS 120 (Lower Level)</td>
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<td>Religious Studies—RS 120 (Upper Level)</td>
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<tr>
<td>Social Science/History</td>
<td>HIST 107</td>
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**General Education Requirements:** (If – Refer to page 24 for Course Options)

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**English Major Requirements:** (3.0 GPA in Major Required)

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<td>English Literature</td>
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<td>Upper Division English Major Course</td>
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**Professional Education Requirements**

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<tr>
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<tr>
<td>Practicum in Education</td>
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**Minor in History Requirements**

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**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . . 128**  
2.0 Cumulative GPA Required

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**GENERAL EDUCATION REQUIREMENTS:** (If – Refer to page 24 for Course Options)

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<tr>
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**Liberal Arts Core Requirements:** (If Course from Social Science or Humanities Class Must Have a “Global Perspective.” Refer to Page 35 for course options.)

<table>
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**TOTAL HOURS FOR ENGLISH MAJOR**: 55

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**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . . 128**  
2.0 Cumulative GPA Required
ENGLISH MAJOR REQUIREMENTS: (3.0 GPA in Major Required)

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TOTAL CREDITS FOR ENGLISH MAJOR 54

TOTAL HOURS FOR ENGLISH MAJOR CORE 33

TOTAL CREDITS FOR LIBERAL ARTS CORE 33

TOTAL CREDITS FOR TOTAL HOURS FOR ENGLISH MAJOR 86

PROFESSIONAL EDUCATION REQUIREMENTS

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<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Education</td>
<td>ENGL 210</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Practicum in Education</td>
<td>ENGL 402</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL HOURS FOR PROFESSIONAL EDUCATION 6

SPANISH MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Composition I</td>
<td>SPAN 101, 102</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Spanish Literature &amp; Civilization</td>
<td>SPAN 213, 224</td>
<td>6</td>
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</tbody>
</table>

TOTAL CREDITS FOR SPANISH MAJOR 12

TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION 134

2.0 CUMULATIVE GPA REQUIRED

HISTORY MAJOR REQUIREMENTS: (3.0 GPA in Major Required) (One course from Social Sciences or Humanities must have a “Global Perspective”. Refer to Page 35 for course options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Civilization to 1500</td>
<td>HIST 107</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>World Civilization Since 1500</td>
<td>HIST 108</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Colonial America Since 1500</td>
<td>HIST 109</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper Division History</td>
<td>HIST 110</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>American Society Since 1877</td>
<td>HIST 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper Division US History</td>
<td>HIST 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper Division Non-US History</td>
<td>HIST 113</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper Division History Electives</td>
<td>HIST 200-497</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Research Seminar</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>American Government</td>
<td>HIST 498-499</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>World Politics &amp; Nation &amp; States</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Upper Division Political Science Electives</td>
<td></td>
<td>3</td>
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<tr>
<td>Upper Division Literature Electives</td>
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TOTAL CREDITS FOR HISTORY MAJOR 51

LICENSURE REQUIREMENTS

<table>
<thead>
<tr>
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<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Educational Psychology</td>
<td>PSYC 310</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Speech Communication</td>
<td>SPCH 252</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geography Survey</td>
<td>GEOG 280</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Introduction to Education</td>
<td>ENGL 210</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Practicum in Education</td>
<td>ENGL 402</td>
<td>3</td>
<td></td>
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</tbody>
</table>

TOTAL HOURS FOR LICENSURE 15

SCHOOL OF ARTS MAJOR-SPECIFIC ELECTIVES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Fine Electives</td>
<td></td>
<td>6</td>
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</tr>
</tbody>
</table>

TOTAL HOURS FOR MAJOR-SPECIFIC ELECTIVES 6

TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION 134

2.0 CUMULATIVE GPA REQUIRED
### GENERAL EDUCATION REQUIREMENTS

**Liberal Arts Core & TN Licensure**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language</td>
<td>12</td>
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<tr>
<td>Fine Arts</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy/Religion</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Political Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Hours for Liberal Arts Core & TN Licensure**

| 36 |

###Mathematics Major Requirements

#### (Mathematics Concentration Required)

**Calculus**

- MATH 132
- MATH 141
- MATH 232
- MATH 301
- MATH 308
- MATH 401
- MATH 413
- MATH 470

**Geometry & History of Mathematics**

- MATH 240
- MATH 481
- MATH 482

**Linear Algebra**

- MATH 202
- MATH 302
- MATH 303
- MATH 304

**Computer Science**

- CS 172/L, ECE 101 or ECE 112

**Total Hours for Mathematics Major**

| 43 |

###Total Credits Required for Bachelor Degree Completion

| 123 |

---

2.75 Cumulative GPA Required
COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN NATURAL SCIENCE

(LECTURE IN BIOLOGY FOR GRADES 7-12) (Master of Arts in Teaching Level Only)

GENERAL EDUCATION REQUIREMENTS:

- Orientation to CBU
- Mathematics
- English Composition I
- English Composition II
- English Literature
- Religious Studies-RA (300 Level)
- Religious Studies-RA (300 Level)
- Social Science or History
- Natural Science or Physical Science
- Musical Values
- Aesthetics

TOTAL HOURS FOR MAJOR SPECIFIC ELECTIVES: 12

- Principles of Biology I / Lab
- Principles of Biology II / Lab
- Human Anatomy & Physiology I / Lab
- Human Anatomy & Physiology II / Lab
- Ecology / Lab
- Biology Electives (300+ Level)
- Principles of Chemistry I / Lab
- Principles of Chemistry II / Lab
- Introductory Physics I / Lab
- Introductory Physics II / Lab
- Senior Seminar

TOTAL HOURS FOR NATURAL SCIENCE MAJOR: 46

COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN NATURAL SCIENCE

(LECTURE IN BIOLOGY & CHEMISTRY FOR GRADES 7-12) (Master of Arts in Teaching Level Only)

GENERAL EDUCATION REQUIREMENTS:

- Orientation to CBU
- Mathematics
- English Composition I
- English Composition II
- English Literature
- Religious Studies-RA (300 Level)
- Religious Studies-RA (300 Level)
- Social Science or History
- Social Science or History
- Religious Studies--RS (300 Level)
- English Literature
- English Composition I
- English Composition II
- Introductory Physics I / Lab
- Introductory Physics II / Lab
- Introductory Physics III / Lab
- Introductory Physics IV / Lab
- Senior Seminar

TOTAL HOURS FOR MAJOR SPECIFIC ELECTIVES: 24

- Principles of Biology I / Lab
- Principles of Biology II / Lab
- Human Anatomy & Physiology I / Lab
- Human Anatomy & Physiology II / Lab
- Ecology / Lab
- Biology Elective (300+ Level)
- Principles of Chemistry I / Lab
- Principles of Chemistry II / Lab
- Organic Chemistry I / Lab
- Organic Chemistry II / Lab
- Quantitative Analysis / Lab
- Biochemistry / Lab
- Chemistry Elective (300+ Level)
- Physics I / Lab
- Physics II / Lab
- Senior Seminar

TOTAL HOURS FOR NATURAL SCIENCE MAJOR: 59

MAJOR SPECIFIC ELECTIVES:

- Orientation to CBU
- Mathematics
- English Composition I
- English Composition II
- English Literature
- Religious Studies-RA (300 Level)
- Religious Studies-RA (300 Level)
- Social Science or History
- Social Science or History
- Religious Studies--RS (300 Level)
- English Literature
- English Composition I
- English Composition II
- Introductory Physics I / Lab
- Introductory Physics II / Lab
- Introductory Physics III / Lab
- Introductory Physics IV / Lab
- Senior Seminar

TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION: . . . . 122

2.0 CUMULATIVE GPA REQUIRED
### General Education Requirements

**Major-Specific Electives**

**Major-Specific Electives**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Major-Specific Electives</td>
<td>19</td>
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</tr>
</tbody>
</table>

**Total Hours for Major-Specific Electives**

| 19 | |

**Professional Education Requirements**

**Introduction to Education**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUG 211</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EDUG 402</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours for Professional Education**

| 6 | |

**Total Hours for Bachelor of Science in Natural Science**

- **Total Credits Required for Bachelor Degree Completion**: 122
- **2.0 Cumulative GPA Required**
**GENERAL EDUCATION REQUIREMENTS:** (If - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CRI 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 131</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>PSYC 105</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>BIOC 109/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musical Values</td>
<td>#</td>
<td>3</td>
<td></td>
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</table>

**TOTAL HOURS FOR TN LICENSURE**

12

**LIBERAL ARTS CORE & TN LICENSURE:** (Refer to Page 25 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Geography Survey</td>
<td>GEOG 280</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>MATH 130 or 160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>PSYC 315</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Speech Communication</td>
<td>SPEM 125</td>
<td>3</td>
<td></td>
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</tbody>
</table>

**TOTAL HOURS FOR GER**

34

**COURSE REQUIREMENTS FOR BACHELOR OF ARTS IN SPECIAL EDUCATION MODIFIED**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CRI 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>ENG 113</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>HIST 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>HIST 102</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>NSCI 111/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musical Values</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**

124

**TOTAL HOURS FOR PROFESSIONAL EDUCATION**

35
### General Education Requirements: (If - Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CRU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENGL 111</td>
<td>3</td>
<td>May Take ENGL 211 or ENGL 212</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENGL 112</td>
<td>3</td>
<td>May Take ENGL 211 or ENGL 212</td>
</tr>
<tr>
<td>English Literature</td>
<td>ENGL 211</td>
<td>3</td>
<td>Waived if ENGL 211 or ENGL 212, and 3 hr to Free Elect</td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
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<td>3</td>
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<tr>
<td>Religious Studies - RS (300 Level)</td>
<td></td>
<td>3</td>
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</tr>
<tr>
<td>General Psychology</td>
<td>PSYC 105</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>NSCI 110A</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td></td>
<td>3</td>
<td>Funded by English Literature GER</td>
</tr>
</tbody>
</table>

**TOTAL HOURS FOR GER** 31

### Liberal Arts Core & TN licensure: (The course from Social Sciences or Humanities Cluster must have a “Global Perspective” Refer to Page 35 for course options.)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Foreign Language</td>
<td></td>
<td>12</td>
<td>Must be in a Single Language</td>
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<tr>
<td>Philosophy / Humanities</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>ENGL 212</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>PSLS 110</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Speech Communication</td>
<td>SPCH 125</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>SOSC 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>6</td>
<td>Choose From: HIST 101, 108, 151 or 152</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>PSYC 315</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL HOURS FOR LIBERAL ARTS CORE & TN LICENSURE** 36

### Studio Art Major requirements: (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>2-D Design</td>
<td>ART 202</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3-D Design</td>
<td>ART 204</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Concepts/Corr. in the Visual Arts</td>
<td>ART 205</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Drawing I</td>
<td>ART 111</td>
<td>3</td>
<td>Choose From: ART 233 or 239</td>
</tr>
<tr>
<td>Figure Drawing or Drawing II</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>World Art History I</td>
<td>ART 211</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>World Art History II</td>
<td>ART 212</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Introduction to Printmaking</td>
<td>ART 310</td>
<td>3</td>
<td></td>
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<tr>
<td>Beginning Digital Imaging &amp; Lab</td>
<td>ART 314/5</td>
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<tr>
<td>Art Concentration Upper Division Elective</td>
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<tr>
<td>Art History Elective</td>
<td></td>
<td>3</td>
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<tr>
<td>Senior Seminar</td>
<td>ART 475</td>
<td>3</td>
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</table>

**TOTAL HOURS FOR STUDIO ART MAJOR** 49

### Professional Education Requirements: (3.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Introduction to Education</td>
<td>EDUC 211</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Practices in Education</td>
<td>EDUC 402</td>
<td>3</td>
<td></td>
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</tbody>
</table>

**TOTAL HOURS FOR PROFESSIONAL EDUCATION** 6

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . . . 122** 2.0 CUMULATIVE GPA REQUIRED
### DEGREE REQUIREMENTS

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.

#### MISSION
The School of Business at Christian Brothers University offers two degrees designed to prepare graduates for leadership in the business world. The Bachelor of Science degree, with majors in Accounting, Finance, Management, Management Information Systems, and Marketing as well as specialized areas such as International Business, Sports Management, and Human Resources Management.

All degree programs in the School of Business require students to complete 121-122 semester credit hours, maintain a 2.0 GPA overall and a 2.0 in their Business Administration Concentration.

The School of Business has partnered with the School of Engineering to offer the Bachelor of Science in Engineering Management. Students earning this degree must complete 122 hours. See pages 63 and 84.

#### TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>ACCT 260</td>
<td>3</td>
</tr>
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<td>ACCT 270</td>
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<tr>
<td>ACCT 301</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 302</td>
<td>3</td>
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<tr>
<td>ECON 214</td>
<td>3</td>
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<tr>
<td>ECON 215</td>
<td>3</td>
</tr>
<tr>
<td>FIN 327</td>
<td>3</td>
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<tr>
<td>FIN 332</td>
<td>3</td>
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<tr>
<td>MGMT 337</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 338</td>
<td>3</td>
</tr>
<tr>
<td>STAT 221</td>
<td>3</td>
</tr>
<tr>
<td>STAT 222</td>
<td>3</td>
</tr>
<tr>
<td>MATH 106</td>
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<tr>
<td>SPCH 125</td>
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<tr>
<td>MATH 117</td>
<td>3</td>
</tr>
<tr>
<td>MATH 131</td>
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#### TOTAL HOURS FOR BUSINESS Core

<table>
<thead>
<tr>
<th>CREDITS</th>
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</thead>
<tbody>
<tr>
<td>42</td>
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</tbody>
</table>
BUSINESS ADMINISTRATION CONCENTRATION REQUIREMENTS:

TOTAL HOURS FOR BUSINESS ADMINISTRATION: 121

SCHOOL OF BUSINESS MAJOR-SPECIFIC ELECTIVES: (See Next Page for Requirements)(2.0 GPA in Concentration Required)

TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION: 121

2.0 CUMULATIVE GPA REQUIRED
CONCENTRATION REQUIREMENTS FOR BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION CONT’D
(All Business Administration majors are required to select one of the following concentrations)

MANAGEMENT INFORMATION SYSTEMS CONCENTRATION

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Communication, Networks, &amp; Cyber Security</td>
<td>MIS 295</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Systems Analysis &amp; Design</td>
<td>MIS 351</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Application &amp; Web Development</td>
<td>MIS 470</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Data Base Design &amp; Business Intelligence</td>
<td>MIS 472</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Information Systems Practicum &amp; Project Mgmt</td>
<td>MIS 455</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TOTAL HOURS FOR MIS CONCENTRATION</td>
<td></td>
<td><strong>15</strong></td>
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</table>

SPORT MANAGEMENT CONCENTRATION

<table>
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<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management &amp; Sports Industries</td>
<td>SMGT 410</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Marketing &amp; Public Relations In Sports</td>
<td>SMGT 420</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sports Industries &amp; The Law</td>
<td>SMGT 430</td>
<td>3</td>
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</tr>
<tr>
<td>Financial Management For Sports Administration</td>
<td>SMGT 440</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Practicum &amp; Project In Sports Management</td>
<td>SMGT 450</td>
<td>3</td>
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<tr>
<td>TOTAL HOURS FOR SPRT CONCENTRATION</td>
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<td><strong>15</strong></td>
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</table>

MINORS WITHIN THE SCHOOL OF BUSINESS

Students seeking a Bachelor of Science degree in Business Administration or a Bachelor of Arts degree in Business may not seek a minor in Business Administration, Economics, Finance, or International Business. Students seeking a Bachelor of Science degree in Accounting or majoring in disciplines outside the School of Business may seek any of the School of Business minors.

The Minor in Business Administration consists of 21 credit hours of courses typically required for admission to MBA programs. The courses are:
- Elementary Statistics (STAT 221 or equivalent)
- Principles of Microeconomics (ECON 214)
- Financial Accounting (ACCT 345) or Business Law I (BLAW 301)
- Principles of Marketing (MKTG 311)
- Principles of Organization and Management (MGMT 337)
- Financial Management (FIN 327)

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

The minor in Finance consists of 21 credit hours in the following courses:
- Financial Management (FIN 327)
- Financial Management II (FIN 427)
- Investments (FIN 340) and Investments TVA Lab (FIN 340L)
- Capital Markets and Institutions (FIN 350)
- Portfolio Management (FIN 440) and Portfolio Management TVA Lab (FIN 440L)

One of the following:
- Financial Statement Analysis (ACCT 480)
- Derivative Securities (FIN 419)
- Special Projects in Finance (FIN 430)
- International Financial Management (FIN 437)

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

The International Business Minor consists of 18 credit hours, as follows:
- International Business (MGMT 320)
- Practicum and Project Management (MGMT 455)

Plus two of the following:
- Managerial Economics (ECON 420)
- International Trade (ECON 422)
- International Marketing (MGMT 438)
- International Financial Management (FIN 437)
- Seminar in Global Business (MGMT 453)
- Management Internship (MGMT 480)
- Operations and Supply Chain Management (MGMT 481)
- Operations and Supply Chain Management (MGMT 481)

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

ADMINISTRATION
DR. SIRIPONG MALASRI, Dean

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

DR. RANDEL PRICE, Chair, Chemical & Biochemical Engineering Department

DR. ERIC WELCH, Chair, Electrical & Computer Engineering Department

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

DR. SIRIPONG MALASRI, Chair, Packaging

FACULTY

CHEMICAL & BIOCHEMICAL ENGINEERING

ALI POURHASHEMI, Professor
BS, MS, Howard University; PhD, University of Maryland (College Park)

RANDEL M. PRICE, Associate Professor
BS, University of Missouri (Columbia); MS, University of Arkansas; PhD, Lehigh University

ASIT K. RAY, Professor
BS, Calcutta University; MS, PhD, Lehigh University

CIVIL & ENVIRONMENTAL ENGINEERING

ANDREW K. ASSADOLLAHI, Assistant Professor
BS, Christian Brothers University; MS, PhD, University of Memphis; EI

L. YU LIN, Professor
BS, Feng-Chia University; MS, University of Cincinnati; PhD, University of Central Florida; PE

SIRIPONG MALASRI, Professor
B.E., Chulalongkorn University; M. Eng., Asian Institute of Technology (Thailand); PhD, Texas A&M University; PE

R. EUGENE McGINNIS, Associate Professor
BS, MS, Howard University; PhD, University of Maryland

ELECTRICAL & COMPUTER ENGINEERING

DIVYA CHOUHARY, Associate Professor
B.E., Mumbai University; MS, PhD, University of Memphis

JUAN CARLOS OLAVE-BASOGAIN, Professor
MS, PhD, Universidad Politecnica de Madrid (Spain); IT

H. JOHN VENTURA, Professor
BS, Christian Brothers College; M.E., University of Florida; Ed.S., PhD, Nova Southeastern University; PE

ERIC B. WELCH, Professor
BS, MS, PhD, Mississippi State University

MECHANICAL ENGINEERING

JAMES AFLAKI, Professor
BS, University of District of Columbia; MS, PhD, University of Maryland, MCSE

JOSE B. DAVILA, Associate Professor
BSE., Princeton University; MS, Stanford University; PhD, University of Texas at Austin

YEU-SHENG SHIUE, Professor
BS, Tatung Institute of Technology; MS, PhD, Memphis State University

PACKAGING

SIRIPONG MALASRI, Professor
B.E., Chulalongkorn University; M. Eng., Asian Institute of Technology (Thailand); PhD, Texas A&M University; PE
The mission of the School of Engineering at Christian Brothers University is threefold: (1) to continue the Lasallian tradition through excellence in teaching and focus on the individual student, (2) to prepare graduates for professional careers and advanced study in engineering, and (3) to encourage students to live with moral responsibility and constructive community involvement.

PROGRAM DESCRIPTION

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

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

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

EDUCATIONAL PHILOSOPHY

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

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

DEGREE REQUIREMENTS

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

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

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

To complete an engineering degree in eight regular semesters, a student will need to be prepared to start the required math sequence their first semester at CBU. If a student does not meet the academic requirements to begin their studies at CBU with MATH 131 Calculus I, they are strongly encouraged to take MATH 117 Precalculus or an equivalent course prior to the fall semester of their freshman year. In the event that a student has any math deficiencies beyond pre-calculus, they will not be allowed to declare an engineering major within the School of Engineering until those deficiencies have been removed.

ACCEPTABLE PROGRAM OPTION COURSES FOR ALL MAJORS

- BIOL: 303, 304, 311, 312, 321, 355, 346, 367
- BIOL: 320, 324, 338, 348, 411, 433, 438
- CHE: 319, 320, 412
- CHEM: 311, 342, 410, 415, 422, 439
- ECST: 311, 315, 316, 342, 410, 415, 422, 439
- ECST: 301, 370, 440, 473
- ECON: 325, 326, 343, 344, 346, 347, 420, 422, 430
- FIN: 327, 340, 346, 350, 410, 427, 437, 440
- MATH: 308, 309, 329, 401, 402, 405, 413, 414
- ME: 416, 419, 428, 429, 432, 435, 442, 495, 496, 497, 498
- MGMT: 301, 337, 352, 412, 418, 430, 450, 451, 452, 458
- MKTG: 311, 324, 334, 348, 411, 433, 438
- PHY: 340, 347, 355, 381, 415, 430, 447, 448
- *ARMY: 3000-4999
- *AERO: 5000-4999
- *NAVY: 3000-4999

Additional Acceptable Program Option Courses for all Majors except Chemical Engineering: CHE 328, CHEM 351, CHEM 352

* A maximum of 3 credits in ROTC courses (ARMY, AERO, or NAVY) may be used toward the BS in CE, CH E, ECE, or ME.

CROSSTOWN DUAL DEGREE

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

DUAL DEGREE

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

JOINT DEGREE

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

SUMMARY OF COURSE REQUIREMENTS

Students must complete the University defined General Education requirements (see page 24).

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

#### General Education Requirements (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation To CBU</td>
<td>CHE 101</td>
<td>0</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 131</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>CHE 112</td>
<td>3</td>
<td>Fulfilled by Support Requirements</td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td>May Also Take ENGL 231</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td>May Also Take ENGL 232</td>
</tr>
<tr>
<td>English Literature</td>
<td>#</td>
<td>#</td>
<td>Waived if ENG 231/232, Add 1 Hr to Electives</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>#</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>#</td>
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</tr>
<tr>
<td>Natural or Physical Science</td>
<td>PHY 150/L</td>
<td>3</td>
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<tr>
<td>Mural Values</td>
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<tr>
<td><strong>Total Hours for GER</strong></td>
<td><strong>24</strong></td>
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#### Chemical Engineering Math/Science Support Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Biology I / Lab</td>
<td>BOL 111/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Biology II / Lab</td>
<td>BOL 112/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Chemistry I / Lab</td>
<td>CHEM 113/L</td>
<td>4</td>
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<tr>
<td>Principles of Chemistry II / Lab</td>
<td>CHEM 114/L</td>
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<tr>
<td>Calculus I</td>
<td>MATH 131</td>
<td>3</td>
<td>May Also Take MATH 129</td>
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<tr>
<td>Calculus II</td>
<td>MATH 132</td>
<td>3</td>
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<tr>
<td>Differential Equations</td>
<td>MATH 231</td>
<td>3</td>
<td></td>
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<tr>
<td>Calculus III</td>
<td>MATH 232</td>
<td>3</td>
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</tr>
<tr>
<td>Physics I / Lab</td>
<td>PHY 150/L</td>
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<tr>
<td>Physics II / Lab</td>
<td>PHY 250/L</td>
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<td><strong>Total Hours for Support Requirements</strong></td>
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#### Chemical Engineering Major Requirements (2.0 GPA in Major Required)

<table>
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<th>Notes</th>
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<tbody>
<tr>
<td>Microbiology/Lab</td>
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<td>Organic Chemistry I / Lab</td>
<td>CHEM 211/L</td>
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<tr>
<td>Organic Chemistry II / Lab</td>
<td>CHEM 212/L</td>
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<tr>
<td>Biochemistry I / Lab</td>
<td>CHEM 315/L</td>
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<td>Physical Chemistry I / Lab</td>
<td>CHEM 316/L</td>
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<td>ECE 221</td>
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<tr>
<td>Chemical Engineering Project I</td>
<td>CHE 101</td>
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<tr>
<td>Intro to Chemical Engineering I</td>
<td>CHE 111</td>
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<tr>
<td>Intro to Chemical Engineering II</td>
<td>CHE 112</td>
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<tr>
<td>Chemical Engineering Project II</td>
<td>CHE 201</td>
<td>1</td>
<td>May Also Take CHE 305</td>
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<tr>
<td>Elementary Thermodynamics</td>
<td>CHE 305</td>
<td>3</td>
<td>May Also Take ME 314, CE 314 or ECE 314</td>
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<tr>
<td>Material &amp; Energy Balances</td>
<td>CHE 232</td>
<td>4</td>
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<tr>
<td>Engineering Economy</td>
<td>CHE 334</td>
<td>3</td>
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<tr>
<td>Fluid Mechanics</td>
<td>CHE 323</td>
<td>3</td>
<td></td>
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<tr>
<td>Heat Transfer</td>
<td>CHE 324</td>
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<tr>
<td>Junior Laboratory I</td>
<td>CHE 325</td>
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<td>Junior Laboratory II</td>
<td>CHE 326</td>
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<tr>
<td>Chemical Engineering Thermodynamics</td>
<td>CHE 327</td>
<td>3</td>
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<tr>
<td>Mass Transfer &amp; Separations</td>
<td>CHE 330</td>
<td>3</td>
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<tr>
<td>Chemical Engineering Process I</td>
<td>CHE 401</td>
<td>2</td>
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<tr>
<td>Chemical Engineering Process II</td>
<td>CHE 402</td>
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<tr>
<td>Process Design I</td>
<td>CHE 425</td>
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<tr>
<td>Process Design II</td>
<td>CHE 426</td>
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<tr>
<td>Modeling &amp; Control In Chemical Engineering</td>
<td>CHE 437</td>
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<tr>
<td>Senior Laboratory I</td>
<td>CHE 441</td>
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<tr>
<td>Senior Laboratory II</td>
<td>CHE 442</td>
<td>1</td>
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<tr>
<td>Reactor Design</td>
<td>CHE 443</td>
<td>3</td>
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<td>Biochemical Engineering</td>
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<td><strong>Total Hours for MMR</strong></td>
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</table>

### CHE

#### General Education Requirements (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Orientation To CBU</td>
<td>CHE 101</td>
<td>0</td>
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<tr>
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<td>MATH 131</td>
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<td>Fulfilled by Support Requirements</td>
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<tr>
<td>Statistics</td>
<td>CHE 112</td>
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<td>Fulfilled by Major Requirements</td>
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<tr>
<td>English Composition I</td>
<td>ENG 111</td>
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<td>Natural or Physical Science</td>
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<td><strong>Total Hours for GER</strong></td>
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</table>

#### Chemical Engineering Math/Science Support Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Chemistry I / Lab</td>
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<tr>
<td>General Chemistry II / Lab</td>
<td>CHEM 114/L</td>
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<td>May Also Take MATH 129</td>
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<td>Calculus I</td>
<td>MATH 131</td>
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<td>Fulfilled by Major Requirements</td>
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<td>Calculus II</td>
<td>MATH 132</td>
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<td></td>
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<tr>
<td>Differential Equations</td>
<td>MATH 231</td>
<td>3</td>
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</tr>
<tr>
<td>Calculus III</td>
<td>MATH 232</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics I / Lab</td>
<td>PHY 150/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics II / Lab</td>
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<td><strong>Total Hours for Support Requirements</strong></td>
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#### Chemical Engineering Major Requirements (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Chemistry I / Lab</td>
<td>CHEM 211/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Organic Chemistry II / Lab</td>
<td>CHEM 212/L</td>
<td>4</td>
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**Total Credits Required for Bachelor Degree Completion . . . . 132**
### GENERAL EDUCATION REQUIREMENTS:  (Ref. to page 24 for Course Options)

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**TOTAL HOURS FOR MAJOR:** 75

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### CIVIL ENGINEERING MAJOR REQUIREMENTS: (2.0 GPA in Major Required)

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**TOTAL HOURS FOR MAJOR:** 75

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### TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION: 132
### General Education Requirements:

- **Electrical Engineering Major/Science Support Requirements**
  - **Course**: General Chemistry I / Lab
    - **Course Number**: CHEM 115/L
    - **Credits**: 4
    - **Notes**: May Also Take CHE 305 (Formerly CHE 231)

- **Electrical Engineering Major Requirements**
  - **Course**: Statics
    - **Course Number**: CE 201
    - **Credits**: 3
    - **Notes**: May Also Take CHE 305 (Formerly CHE 231)

### Electrical Engineering Major Requirements (Continued)

- **Course**: Dynamics
  - **Course Number**: CE 202
  - **Credits**: 3

- **Course**: Engineering Thermodynamics I
  - **Course Number**: ME 202
  - **Credits**: 3

- **Course**: Introduction to Engineering Problem Solving
  - **Course Number**: ECE 101
  - **Credits**: 3

- **Course**: Introduction to Multimedia DSP
  - **Course Number**: ECE 150
  - **Credits**: 3

- **Course**: Computers in Engineering Problem Solving / Lab
  - **Course Number**: ECE 112/L
  - **Credits**: 4

- **Course**: Electric Circuit Analysis I
  - **Course Number**: ECE 201
  - **Credits**: 3

- **Course**: Electric Circuit Analysis II
  - **Course Number**: ECE 221
  - **Credits**: 3

- **Course**: Digital Design
  - **Course Number**: ECE 250
  - **Credits**: 3

- **Course**: Microcontroller Interfacing & Prog / Lab
  - **Course Number**: ECE 251/L
  - **Credits**: 4

- **Course**: Engineering Economy
  - **Course Number**: ECE 314
  - **Credits**: 3

- **Course**: Linear Control Systems
  - **Course Number**: ECE 322
  - **Credits**: 3

- **Course**: Electronics II / Lab
  - **Course Number**: ECE 331/L
  - **Credits**: 4

- **Course**: Signals, Systems & Noise
  - **Course Number**: ECE 335
  - **Credits**: 3

- **Course**: The Cabled Engineer
  - **Course Number**: ECE 400
  - **Credits**: 3

- **Course**: Electromagnetic Energy Conversion / Lab
  - **Course Number**: ECE 401/L
  - **Credits**: 4

- **Course**: Electromagnetic Field Theory
  - **Course Number**: ECE 406
  - **Credits**: 3

- **Course**: EE Project I
  - **Course Number**: ECE 411
  - **Credits**: 2

- **Course**: EE Project II
  - **Course Number**: ECE 412
  - **Credits**: 2

- **Course**: Computer Networks
  - **Course Number**: ECE 450
  - **Credits**: 3

- **Course**: Major Electives in ECE
  - **Course Number**: ECE 471
  - **Credits**: 3

**Total Hours for Major**: 71

---

### General Education Requirements:

- **Electrical Engineering Math/Science Support Requirements**
  - **Course**: General Chemistry I / Lab
    - **Course Number**: CHEM 115/L
    - **Credits**: 4

- **Electrical Engineering Major Requirements**
  - **Course**: Statics
    - **Course Number**: CE 201
    - **Credits**: 3

- **Course**: Dynamics
  - **Course Number**: CE 202
  - **Credits**: 3

- **Course**: Engineering Thermodynamics I
  - **Course Number**: ME 202
  - **Credits**: 3

- **Course**: Introduction to Engineering Problem Solving
  - **Course Number**: ECE 101
  - **Credits**: 3

- **Course**: Introduction to Multimedia DSP
  - **Course Number**: ECE 150
  - **Credits**: 3

- **Course**: Computers in Engineering Problem Solving / Lab
  - **Course Number**: ECE 112/L
  - **Credits**: 4

- **Course**: Electric Circuit Analysis I
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  - **Credits**: 3

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- **Course**: Linear Control Systems
  - **Course Number**: ECE 322
  - **Credits**: 3

- **Course**: Electronics II / Lab
  - **Course Number**: ECE 331/L
  - **Credits**: 4

- **Course**: Signals, Systems & Noise
  - **Course Number**: ECE 335
  - **Credits**: 3

- **Course**: The Cabled Engineer
  - **Course Number**: ECE 400
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- **Course**: Electromagnetic Energy Conversion / Lab
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  - **Course Number**: ECE 412
  - **Credits**: 2

- **Course**: Computer Networks
  - **Course Number**: ECE 450
  - **Credits**: 3

- **Course**: Major Electives in ECE
  - **Course Number**: ECE 471
  - **Credits**: 3

**Total Credits Required for Bachelor Degree Completion**: 128
CROSS-TOWN DUAL DEGREE PROGRAM IN ENGINEERING WITH RHODES COLLEGE

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

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

I. GENERAL DEGREE REQUIREMENTS:
All twelve Rhodes foundation requirements with the following stipulations:

1. One of the F1 courses should be a philosophy course.
2. A minimum of 80 credits of the Rhodes BS portion must be fulfilled with Rhodes courses.

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

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

- Physics Major / Mechanical Engineering
  - Physics 211, 250, Physics 304 (or CBU ECE 221 - Circuit Analysis I); Physics 305 (or CBU ME 202 - Dynamics); Physics 306 (or CBU program option course); Computer Science 141 (or CBU ME 112 - Scientific Programming)
- Physics Major / Civil Engineering
  - Physics 211, 211L, 250, Physics 304 (or CBU ECE 221 - Circuit Analysis I); Physics 305 (or CBU ME 202 - Dynamics); Physics 406 (or CBU ME 305 - Engineering Thermodynamics I); Computer Science 141 (or CBU ECE 112 - Computer Applications in Civil And Environmental Engineering)
- Physics Major / Electrical Engineering - Electrical Engineering Curriculum
  - Physics 211, 211L, 250. One upper level physics elective at the 300 level or higher; Physics 406 (or CBU ME 305 - Engineering Thermodynamics I); Computer Science 141 (or CBU ECE 172 - Intermediate Programming And Algorithms)

Chemistry Major / Chemical Engineering - Chemical Engineering Curriculum
- Chemistry 111, 112L, 211, 212, 212L, 311, 312L

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

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

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

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

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

Chemistry Major or BCBM major / Chemical Engineering - either curriculum
- CHE 301 (Elementary Thermodynamics) and CHE 322 (Material and Energy Balances)

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

Mechanical Engineering
- ME 201 (Manufacturing Processes), ME 101 (Engineering Instrumentation Laboratory), ME 302 (Energy Systems Laboratory), ME 306 (Heat Transfer), ME 313 (Fluid Mechanics), ME 314 (Engineering Thermodynamics), ME 317 (Kinematics), ME 318 (Dynamics of Machines), ME 407 (The Complete Engineer), ME 401 (Mechanical Systems Laboratory), Program 407-408 (Senior Project), ME 420 (Machine Design), ME 421 (Thermal Systems Analysis and Design), ME 322 (Control Systems Engineering), ME 313 (Hydrology), ME 314 (Engineering Economy), ME 315 (Junior Project), ME 317 (Intro. to Environmental Engineering), ME 318 (Dynamics of Machines), ME 400 (The Complete Engineer), ME 401 (Mechanical Systems Laboratory), Program 407-408 (Senior Project), ME 420 (Machine Design), ME 421 (Thermal Systems Analysis and Design), ME 322 (Control Systems Engineering), ME 313 (Hydrology), ME 314 (Engineering Economy), ME 315 (Junior Project), ME 317 (Intro. to Environmental Engineering),
### CE 417 (Environmental Engineering Laboratory) Program option
- CD 400 (The Compleat Engineer) CE elective
- CE 322 (Chemical Engineering Thermodynamics), CHE 314 (Engineering Economy), CHE 340 (Heat Transfer), CHE 330 (Mass Transfer and Separations), CHE 401-402 (Senior Project II), CHE 437 (Modeling and Control in Chemical Engineering), CHE 441-442 (Senior Laboratory I, II), CHE 443 (Reactor Design), CHE 444 (Polymeric Materials), 2 program option courses

#### SAMPLE CURRICULA
Courses in italics are CBU courses, all others are Rhodes courses. The exact number of courses required for each student will depend on AP credit, placement in a 102 language program, and some AP credit and usually two years of language. These sample curricula assume no AP credit, except in Computer Science.

### PHYSICS / CIVIL ENGINEERING

#### FALL
- **Physics 111, 111L (F7)**
  - Math 121 (F6)
  - Search/Life (F1)
  - English 151 (F2s)

- **Physics 215**
  - Physics 304 or CE 221 (Electric Circuit Analysis I)
  - Math 223
  - Language (F10)
  - Search/Life (F1, F2)

- **Physics 305 or ME 202 (Dynamics)**
  - Physics 406 or ME 305 (Engineering Thermodynamics I)
  - Chem 111/111L
  - F11
  - Math 253
  - F12
  - CHE 101 (Intro Civil Engineering I)
  - CHE 102 (Intro Civil Engineering II)
  - CHE 103 (Intro Civil Engineering III)

#### SPRING
- **Physics 112, 112L**
  - Math 122
  - Search/Life (F1)
  - English 151 (F2s)

- **Physics 250**
  - Physics 250
  - Phys 250 (F10)
  - Search/Life (F1, F2)

- **Physics 406 or ME 305 (Engineering Thermodynamics I)**
  - CHE 141
  - F13
  - Math 253
  - F10
  - MATH 308 (Statistics)

#### 2nd year
- **Physics 221**
  - Physics 221
  - Math 223
  - Language (F10)
  - Search/Life (F1, F2)

- **Physics 325-326 (Junior Laboratory I, II)**
  - CHE 327 (Chemical Engineering Thermodynamics), CHE 330 (Mass Transfer and Separations), CHE 401-402 (Process Design I, II), CHE 437 (Modeling and Control in Chemical Engineering), CHE 441-442 (Senior Laboratory I, II), CHE 443 (Reactor Design), CHE 446 (Biochemical Engineering)

### ELECTRICAL ENGINEERING

#### FALL
- **Physics 111, 111L (F7)**
  - Math 121 (F6)
  - Search/Life (F1)
  - English 151 (F2s)

- **Physics 215**
  - Physics 304 or CE 221 (Electric Circuit Analysis I)
  - Math 223
  - Language (F10)
  - Search/Life (F1, F2)

- **Physics 305 or ME 202 (Dynamics)**
  - Physics 406 or ME 305 (Engineering Thermodynamics I)
  - Chem 111/111L
  - F11
  - Math 253
  - F12
  - CHE 101 (Intro Civil Engineering I)
  - CHE 102 (Intro Civil Engineering II) and CHE 103 (Intro Civil Engineering III)

#### SPRING
- **Physics 112, 112L**
  - Math 122
  - Search/Life (F1)
  - English 151 (F2s)

- **Physics 250**
  - Physics 304 or ME 305 (Engineering Thermodynamics I)
  - CHE 141
  - F13
  - Math 253
  - F10
  - MATH 308 (Statistics)

#### 2nd year
- **Physics 221**
  - Physics 221
  - Math 223
  - Language (F10)
  - Search/Life (F1, F2)

- **Physics 325-326 (Junior Laboratory I, II)**
  - CHE 327 (Chemical Engineering Thermodynamics), CHE 330 (Mass Transfer and Separations), CHE 401-402 (Process Design I, II), CHE 437 (Modeling and Control in Chemical Engineering), CHE 441-442 (Senior Laboratory I, II), CHE 443 (Reactor Design), CHE 446 (Biochemical Engineering)
### GENERAL EDUCATION REQUIREMENTS: (Refer to page 24 for Course Options)

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### ENGINEERING MANAGEMENT SUPPORT REQUIREMENTS

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<td>Physics I / Lab</td>
<td>PHYS 150/L</td>
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<tr>
<td>Physics II / Lab</td>
<td>PHYS 250/L</td>
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<td><strong>TOTAL HOURS FOR SUPPORT REQUIREMENTS</strong></td>
<td></td>
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### ENGINEERING MANAGEMENT MAJOR REQUIREMENTS: (2.0 GPA in Major Required)

#### SCHOOL OF ENGINEERING CORE

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Solids Modeling</td>
<td>ME 121</td>
<td>3</td>
<td>May Also Take CE 111</td>
</tr>
<tr>
<td>Statics</td>
<td>CE 201</td>
<td>3</td>
<td></td>
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<tr>
<td>Intro to Mechanics of Materials</td>
<td>CE 232</td>
<td>1</td>
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<tr>
<td>Materials Science</td>
<td>CHE 328</td>
<td>3</td>
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</tr>
<tr>
<td>Engineering Economy</td>
<td>CE 314</td>
<td>3</td>
<td>May Also Take CHE 314, ME 314, or ECE 314</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>ME 201</td>
<td>3</td>
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<tr>
<td>Intro to Packaging</td>
<td>PKG 101</td>
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<tr>
<td>Packaging Seminars</td>
<td>PKG 205</td>
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<tr>
<td>Principles of Packaging</td>
<td>PKG 309</td>
<td>3</td>
<td>May Also Take CHE 319 or ME 319</td>
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<tr>
<td>Distribution / Medical Device Packaging</td>
<td>PKG 220</td>
<td>3</td>
<td>May Take CHE 320 or ME 320</td>
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<td>Packaging Projects</td>
<td>PKG 490</td>
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<tr>
<td>Packaging Internship</td>
<td>PKG 495</td>
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<td>May Also Take ART 314/1</td>
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### SCHOOL OF BUSINESS CORE

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<tbody>
<tr>
<td>Financial Accounting</td>
<td>ACCT 260</td>
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<tr>
<td>Managerial Accounting</td>
<td>ACCT 270</td>
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<tr>
<td>Business Law I</td>
<td>BLAW 301</td>
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<tr>
<td>Business Law II</td>
<td>BLAW 302</td>
<td>3</td>
<td>May Also Take CE 420</td>
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<tr>
<td>Principles of Microeconomics</td>
<td>ECON 214</td>
<td>3</td>
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<tr>
<td>Principles of Macroeconomics</td>
<td>ECON 215</td>
<td>3</td>
<td></td>
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<tr>
<td>Financial Management I</td>
<td>FIN 327</td>
<td>3</td>
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</tr>
<tr>
<td>Principles of Organization &amp; Management</td>
<td>MGMT 337</td>
<td>3</td>
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<tr>
<td>Organizational Behavior &amp; Management</td>
<td>MGMT 332</td>
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<tr>
<td>Operations &amp; Supply-Chain Management</td>
<td>MGMT 418</td>
<td>3</td>
<td>May Also Take CE 312, ECE 112, ME 112, ECE 101 or CS 171</td>
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<tr>
<td>Business Policy / Strategic Planning</td>
<td>MGMT 419</td>
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<tr>
<td>Intro to Computer Business Applications</td>
<td>MNS 310</td>
<td>3</td>
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<td>Principles of Marketing</td>
<td>MNGT 311</td>
<td>3</td>
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<tr>
<td>Elementary Business Statistics</td>
<td>STAT 223</td>
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### SCHOOL OF ENGINEERING MAJOR-SPECIFIC ELECTIVES

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Speech Communication</td>
<td>SPCH 125</td>
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<td>Business Writing</td>
<td>ENG 371</td>
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<td>Free Electives</td>
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<td>. . . 122</td>
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</table>
MINORS IN THE SCHOOL OF ENGINEERING

MINOR IN ELECTRICAL ENGINEERING: A minor in Electrical Engineering is open to students not part of the Electrical Engineering majors, and they must complete the following courses: ECE 201, 221, 222, 251L, 331, 351L, 350, and one of the following: 322, 332 or 332L or 335.

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

MINOR IN ENGINEERING MANAGEMENT: A minor in Engineering Management is open to students not part of the ENMT (Engineering Management) major and they must complete the following courses: MIS 481, MIS 481L, MIS 482, MIS 482L, MIS 483, ECE 411, ECE 412 (with approved cybersecurity project) and one of the following: CS/ECE 370, ECE 450, or CS/ECE/MIS 471.

SCHOOL OF SCIENCES

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

FACULTY

BIOLOGY
STANLEY EISEN, Professor
BS, State University of New York at Stony Brook; MA, PhD, Indiana University

MALINDA E. C. FITZGERALD, Professor
BS, MS, University of Memphis; PhD, University of Tennessee, Memphis

JAMES E. MOORE, Assistant Professor
BS, West Virginia State College; MS, University of North Carolina Greensboro; PhD University of Memphis

MARY L. OGILVIE, Professor
BS, MS, PhD, Memphis State University

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

KATHLEEN SAUSER, Associate Professor
BS, University of Tennessee at Martin; MS, Florida Institute of Technology; PhD, Memphis State University

SANDRA THOMPSON-JAEGGER, Associate Professor
BS Ouachita Baptist University; MS, PhD, University of Munich (Germany)

CHEMISTRY
DAVID P. DAWSON, Associate Professor
BS, Rhodes College; PhD University of Arkansas

DENNIS MERAT, Associate Professor
BS, Southern Methodist University; PhD Texas A & M University

WILLIAM PEER, Assistant Professor
BS University of Michigan; PhD University of Texas at Austin

ANTHONY TRIMBOLL, Assistant Professor
BS, Muhlenberg College; PhD University of South Carolina

JOHN YOUNG, Associate Professor
BA Hendrix College; PhD Mississippi State University

MATHEMATICS & COMPUTER SCIENCE
PASCAL BEDROSSIAN, Professor
BS, Christian Brothers University; MS, PhD, Memphis State University

SANDRA DAVIS, Instructor
BA, Cameron University; MS, Memphis State University

ANDREW M. DIENER, Assistant Professor
BA, St. Mary's University (San Antonio, TX); MS, PhD, Texas A&M University

CATHY W. GRILLI, Professor
BA, MA, University of Mississippi
MISSION
THE SCHOOL OF SCIENCES offers programs leading to Bachelor of Science degrees in Biochemistry, Biology, Biomedical Science, Chemistry, Computer Science, Ecology, Mathematics, Natural Science, Physics, and Engineering Physics, as well as a Bachelor of Arts degree in Mathematics and Bachelor of Science degree in Nursing. Students seeking to enter schools of medicine, dentistry, pharmacy, or any health-related professional school traditionally enroll in the School of Sciences. The baccalaureate degrees in Biochemistry, Biology, Biomedical Science, and Chemistry are designed to meet the entrance requirements of all health-related professional schools.

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

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

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

DUAL DEGREE (Undergraduate/Graduate) OPPORTUNITIES IN SCIENCE
Christian Brothers University has agreements with the Southern College of Optometry, Union University School of Pharmacy, University of Tennessee Health Science Center College of Pharmacy, and CBU’s Master of Science in Physician Assistant Studies through which students majoring in Natural Science at CBU have the possibility of admission into the Professional School or Master’s program after completing 3 to 3½ years of undergraduate study. Students are not guaranteed admission and must meet all admission requirements for the Professional School or Master’s program. Upon completion of the Professional School or Master’s program, two degrees may be awarded—one from the Professional School or Master’s program and the BS in Natural Science from Christian Brothers University.

DEGREE REQUIREMENTS
In order to graduate, a student must complete 122 semester credit hours with an overall grade point average of 2.0 or above and a minimum 2.0 grade point average in the satisfaction of major requirements. In addition, every student must satisfy the requirements of 6 hours in English composition; a minimum of 18 hours in humanities/social science that must include at least 3 hours in literature, 6 hours in religious studies, 3 hours in moral values course work, and 6 hours in the social sciences. All Math and Natural Science requirements, and sometimes some of the other above requirements, are already specified for the majors in Science. Details on permitted or recommended courses can be found in the General Education section of this catalog.
### General Education Requirements: (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
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<tr>
<td>Mathematics</td>
<td>MATH 131</td>
<td>3</td>
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<tr>
<td>English Composition I</td>
<td>ENG 111</td>
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<td>Satisfied by Major Requirements</td>
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<tr>
<td>English Composition II</td>
<td>ENG 112</td>
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<tr>
<td>Religious Studies</td>
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<tr>
<td>Natural or Physical Science</td>
<td>CHEM 113/L</td>
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<td>Satisfied by Major Requirements</td>
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<td>Moral Values</td>
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<tr>
<td>Aesthetics</td>
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**TOTAL HOURS FOR GER: 24**

### Biochemistry Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Bioinformatics</td>
<td>CS 240</td>
<td>3</td>
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<tr>
<td>Calculus I</td>
<td>MATH 131</td>
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<tr>
<td>Applied Statistics</td>
<td>MATH 201</td>
<td>3</td>
<td></td>
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<tr>
<td>Introductory Physics I / Lab</td>
<td>PHYS 201/L</td>
<td>4</td>
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<tr>
<td>Introductory Physics II / Lab</td>
<td>PHYS 202/L</td>
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<tr>
<td>Speech Communication</td>
<td>SPCH 123/L</td>
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**TOTAL HOURS FOR SUPPORT REQUIREMENTS: 20**

### Biochemistry Major Requirements: (Transfer students must take at least 15 hours of required CHEM courses numbered above 300 at CBU) (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Principles of Chemistry I / Lab</td>
<td>CHEM 113/L</td>
<td>4</td>
<td></td>
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<tr>
<td>Principles of Chemistry II / Lab</td>
<td>CHEM 114/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Organic Chemistry I / Lab</td>
<td>CHEM 211/L</td>
<td>4</td>
<td></td>
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<tr>
<td>Organic Chemistry II / Lab</td>
<td>CHEM 212/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Quantitative Analysis / Lab</td>
<td>CHEM 214/L</td>
<td>4</td>
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<tr>
<td>Biochemistry I / Lab</td>
<td>CHEM 315/L</td>
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<tr>
<td>Biochemistry II / Lab</td>
<td>CHEM 316/L</td>
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<td>Research Seminar IV</td>
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<td>Research Seminar V</td>
<td>CHEM 403</td>
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<td>Chemistry Electives</td>
<td>CHEM 419</td>
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<td>Choose from: CHEM 331, 342, 410, 415/L, or 420</td>
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**TOTAL HOURS FOR CHEMISTRY: 22**

### Biology Requirements

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<th>COURSE</th>
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<th>CREDITS</th>
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</thead>
<tbody>
<tr>
<td>Principles of Biology I / Lab</td>
<td>BIOL 111/L</td>
<td>4</td>
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<tr>
<td>Principles of Biology II / Lab</td>
<td>BIOL 112/L</td>
<td>4</td>
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<tr>
<td>Human Anatomy &amp; Physiology I / Lab</td>
<td>BIOL 211/L</td>
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<tr>
<td>Human Anatomy &amp; Physiology II / Lab</td>
<td>BIOL 212/L</td>
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<tr>
<td>Genetics / Lab</td>
<td>BIOL 311/L</td>
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<tr>
<td>Microbiology / Lab</td>
<td>BIOL 321/L</td>
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<tr>
<td>Immunology / Lab</td>
<td>BIOL 415/L</td>
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<tr>
<td>Cell / Molecular Biology / Lab</td>
<td>BIOL 421/L</td>
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**TOTAL HOURS FOR BIOLOGY: 32**

**TOTAL MAJOR REQUIREMENTS: 67**

### School of Science Major-Specific Electives

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<td>Free Electives</td>
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<td>Excluding ALG 110, ALG 115, ALG 120, ENG 100, and MATH 100</td>
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**TOTAL HOURS FOR MAJOR-SPECIFIC ELECTIVES: 11**

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION: 122**
### General Education Requirements: (If - Refer to page 24 for Course Options)

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<td>Mathematics</td>
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<tr>
<td>Statistics</td>
<td>MTH 250 or BIOL 340</td>
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<td>Biochemistry</td>
<td>BIOL 112</td>
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<td>Biochemistry</td>
<td>BIOL 111</td>
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<td>Biochemistry</td>
<td>BIOL 110</td>
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<td>Biochemistry</td>
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<td>Biochemistry</td>
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<td>BIOL 101</td>
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### School of Science Support Requirements

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<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>Principles of Chemistry I</td>
<td>CHEM 113/L</td>
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<tr>
<td>Principles of Chemistry II</td>
<td>CHEM 114/L</td>
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<td>Organic Chemistry I</td>
<td>CHEM 211/L</td>
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<td>Organic Chemistry II</td>
<td>CHEM 212/L</td>
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<td>Chemistry Elective I</td>
<td>CHEM 213/L</td>
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<td>Chemistry Elective II</td>
<td>CHEM 214/L</td>
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<tr>
<td>Introductory Physics I</td>
<td>PHYS 201/L</td>
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<tr>
<td>Introductory Physics II</td>
<td>PHYS 202/L</td>
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<td>Calculus I</td>
<td>MTH 131</td>
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<tr>
<td>Applied Statistics</td>
<td>MTH 310/L</td>
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</table>

### Biology Major Requirements: (2.0 GPA in Major Required) (Transfer Students Must Take at Least 30 Hours of Biology at or Above the 300 Level at CBU)

<table>
<thead>
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<th>Course</th>
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<tr>
<td>Principles of Biology I</td>
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<tr>
<td>Principles of Biology II</td>
<td>BIOL 111/L</td>
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<td>Seminar</td>
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<td>Genetics</td>
<td>BIOL 310/L</td>
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<td>Research</td>
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### Total Hours for Major: 18

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### Standard Biology Major Elective Requirements

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### Total Hours Biology Electives 200+ Level: 30

### Total Major Requirements: 48

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### School of Science Major-Specific Electives

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### Total Hours for Major-Specific Electives: 12

### Total Credits Required for Bachelor Degree Completion: 122

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### General Education Requirements: (If - Refer to page 24 for Course Options)

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### School of Science Support Requirements

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### Total Hours for Support Requirements: 34

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### Biology Major Requirements: (2.0 GPA in Major Required) (Transfer Students Must Take at Least 30 Hours of Biology at or Above the 300 Level at CBU)

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### Total Hours for Major: 18

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### Standard Biology Major Elective Requirements

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### Total Hours Biology Electives 200+ Level: 30

### Total Major Requirements: 48

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### School of Science Major-Specific Electives

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### Total Hours for Major-Specific Electives: 12

### Total Credits Required for Bachelor Degree Completion: 122

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### General Education Requirements: (If - Refer to page 24 for Course Options)

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### Total Hours for Support Requirements: 34

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### Biology Major Requirements: (2.0 GPA in Major Required) (Transfer Students Must Take at Least 30 Hours of Biology at or Above the 300 Level at CBU)

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### Total Hours for Major: 18

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### Standard Biology Major Elective Requirements

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### Total Hours Biology Electives 200+ Level: 30

### Total Major Requirements: 48

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### Total Hours for Major-Specific Electives: 12

### Total Credits Required for Bachelor Degree Completion: 122

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## General Education Requirements

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**Total Hours for Support Requirements**: 27

### Chemistry Major Requirements

Transfer Students Must Take at Least 15 Hours of Required CHEM Courses Numbered at or Above 300 at CBU.

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**Total Hours for Major**: 45

### School of Science Major-Specific Electives

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**Total Hours for Major-Specific Electives**: 26

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## Course Requirements for Bachelor of Science in Chemistry

### Chemistry Major Requirements

(Computer Science Concentration Required, 2.0 GPA in Major Required)

- **Total Major Requirements**: 46-49

### School of Science Major-Specific Electives

- **Total Credits Required for Bachelor Degree Completion**: 122

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## General Education Requirements

### School of Science Support Requirements

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**Total Hours for Support Requirements**: 27

### Chemistry Major Requirements

Transfer Students Must Take at Least 15 Hours of Required CHEM Courses Numbered at or Above 300 at CBU.

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**Total Hours for Major-Specific Electives**: 26

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## Course Requirements for Bachelor of Science in Computer Science

### Computer Science Major Requirements

(Computer Science Concentration Required, 2.0 GPA in Major Required, Transfer Students Must Take at Least One Half of the Required Computer-Related Courses Numbered 300 or Above at CBU)

- **Total Major Requirements**: 46-49

### School of Science Major-Specific Electives

- **Total Credits Required for Bachelor Degree Completion**: 122

---

## General Education Requirements

### School of Science Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
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<tbody>
<tr>
<td>Calculus I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Differential Equations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus III</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics I / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics II / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics III / Lab</td>
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**Total Hours for Support Requirements**: 27

### Chemistry Major Requirements

- **Total Major Requirements**: 46-49

### School of Science Major-Specific Electives

- **Total Credits Required for Bachelor Degree Completion**: 122

---

## Course Requirements for Bachelor of Science in Computer Science

### Computer Science Major Requirements

(Computer Science Concentration Required, 2.0 GPA in Major Required, Transfer Students Must Take at Least One Half of the Required Computer-Related Courses Numbered 300 or Above at CBU)

- **Total Major Requirements**: 46-49

### School of Science Major-Specific Electives

- **Total Credits Required for Bachelor Degree Completion**: 122

---

## General Education Requirements

### School of Science Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Calculus I</td>
<td>3</td>
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<tr>
<td>Calculus II</td>
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<td>Differential Equations</td>
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<tr>
<td>Calculus III</td>
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<td>Statistics</td>
<td>3</td>
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<td>Physics II / Lab</td>
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</tr>
<tr>
<td>Physics III / Lab</td>
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**Total Hours for Support Requirements**: 27

### Chemistry Major Requirements

Transfer Students Must Take at Least 15 Hours of Required CHEM Courses Numbered at or Above 300 at CBU.

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<tbody>
<tr>
<td>Principles of Chemistry I / Lab</td>
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<tr>
<td>Principles of Chemistry II / Lab</td>
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</tr>
<tr>
<td>Organic Chemistry I / Lab</td>
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<tr>
<td>Organic Chemistry II / Lab</td>
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<tr>
<td>Quantitative Analysis / Lab</td>
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</tr>
<tr>
<td>Biochemistry I / Lab</td>
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<tr>
<td>Research Seminar I</td>
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</tr>
<tr>
<td>Research Seminar II</td>
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<tr>
<td>Physical Chemistry I / Lab</td>
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</tr>
<tr>
<td>Physical Chemistry II / Lab</td>
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</tr>
<tr>
<td>Analytical Chemistry / Lab</td>
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<tr>
<td>Inorganic Chemistry / Lab</td>
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</tr>
<tr>
<td>Research Seminar III</td>
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<td>Research Seminar IV</td>
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<td>Upper Division Chemistry Electives</td>
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**Total Hours for Major**: 45

### School of Science Major-Specific Electives

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**Total Hours for Major-Specific Electives**: 26
CONCENTRATION REQUIREMENTS FOR BACHELOR OF SCIENCE IN COMPUTER SCIENCE

(All Computer Science majors are required to select one of the following concentrations)

### BIOINFORMATICS CONCENTRATION

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<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Principles of Biology I/ Lab</td>
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</tr>
<tr>
<td>Principles of Biology II/ Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Chemistry I/ Lab</td>
<td>4</td>
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</tr>
<tr>
<td>Principles of Chemistry II/ Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Organic Chemistry I/ Lab</td>
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<td></td>
</tr>
<tr>
<td>Organic Chemistry II/ Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Genetics / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Introduction to Biometrics</td>
<td>3</td>
<td>May Also Take CS 240</td>
</tr>
<tr>
<td>Microbiology / Lab</td>
<td>3</td>
<td>May Also Take CHEM 315/L</td>
</tr>
<tr>
<td>Entymology / Lab</td>
<td>4</td>
<td>IT Completed CHEM 315, Take CHEM 316 (3 hrs.)</td>
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**TOTAL HOURS FOR BIOI CONCENTRATION**: 39

### FORENSICS CONCENTRATION

<table>
<thead>
<tr>
<th>COURSE</th>
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<th>NOTES</th>
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<tbody>
<tr>
<td>Principles of Biology I/ Lab</td>
<td>4</td>
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</tr>
<tr>
<td>Principles of Biology II/ Lab</td>
<td>4</td>
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</tr>
<tr>
<td>Principles of Chemistry I/ Lab</td>
<td>4</td>
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<td>Microbiology / Lab</td>
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<td>May Also Take CHEM 315/L</td>
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<tr>
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**TOTAL HOURS FOR FORE CONCENTRATION**: 46

### BUSINESS CONCENTRATION

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<tr>
<td>Microeconomics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Marketing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Engineering Economy</td>
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<tr>
<td>International Business</td>
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<td></td>
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<tr>
<td>International Marketing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Organization &amp; Management</td>
<td>3</td>
<td></td>
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<tr>
<td>Required Minor for Business Option</td>
<td>12-27</td>
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**TOTAL HOURS FOR CSBU CONCENTRATION**: 33-48

### ENGINEERING CONCENTRATION

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<tr>
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<td>3</td>
<td></td>
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<tr>
<td>Circuits I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Object Oriented Programming</td>
<td>4</td>
<td></td>
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<tr>
<td>Computer Systems Design &amp; Architecture</td>
<td>3</td>
<td></td>
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<tr>
<td>Computer Networks</td>
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<tr>
<td>ECE/CS Electives</td>
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<tr>
<td>Required Minor for Engineering Option</td>
<td>12-27</td>
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**TOTAL HOURS FOR CSBU CONCENTRATION**: 33-48

### FORENSICS CONCENTRATION

<table>
<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>Principles of Biology I/ Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Biology II/ Lab</td>
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<tr>
<td>Principles of Chemistry II/ Lab</td>
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</tr>
<tr>
<td>Human Anatomy &amp; Physiology I/ Lab</td>
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</tr>
<tr>
<td>Human Anatomy &amp; Physiology II/ Lab</td>
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<td></td>
</tr>
<tr>
<td>Quantitative Analysis / Lab</td>
<td>4</td>
<td></td>
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<tr>
<td>Applied Statistics</td>
<td>3</td>
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<tr>
<td>Microbiology / Lab</td>
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<tr>
<td>Biological Elective Above 300 &amp; Lab</td>
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<tr>
<td>Forensic Anthropology / Lab</td>
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<td>Medical Anthropology</td>
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**TOTAL HOURS FOR FORE CONCENTRATION**: 46

### GENERAL EDUCATION REQUIREMENTS: (If - Refer to page 24 for Course Options)

<table>
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<tr>
<td>Mathematics</td>
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<tr>
<td>Statistics</td>
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</tr>
<tr>
<td>English Composition I</td>
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<td></td>
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<tr>
<td>English Composition II</td>
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<tr>
<td>English Literature</td>
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</tr>
<tr>
<td>Religious Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
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<td>Mural Values</td>
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<tr>
<td>Arts</td>
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**TOTAL CREDITS FOR MAJOR**: 129

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**: 129

### SCHOOL OF SCIENCE SUPPORT REQUIREMENTS

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<thead>
<tr>
<th>COURSE</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Foreign Language</td>
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<tr>
<td>Digital Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Microprocessor Architecture / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Systems Architecture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Computer Networks</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics I / Lab</td>
<td>4</td>
<td></td>
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<tr>
<td>Physics II / Lab</td>
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<tr>
<td>Choose From: ECE 451, 453, 414 or 480-9</td>
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**TOTAL HOURS FOR SUPPORT REQUIREMENTS**: 36

### COMP SCI MAJOR REQUIREMENTS: (Transfer Students Must Take at Least One Half of the Required Math and Computer Science Courses Numbered at or Above 300 at CBU)

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<tr>
<th>COURSE</th>
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<tbody>
<tr>
<td>Introduction to Engineering Problem Solving</td>
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<tr>
<td>Fundamentals of Computer Science / Lab</td>
<td>4</td>
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</tr>
<tr>
<td>Data Structures / Lab</td>
<td>3</td>
<td></td>
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<tr>
<td>Object Oriented Design</td>
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<td>Operating Systems</td>
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<td>Internship in Computer Science</td>
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<tr>
<td>Algorithms</td>
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<td>Database Design</td>
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<td>Computer Science Project I</td>
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<td>Calculus II</td>
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<td>Differential Equations</td>
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<td>Linear Algebra</td>
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<td>Abstract Algebra</td>
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<td>Discrete Math</td>
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<td>Complex Analysis</td>
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<td>Real Analysis</td>
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<td>Multi Seminar II</td>
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**TOTAL CREDITS FOR MAJOR**: 86

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**: 129

2.0 CUMULATIVE GPA REQUIRED
### COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN ECOLOGY

<table>
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<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
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<tr>
<td>Mathematics</td>
<td>MATH 131</td>
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<td>Statistics</td>
<td>BIOL 240</td>
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<td>English Composition I</td>
<td>ENGL 111</td>
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<td>English Composition II</td>
<td>ENGL 112</td>
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<td>Waived if ENG 211/212, Add 1 hr to Electives</td>
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<td>Free Electives</td>
<td>PHIL 325</td>
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<td>Satisfied by English Literature GER</td>
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**TOTAL HOURS FOR SUPPORT REQUIREMENTS**

**TOTAL HOURS FOR MAJOR**

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**

### COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN ENGINEERING PHYSICS

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<tr>
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<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 131</td>
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<td>Statistics</td>
<td>MATH 121</td>
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<td>English Composition I</td>
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**TOTAL HOURS FOR MAJOR-SPECIFIC ELECTIVES**

**TOTAL HOURS FOR SUPPORT REQUIREMENTS**

**TOTAL HOURS FOR GER**

**TOTAL HOURS FOR BACHELOR DEGREE COMPLETION**

### GENERAL EDUCATION REQUIREMENTS: (Refer to page 24 for Course Options)

**COURSE NUMBER**
**CREDITS**
**NOTES**

### SCHOOL OF SCIENCE MAJOR-SPECIFIC ELECTIVES

**COURSE NUMBER**
**CREDITS**
**NOTES**

### TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION

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<td>122</td>
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## COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN MATHEMATICS

### GENERAL EDUCATION REQUIREMENTS

#### MATS

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<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td>Fulfilled by Major Requirements</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 131</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Statistics</td>
<td>MATH 121</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Calculus I</td>
<td>MATH 132</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Calculus II</td>
<td>MATH 122</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Calculus III</td>
<td>MATH 231</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>MATH 220</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Differential Equations</td>
<td>MATH 221</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Complex Analysis</td>
<td>MATH 320</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Real Analysis</td>
<td>MATH 321</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Senior Seminar</td>
<td>MATH 351</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>Math Elective</td>
<td>MATH 499</td>
<td>3</td>
<td>Fulfilled by Concentration</td>
</tr>
<tr>
<td>TOTAL HOURS FOR MATHEMATICS MAJOR</td>
<td>60</td>
<td></td>
<td></td>
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</tbody>
</table>

### SCHOOL OF SCIENCE MAJOR-SPECIFIC ELECTIVES

- **Free Electives**: 6-23

### TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION

- 122
- 2.0 Cumulative GPA Required
## Course Requirements for Bachelor of Arts in Mathematics

### General Education Requirements: (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 111</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>MATH 112</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus III</td>
<td>MATH 231</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calculus II</td>
<td>MATH 232</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calculus I</td>
<td>MATH 233</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>MATH 401</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Abstract Algebra</td>
<td>MATH 402</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Real Analysis</td>
<td>MATH 413</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar I</td>
<td>MATH 481</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar II</td>
<td>MATH 482</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Math Electives</td>
<td>MATH 301, 308, 309, 329, 405 or 470-479</td>
<td>9</td>
<td>Choose From: MATH 301, 308, 309, 329, 405 or 470-479</td>
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</table>

Total Hours for Major:

29

### School of Science Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy Elective</td>
<td>ENG 111</td>
<td>3</td>
<td>Any PHIL Course</td>
</tr>
<tr>
<td>Literature Elective</td>
<td>ENG 112</td>
<td>3</td>
<td>Choose From: ENG 211, 212, 221 or 222</td>
</tr>
</tbody>
</table>

Total Hours for Support Requirements:

24

## Course Requirements for Bachelor of Science in Natural Science

### General Education Requirements: (Refer to page 24 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 117 or 131</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>NSCI 410</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus I</td>
<td>MATH 131</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calculus II</td>
<td>MATH 132</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calculus III</td>
<td>MATH 231</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Calculus IV</td>
<td>MATH 232</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Introduction to Discrete Math</td>
<td>MATH 401</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Differential Equations</td>
<td>MATH 402</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>MATH 403</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Abstract Algebra</td>
<td>MATH 404</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Real Analysis</td>
<td>MATH 413</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar I</td>
<td>MATH 481</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar II</td>
<td>MATH 482</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Math Electives</td>
<td>MATH 301, 308, 309, 329, 405 or 470-479</td>
<td>9</td>
<td>Choose From: MATH 301, 308, 309, 329, 405 or 470-479</td>
</tr>
</tbody>
</table>

Total Hours for Major:

39

### School of Science Support Requirements

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Elective</td>
<td>#</td>
<td>3</td>
<td>Choose from: MATH 106, 131 or 132</td>
</tr>
</tbody>
</table>

Total Hours for Support Requirements:

27

### Natural Science Major Requirements: (2.0 GPA or Major Requirement) (Transfer Students Must Take at Least 15 of the Required Hours Numbered at or Above the 300 Level at CBU, and This Must Include at Least Two Courses (6 to 8 Hours Excluding NSCI 410) at or Above the 300 Level)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Biology I / Lab</td>
<td>CHEM 101</td>
<td>4</td>
<td>Choose From: BIOL 109/L or BIOL 111/L</td>
</tr>
<tr>
<td>Principles of Chemistry I / Lab</td>
<td>CHEM 111</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Chemistry I / Lab</td>
<td>CHEM 115</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Introductory Physics I / Lab</td>
<td>PHYS 201/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Introductory Physics II / Lab</td>
<td>PHYS 202/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Natural Science Major Courses (100+ Level in BIOL, CHEM, NSCI or PHYS)</td>
<td></td>
<td>8</td>
<td>May Not Take CHEM 101</td>
</tr>
<tr>
<td>Natural Science Major Courses (200+ Level in BIOL, CHEM, NSCI or PHYS)</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Other Science Courses (300+ Level in BIOL, CHEM, NSCI or PHYS)</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar</td>
<td>NSCI 410</td>
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Total Hours for Major:

50

### School of Science Major-Specific Electives

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Free Electives</td>
<td></td>
<td>42</td>
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</table>

Total Hours for Major-Specific Electives:

42

Total Credits Required for Bachelor Degree Completion... 122

2.0 Cumulative GPA Required
## General Education Requirements

### School of Science Support Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Elective</td>
<td>3</td>
<td>Choose from: MATH 101, 103, 111</td>
</tr>
</tbody>
</table>

**Total Hours for GER:** 30

### Natural Science Major Requirements (2.0 GPA in Major & Concentration Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Biology I / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Biology II / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Principles of Chemistry I / Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Chemistry II / Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics I / Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics II / Lab</td>
<td>3</td>
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</table>

**Total Hours for Major:** 24

### Public Health Concentration Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Principles of Epidemiology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biology of Addictive / Lab or Env. Biology / Lab</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Parasitology / Lab</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Senior Seminar</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Senior Research</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>200+ Level Science</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>300+ Level Biology</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Global Health</td>
<td>3</td>
<td></td>
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<tr>
<td>Medical Anthropology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science Electives</td>
<td>12</td>
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</table>

**Total Hours for PHL Concentration:** 51

### Total Major Requirements:

Total: 75

---

**Notes:**

- Students transferring from schools that are not regionally accredited will require the Nursing Block Experiential Learning Credit. This block credit will provide 35 lower division nursing credits. There is a fee associated with posting the Nursing Block Experiential Learning Credit which is paid by the student. This fee must be paid before the Block Credit can be posted and no later than the last semester at CBU.

- Satisfied by NURS 300 or 12+ Hours of Transfer Credit

---

**RN to BSN Major Requirements:** (2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (200 Level)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies - RS (300 Level)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours for GER:** 31

---

### School of Science Major-Specific Electives

**Notes:**

- Remove 6 lower division nursing credits
- Students transfers from schools that are not regionally accredited will require the Nursing Block Experiential Learning Credit. This block credit will provide 35 lower division nursing credits. There is a fee associated with posting the Nursing Block Experiential Learning Credit which is paid by the student. This fee must be paid before the Block Credit can be posted and no later than the last semester at CBU.

**Total Hours for Major:** 67

---

**Total Credits Required for Bachelor Degree Completion:** 122

**2.0 Cumulative GPA Required**
## COURSE REQUIREMENTS FOR BACHELOR OF SCIENCE IN PHYSICS

### PHYS<br>

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>MATH 308</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td>May take ENG 231</td>
</tr>
<tr>
<td>English Composition II</td>
<td>ENG 112</td>
<td>3</td>
<td>May take ENG 232</td>
</tr>
<tr>
<td>English Literature</td>
<td>#</td>
<td>3</td>
<td>Waived if ENG 231/232 and 3 hr to Free Elect</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>#</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Natural or Physical Science</td>
<td>PHYS 150/L</td>
<td>1</td>
<td>Satisfied by Major Requirements</td>
</tr>
<tr>
<td>Mural Values</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy or Literature</td>
<td>#</td>
<td>3</td>
<td></td>
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<tr>
<td><strong>TOTAL HOURS FOR SUPPORT REQUIREMENTS</strong></td>
<td></td>
<td><strong>30</strong></td>
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### SCHOOL OF SCIENCE SUPPORT REQUIREMENTS<br>

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry I / Lab</td>
<td>CHEM 113/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>General Chemistry II /Lab</td>
<td>CHEM 114/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Fundamentals of Computer Science /Lab</td>
<td>CS 172/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Engineering Instrumentation</td>
<td>ECE 201</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Electric Circuit Analysis I</td>
<td>ECE 221</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus I</td>
<td>MATH 131</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus II</td>
<td>MATH 132</td>
<td>3</td>
<td></td>
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<tr>
<td>Differential Equations</td>
<td>MATH 231</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus III</td>
<td>MATH 232</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Probability</td>
<td>MATH 309</td>
<td>3</td>
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<tr>
<td>Math Electives (300+ Level)</td>
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<td>6</td>
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<tr>
<td><strong>TOTAL HOURS FOR SUPPORT REQUIREMENTS</strong></td>
<td></td>
<td><strong>39</strong></td>
<td></td>
</tr>
</tbody>
</table>

### PHYSICS MAJOR REQUIREMENTS: (2.0 GPA, a Major Required) Transfer Students Must Take at Least 14 Hours of the Required Courses Numbered Above 300 at CBU)<br>

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics I / Lab</td>
<td>PHYS 250/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics II / Lab</td>
<td>PHYS 251/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physics III / Lab</td>
<td>PHYS 252/L</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Electromagnetic Fields</td>
<td>PHYS 340</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Special Relativity</td>
<td>PHYS 347</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Solid State Physics</td>
<td>PHYS 353</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Advanced Mechanics I</td>
<td>PHYS 380</td>
<td>3</td>
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</tr>
<tr>
<td>Advanced Mechanics II</td>
<td>PHYS 381</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Optics / Lab</td>
<td>PHYS 415/L</td>
<td>4</td>
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<tr>
<td>Thermal Physics</td>
<td>PHYS 430</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Quantum Mechanics I</td>
<td>PHYS 447</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Quantum Mechanics II</td>
<td>PHYS 448</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Advanced Physics Lab</td>
<td>PHYS 452</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Research I</td>
<td>PHYS 491</td>
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</tr>
<tr>
<td>Research II</td>
<td>PHYS 492</td>
<td>2</td>
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<tr>
<td>Senior Comprehensives</td>
<td>PHYS 499</td>
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<tr>
<td><strong>TOTAL HOURS FOR MAJOR</strong></td>
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### SCHOOL OF SCIENCE MAJOR-SPECIFIC ELECTIONS<br>

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Elections</td>
<td></td>
<td>14</td>
<td>Maximum 3 hours of PHYS</td>
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<tr>
<td><strong>TOTAL HOURS FOR MAJOR-SPECIFIC ELECTIONS</strong></td>
<td></td>
<td><strong>14</strong></td>
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</table>

### GENERAL EDUCATION REQUIREMENTS: (Refer to page 24 for Course Options)<br>

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Orientation to CBU</td>
<td>CBU 101</td>
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<tr>
<td>Mathematics</td>
<td>MATH 131</td>
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<td>Statistics</td>
<td>MATH 308</td>
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<tr>
<td>English Composition I</td>
<td>ENG 111</td>
<td>3</td>
<td>May take ENG 231</td>
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<tr>
<td>English Composition II</td>
<td>ENG 112</td>
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<td>May take ENG 232</td>
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<tr>
<td>English Literature</td>
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<td>3</td>
<td>Waived if ENG 231/232 and 3 hr to Free Elect</td>
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<tr>
<td>Religious Studies</td>
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<tr>
<td>Social Science or History</td>
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<td>Natural or Physical Science</td>
<td>PHYS 150/L</td>
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<td>Satisfied by Major Requirements</td>
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<tr>
<td>Mural Values</td>
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<tr>
<td>Philosophy or Literature</td>
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<tr>
<td><strong>TOTAL HOURS FOR GER</strong></td>
<td></td>
<td><strong>30</strong></td>
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### MINORS IN THE SCHOOL OF SCIENCES<br>

At least 50% of required courses for a minor must be taken at CBU.<br>

**MINOR IN BIOLOGY:** A minor in Biology requires a minimum of 25 hours in BIOL courses, including BIOL 111 and BIOL 112 and laboratory corequisites plus 15 hours in BIOL courses numbered 200 or above including 7 hours in BIOL courses numbered 300 and above and earned at CBU. See the information about the Bioinformatics Option and the Forensics Option on the pages associated with the BS in Computer Science and the BS in Mathematics. This minor is not available to Natural Science majors.<br>

**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. This minor is not available to Natural Science majors.<br>

**MINOR IN COMPUTER SCIENCE:** A minor in Computer Science requires the following courses CS 172, 234, 254L, 255L, 256L, MATH 141 or 405, and one course selected from CS 370, 440, 460-469.<br>

**MINOR IN MATHEMATICS:** A minor in Mathematics requires 21 hours in MATH courses including MATH 131, 132, 232, 233, and three MATH courses numbered 300 or above. At least 6 hours in MATH courses numbered 300 or above must be earned at CBU.<br>

**MINOR In PHYSICS:** A minor in Physics requires a minimum of 21 hours in PHYS courses including the following courses PHYS 150, 150L, 251, 251L, 252, 252L, and at least 9 hours in PHYS courses numbered 300 or above. At least 5 hours in PHYS courses numbered 300 or above must be earned at CBU, and no more than 4 hours in PHYS courses numbered 300 or above may be earned via challenge exams. This minor is not available to Natural Science majors.<br>

**MINOR In PUBLIC HEALTH (SCIENCE OPTION):** A minor in Public Health (science option) requires 36 hours including BIOL 101, 102, 111/L, 112/L, CHEM 111/L, PHIL 322 or 325, SOC/ANTH 350 Global Health, and 12 hours selected from the following: BIOL 103/L, 107/L, 236, 321/L, 370, 412/L, 413/L, and 492 (a special topic course in public health with the permission of the biology department). Note that BIOL 321 and 370 require CHEM 211 as a prerequisite.  

**MINORS IN THE SCHOOL OF SCIENCES**

At least 50% of required courses for a minor must be taken at CBU.<br>

**MINOR IN BIOLOGY:** A minor in Biology requires a minimum of 25 hours in BIOL courses, including BIOL 111 and BIOL 112 and laboratory corequisites plus 15 hours in BIOL courses numbered 200 or above including 7 hours in BIOL courses numbered 300 and above and earned at CBU. See the information about the Bioinformatics Option and the Forensics Option on the pages associated with the BS in Computer Science and the BS in Mathematics. This minor is not available to Natural Science majors.<br>

**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. This minor is not available to Natural Science majors.<br>

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INTERDISCIPLINARY PROGRAMS

Some academic programs cross Departmental and School boundaries. They consist of courses drawn from various disciplines and are thus listed separately. Below please find a listing of such interdisciplinary approaches.

CYBERSECURITY AND FORENSICS

Schools of Business, Engineering and Science

FACULTY

DANIEL M. BRANDON, JR., Professor
BS, Case Western Reserve University; MS, PhD, University of Connecticut; PMP

PASCAL BEDROSSIAN, Professor
BS, Christian Brothers University; MS, PhD, Memphis State University

KELLI E. HEFNER, Adjunct Assistant Professor
BA, MA, PhD, Louisiana State University

LAWRENCE J. SCHMITT, Professor
BBA, MBA, PhD, University of Memphis; MSCE

H. JOHN VENTURA, Associate Professor
BS, Christian Brothers College; M.E., University of Florida; EdS., PhD, Nova Southeastern University; PE

ERIC B. WELCH, Professor
BS, MS, PhD, Mississippi State University

PART-TIME FACULTY

AMY WARE, Adjunct Lecturer
BA, University of Mississippi; MA, University of Memphis

INTERDISCIPLINARY PROGRAMS

This degree is only for students who have been admitted into the BA/BS Interdisciplinary Studies Program with an approved proposal by the VP of Academics and Student Life.

ADMISSIONS REQUIREMENTS:

To be admitted, a student must submit a written proposal that must contain the rationale for the degree sought and a proposed paradigm. The proposal must be approved by the student’s ad hoc committee (which includes three faculty members: the advisor, a faculty member from the second field, and a third appropriate faculty member) and the Vice President for Academics and Student Life prior to the end of the student’s fourth semester.

CURRICULUM REQUIREMENTS:

Students who wish to major in Interdisciplinary Studies will be required to meet all of the requirements for a minor in a field offered by CBU (other than Interdisciplinary Studies). The student’s advisor and chair of her/his ad hoc faculty committee must be a faculty member in this minor department.

In addition to meeting all requirements for the above minor, the student must take 18 or more hours from at least one other major or minor field offered by CBU, 9 hours or more of which must be 300-level or above courses. A second faculty member of the student’s faculty committee must come from this second field.

Overall, the student must have 30 or more hours of 300-level or above coursework, excluding the capstone project credit. All General Education requirements, GPA, and other University requirements must be met. The student must also participate in the research or capstone project of the minor field. An “interdisciplinary studies” or “independent study” capstone will not satisfy this requirement. The “major GPA” will include all courses taken in the two primary areas of study, along with a senior project, and therefore must be a 2.00 average or above.

GPA requirements – 2.0 cumulative; 2.0 for major (inclusive of minor, secondary area of study, capstone project). Students will make specific curricular choices with the direction of the advisor, including General Education courses, which can be found on page 25.

Total credits required for the degree: 121
**GENERAL EDUCATION REQUIREMENTS: (Refer to page 24 for Course Options)**

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<th>COURSE NUMBER</th>
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<th>NOTES</th>
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**CYBER SECURITY MAJOR REQUIREMENTS: (Computer Science Concentration Required; 2.0 GPA in Major Required)**

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**MINOR REQUIREMENTS**

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**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION:**

121
ACCOUNTING COURSES
Requirements for the major are found on Page 67.

ACCT 260. FINANCIAL ACCOUNTING
This course will provide the student with an understanding of how financial accounting information is used in business decision making and its importance in a fast-paced world of major business transactions, financial statements, journal entries, T-accounts and are used to provide the student with the necessary concepts and theories for understanding the interplay between management decisions and the analysis of financial statements. Prerequisites: MATH 105/106, 117, 129, or 131, MIS 153 or CE 112. A grade of “C” or higher in this course is required to proceed to ACCT 264 or 270. One semester; three credits

ACCT 264. INTERMEDIATE FINANCIAL ACCOUNTING
I
First of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include accounting standards and the conceptual framework underlying financial accounting, accounting information systems, the income statement, the balance sheet and the time value of money. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 260. A grade of “C” or higher in this course is required to proceed to any upper level accounting course. Offered in the Fall semester. One semester; three credits

ACCT 270. MANAGERIAL ACCOUNTING
Managerial accounting introduces the student to methods of using accounting information within an organization to plan operations, control activities, and make decisions. Accounting methods covered include cost-volume-profit analysis, profit planning, variance analysis and other techniques that aid in decision making and evaluation of business performance. Prerequisite: ACCT 260 with a grade of “C” or higher. One semester; three credits

ACCT 312. ACCOUNTING SYSTEMS
(formerly ACCT 430)
Principles underlying establishment of complete accounting systems; application to typical business organizations; emphasis on the functions of control and protection. Prerequisite: ACCT 364 or 365 with a grade of “C” or higher. A grade of “C” or higher in this course is required to proceed into ACCT 412. Offered in the Spring semester. One semester; three credits

ACCT 319. COST ACCOUNTING
The course is designed to provide in-depth coverage of cost accounting concepts, objectives, and accumulation and reporting procedures. Particular attention is given to material, labor and overhead costs in job-order and process cost accumulation systems. The importance of cost accounting as a management tool in planning, controlling, and analysis is emphasized throughout the course. Prerequisite: ACCT 264 or 265 with a grade of “C” or higher. Offered in the Fall semester. One semester; three credits

ACCT 364. INTERMEDIATE FINANCIAL ACCOUNTING II
Second of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include cash and receivables, inventory, plant and equipment, depreciation, intangible assets, current and long-term liabilities and stockholders’ equity. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 264 or 265 with a grade of “C” or higher. Offered in the Fall semester. One semester; three credits

ACCT 366. INTERMEDIATE FINANCIAL ACCOUNTING III
Third of a series of three courses containing an in-depth study of Generally Accepted Accounting Principles. Topics covered include earnings per share, investments, revenue recognition, accounting for income tax, pensions and leases, accounting changes and the cash flow statement. Various pronouncements of the Financial Accounting Standards Board are covered. Prerequisite: ACCT 364 or 365 with a grade of “C” or higher. Offered in the Spring semester. One semester; three credits

ACCT 385. FRAUD EXAMINATION
This course gives a comprehensive view of the growing significance of fraud in today’s business world. This course will examine the nature of fraud, the types of fraud, recent developments in fraud, and the victims of fraud. Students will learn to perform an analysis of fraud using specialized software. (Same as CJ 370) Prerequisite: Must be a junior or senior. ACCT 260 and ACCT 270. 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 department, may be 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 priciple reports and a final summary report of work done verified by the authorized supervisor and the instructor. Prerequisite: ACCT 264 with a “C” or higher. Pass/Fail grading. One semester; three credits

ACCT 412. AUDITING
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 controls, audit programs and the overall audit plan. The auditor’s decision-making process is emphasized throughout the course. Prerequisite: ACCT 312 with a “C” or higher. Offered in the Fall semester. One semester; three credits

ACCT 430. FEDERAL INCOME TAXATION I
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 364 or 365 with a “C” or higher. Offered in the Fall semester. One semester; three credits

ACCT 431. FEDERAL INCOME TAXATION II
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. Offered in the Spring semester. One semester; three credits

ACCT 460-464. SPECIAL TOPICS IN ACCOUNTING
Each course is designed to permit intensive study into topics of special interest and timeliness in the area of Accounting. Offered as needed. One semester; three credits

ACCT 465. ADVANCED ACCOUNTING I
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 404 with a “C” or higher. Offered in the Fall semester. One semester; three credits

ACCT 475. GOVERNMENTAL AND NON-PROFIT ACCOUNTING
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 364 with a grade of “C” or higher. Offered in the Spring semester. One semester; three credits

ACCT 480. FINANCIAL STATEMENT ANALYSIS
This course is a review of financial statements for comprehensiveness and completeness in reporting. The focus is on the analysis of financial statements and related footnotes from the standpoint of the different users of financial reports. Required of all Accounting majors. Open to any interested student. Prerequisite: ACCT 260 with a grade of “C” or higher and FIN 327 with a grade of “C” or higher. Offered in the Spring semester. One semester; three credits

ACCT 485. FORENSIC ACCOUNTING
This course gives a comprehensive view of forensic accounting including both civil and criminal accounting fraud related activities. This course will explore false business valuations, employer fraud, information security fraud, and counter-terrorism. Prerequisite: ACCT 412. Offered in the Spring semester. One semester; three credits

ACCT 490. PROFESSIONAL ACCOUNTING ETHICS
This course introduces the student with an understanding of, and an appreciation for, the various ethics requirements of the accounting profession. Specific attention is given to the Code of Ethics of the AICPA, the IMA, and the FEI. Students will also understand the ethics requirements for certification by the State Boards of Accountancy. Prerequisites: ACCT 364 or 365 with a grade of “C” or higher and PHIL 220 or equivalent. Offered in the Fall semester. One semester; three credits

ACCT 491. INTERNATIONAL FINANCIAL REPORTING STANDARDS
Similarities and differences between GAAP and International Financial Reporting Standards (IFRS); international issues related to taxation and financial statement analysis. Prerequisite: ACCT 364 with a grade of “C” or higher. Offered in the Spring semester. One semester; three credits.

ACCT 499. ACCOUNTING COMPREHENSIVE EXAMINATION
Seniors will be required to take a comprehensive examination in all areas of accounting before graduation. The examination date will be announced. A passing score is required for graduation. Prerequisite: Permission of Dean of the School of Business. Pass/Fail grading. One semester. Zero credits.

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

ALGEBRA COURSES

ALG 115. BASIC ALGEBRAIC EXPRESSIONS
This course provides the student a review of basic math skills. Topics include algebraic expressions, polynomial operations, factoring, rational expressions, equations and inequalities. The course does not supply any portion of the math credits required in any CBU degree program. Students may not receive credit for both Algebra 110 and Algebra 115. Also, students may not receive credit for Algebra 115 after completing any Math course numbered 100 or above. One semester; one credit.

ALG 120. ALGEBRAIC EQUATIONS
This course is a continuation of Algebra 110 or 115. Topics include solving equations and inequalities and an introduction to functions and graphing. The course does not supply any portion of the mathematics credits required in any CBU degree program. Students may not receive credit for Algebra 120 after completing any Math course numbered 100 or above. Prerequisite: ALG 110 or 115. One semester; two credits.

ANTHROPOLOGY COURSES

ANTH 126. FORENSIC ANTHROPOLOGY
This course is the subspecialty of Physical Anthropology that involves excavation and identification of human remains for legal purposes. Students are exposed to the human skeleton and taught to examine bones for sex, age, ancestry, and stature differences. Interpretation of skeletal crime
These courses are intended for advanced (junior status or higher) students who wish additional experience in research. In ANTH 450 the student will direct work on a special topic or project in anthropology.

ANTH 350. GLOBAL HEALTH
This course will introduce students to the main concepts of the public health field and the critical links between public health and social and economic development. Students will get an overview of the determinants of health, how health status is measured, and the influence of various factors including social, economic, and political issues on the health of individuals and of communities. It will also introduce students to key concepts regarding nutrition, reproductive health, infectious diseases, and chronic diseases. Material will include key concepts, be practiced in a lab, and global in coverage but with an important focus on the developing world and on the health of the poor. (Same as SOC 350). One semester; one credit

ANTH 351. SOCIOLOGY OF THE FAMILY
Survey of changes in family systems over the years. Areas of study include cohabitation, love, mate selection, parenthood, and family problems. The course also examines cross-cultural comparisons and considers alternatives to traditional family forms. Emphasis is placed on the use of the empirical evidence to evaluate popular beliefs. (Same as SOC 351). One semester; three credits

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

ANTH 390-396. HONORS SPECIAL TOPICS IN ANTHROPOLOGY
Special topics in Anthropology open to members of the Honors Program by permission of the instructor and Honors Director. One semester; one to four credits

ANTH 450. INDEPENDENT RESEARCH IN ANTHROPOLOGY
These courses are intended for advanced (junior status or higher) students who wish additional experience in research. In ANTH 450 the student will investigate in depth a specialized topic in anthropology. In ANTH 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 semester; one to three credits

ARMY ROTC COURSES
Army ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

ART COURSES
Requirements for the major are found on page 44.

ART 101. ART APPRECIATION
The student will be exposed to different areas of the visual arts which will include the study of the visual elements and the principles of design. The course will also cover a brief survey of the highlights of art from the Paleolithic period to modern times. One semester; three credits

ART 102. 2-D DESIGN
Elements and principles of design will be the primary focus through the use of mixed media and collage techniques. How line, form, shape, and color influence composition will be the primary learning outcome of this course. One semester; three credits

ART 106. PHOTOSHOP ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Photoshop. Students begin working with the industry standard for creating raster/bitmap graphics. This incredibly deep program is used for graphic design, web design, image manipulation, photo restoration, digital compositing, retouching, and animation. By the end of the course students will have progressed from a beginner to intermediate skill level able to command many of the powerful tools Photoshop has to offer. Payment of expendable materials fee is required. Basic computer skills are necessary for the best outcome for this course. One semester; three credits

ART 107. ILLUSTRATOR ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Flash. Students get hands-on practice working with a sophisticated graphics application that has the capabilities to create complex designs. Students will explore digital drawing basics, combine text and graphics, and design and print packaging for mock products. Payment of expendable materials fee is required. Basic computer skills are necessary for the best outcome for this course. One semester; three credits

ART 108. INDESIGN ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe InDesign, a powerful but intuitive page layout application. Students work through basic toward advanced techniques ranging from type controls; graphics file management, layers and document setup. Students will explore designing a range of documents from simple and attractive to complex and spectacular. Payment of expendable materials fee is required. Basic computer skills are necessary for the best outcome for this course. One semester; three credits

ART 109. FLASH ESSENTIALS
This course is an introduction to the user interface, tools, and features of Adobe Flash. Students learn how to create basic Flash animations and movies using the timeline; discovering how the timeline in Flash can be used to create simple, dynamic, and powerful animation. Confidence builds throughout the semester while novice animators learn to navigate the Flash interface, create new Flash files, set stage properties, import images into Flash, create and work with text, create and format drawing objects and add layers. Payment of expendable materials fee is required. Basic computer skills are necessary for the best outcome for this course. One semester; three credits

ART 110. DREAMWEAVER ESSENTIALS
Dreamweaver has become one of the industry’s leading Web site design editing and management tool. This course is an introduction to the user interface, tools, and features of Dreamweaver. Students learn how to use Dreamweaver as a tool to create a web site; setting up a site in Dreamweaver, FTP with Dreamweaver, creating links, inserting text, and inserting images. In the beginning we will be told and told technical but as the semester progresses we start discussing basic concepts of Web design and as confidence builds throughout the semester students start to apply the basics of Web design concepts. Basic computer skills are necessary for the best outcome for this course. One semester; three credits

ART 111. DRAWING I
This course is an introduction to the basics of composition, visual elements, and principles of design. One semester; three credits

ART 200. OIL PAINTING I
The student will learn the basics of design along with techniques of oil painting, using paint from tubes as well as oilbars. One semester; three credits

ART 201. CONCEPTS AND CREATION IN THE VISUAL ARTS
The intended audience for the course is art majors, minors, and students interested in an art related career. Art 201 is an introduction to the concepts underlying artistic creation. Through lectures and studio work students will explore relationships between artistic practices and everyday life. The objective of the course is to foster the development of student’s appreciation and understanding of contemporary art through an examination of art and contemporary social, cultural, and political issues surrounding artistic practice. One semester; three credits

ART 203. PAINTING-WATER-BASED MEDIA
A study of painting methods in a variety of traditional and non-traditional water-based material and techniques. Students will begin to combine their understanding of drawing and design in the form of problem-solving exercises focusing on composition, value, color, and surface for both abstract and realistic work. One semester; three credits
ART 204. 3-D DESIGN
An introduction to three-dimensional design concepts through traditional and non-traditional methods. Emphasis will be placed on the elements and principles of design as applied to the sculptural form. One semester; three credits

ART 205. BEGINNING DIGITAL PHOTOGRAPHY
An introduction to the fundamentals of digital photography. The course emphasis is on understanding photography as a tool for visual expression. Payment of expendable materials fee is required. One semester; three credits

ART 208. CERAMICS I
This course will teach the fundamentals of ceramics through the techniques of coil and slab. One semester; three credits.

ART 210. INTRODUCTION TO ART THERAPY
This course will cover the creative arts approach to counseling. The theoretical basis for using art in counseling will be identified as well as evidence-based practice guidelines for assisting individuals, families, and groups across the lifespan. Biological, psychological, and social perspectives will be integrated into the student's knowledge of counseling methods. One semester; three credits

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

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

ART 214A. ART THERAPY PRACTICES
This course will expand upon the theoretical issues learned in ART 210 to create deeper understanding of contemporary practices for art therapists. This course will focus on the latest training methods, supervision techniques, and educational developments for all types of creative therapies. One semester; three credits

ART 213. FIGURE DRAWING
A drawing class using live models as subjects. Drawing materials will include brush and ink, charcoal, pastel and various other media. One semester; three credits

ART 290-299. HONORS SPECIAL TOPICS.
Open to members of the Honors Program or by permission of instructor and Honors Director. One semester; three credits

ART 301. ADVANCED DESIGN: MIXED MEDIA
An emphasis on cultivating individual creativity through combining the elements of two-dimensional and three-dimensional design using collage techniques. At this level, students will have a wide knowledge base of a variety of materials and techniques in order to make creative choices, with the guidance of the instructor, when meeting the goals for project assignments. One semester; three credits

ART 302. CONTEMPORARY ART HISTORY
A survey of contemporary developments in art from 1945–present. This course emphasizes student discussion, critical thinking, and writing. One semester; three credits

ART 304. INTERNSHIP FOR VISUAL ARTS: GALLERY AND MUSEUM STUDIES
Major related work experience through which students apply skills to professional activity. Prerequisite: Permission of arts faculty and good academic standing. One semester, three credits.

ART 305. INTERNSHIP FOR VISUAL ARTS
Graphic design major related work experience through which students apply skills to professional activity. Prerequisites: Permission of arts faculty and good academic standing. One hour in class is required. One semester; three credits.

ART 306-307. ART THERAPY WORKSHOP AND FIELD STUDY
This course provides experience in a community setting (disability centers, schools with special education programs, hospitals, institutions, or elder care facilities), using art therapy principles and instruments. Art materials used in therapy will be introduced during this course. Supervised workshops provide basic understanding of individual and group processes in Art Therapy. These workshops may take place in the classroom to simulate a clinical setting or as a community outreach component. Three credits

ART 308. OIL PAINTING II
An extension of the techniques learned in Basic Oil Painting (ART 209) with an emphasis on personal growth and creativity. One semester; three credits

ART 309. DRAWING II
A continuation of Drawing I and Figure Drawing with the introduction of advanced techniques. One semester; three credits

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

ART 311. PRINTMAKING II
Students will build on printmaking techniques learned in ART 310. An emphasis will be placed on personal growth through projects directed by the instructor. One semester; three credits

ART 312. PAINTING III
At this level the student will have mastered basic oil painting techniques and have the ability to apply a more creative approach to the work. One semester; three credits

ART 314A. BEGINNING DIGITAL IMAGING
This course will cover the basic tools used in digital imaging software. A variety of different software may be offered, including Adobe InDesign, Illustrator, and Photoshop. Students will be introduced to developing a design language and vocabulary. Corequisite: ART 314L. One semester; two credits

ART 314L. BEGINNING DIGITAL IMAGING LAB
Introduction to methodological and research practices for designers. Corequisite: ART 314. One semester; one credit

ART 315. ADVANCED DIGITAL IMAGING
This course will be a build on information, vocabulary and visual language learned in ART 314. Prerequisites: ART 314 and 314L. Corequisite: ART 315L. One semester; two credits

ART 315L. ADVANCED DIGITAL IMAGING LAB
Advanced research practices for designers. Corequisite: ART 315. One semester; one credit

ART 316. TYPOGRAPHY
An introduction to the history of typography for the graphic design students. This course emphasizes type identification, type faces and families, type comping, letter and word spacing, copy-fitting, designing with type, and type as a communication tool. These topics will be introduced through lectures and practiced in project-based assignments. One semester; three credits

ART 316L. TYPOGRAPHY LAB
Lab to accompany ART 316. Corequisite: ART 316. One semester; one credit

ART 330. SCULPTURE II
Students will apply design principles learned in ART 204 to three dimensional projects using various materials. Pre-requisite: ART 204 or Permission of Department Chair. One semester; three credits

ART 331. INTRODUCTION TO HANDMADE PAPER
Using a variety of fibers students will learn the basics of papermaking. This course will also encourage the use of handmade paper in book arts and other art projects for sustainability purposes. One semester; three credits

ART 334. INTRODUCTION TO BOOKMAKING
Using a variety of bookbinding techniques students will learn the basics of bookmaking as an art form. This course will encourage the use of recycled and handmade papers as an introduction to the use of sustainable materials as an art medium. One semester; three credits

ART 390-399. HONORS SPECIAL TOPICS IN ART
Special topics in art open to members of the Honors Program or by permission of the instructor and Honors Program Director. One semester; three credits

ART 400-409. SPECIAL TOPICS IN ART
Content and credit are variable with interest and instructor. Prerequisite: Approval of Department Chair. One semester; one to three credits

ART 409-411. DRAWING: EXPERIMENTAL
An advanced drawing course that allows students to experiment with techniques, materials and subject matter learned in previous courses. At this level the student will be expected to apply contemporary art historical references to their work along with creative choices when fulfilling assignments. One semester; three credits

ART 412-414. PAINTING: EXPERIMENTAL
An advanced painting course that builds on the techniques, materials and subjects learned in other painting and art history courses. Students will fulfill assignments through the painting medium of their choice. One semester; three credits

ART 415. GRAPHIC DESIGN I
Continuing development of design language, vocabulary, methodological and research practices for graphic designers. Multifaceted projects explore continuity of design in two-dimensional space, each one focusing on a specific set of relationships. Prerequisite: Art 314 & Art 315. Corequisite: ART 415L. One semester; two credits

ART 415L. GRAPHIC DESIGN I LAB
Required time in lab used to complete research and projects. Corequisite: ART 415. One semester; one credit

ART 418. GRAPHIC DESIGN II
Comprehensive problem solving with emphasis on design uniformity in more than one medium or format. Simulated client-based projects focus on typography, communication, legibility/readability, language sequence and information hierarchy. Course concludes with portfolio review for admission into Graphic Design III. Payment of expendable materials fee is required. Prerequisite: Art 314,Art 315 & Art 415. Corequisite: ART 418L. One semester; two credits

ART 418L. GRAPHIC DESIGN II LAB
Hours required to complete all research and projects using the computer lab. Corequisite: ART 418. One semester; one credit
MATH 105 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Fall semester. One semester; two credits.

ART 419. GRAPHIC DESIGN III
This course merges prior knowledge and skills, and sets the stage for independent design projects. The course requires students to research and analyze the components of the design process. New, practical and conceptual skills will be discussed in order to develop meaningful, interactive user experiences. Payment of expendable materials fees is required. Prerequisite: ART 418 and 418L. One semester; two credits.

ART 419. GRAPHIC DESIGN III LAB
Required time in lab used to complete research and projects. Consecutive: ART 419. One semester; one credit.

ART 420. GRAPHIC DESIGN IV
This course combines lectures with studio work to facilitate a goal directed environment. Students will learn to integrate theory and practical applications while sharpening conceptual, computer, and research skills. All projects are required to meet capable standards stressing the highest quality. Payment of expendable materials fee is required. Prerequisite: ART 419 and 419L. One semester; three credits.

ART 420. GRAPHIC DESIGN IV LAB
Required time in lab used to complete research and projects. Consecutive: ART 420. One semester; one credit.

ART 470. ADVANCED STUDY
Students will work on thesis paper and concept building related to their senior exhibition. Projects will be decided through careful advising from instructor. One semester; three credits.

ART 475. SENIOR SEMINAR
The student will be required to produce a large body of work which would be indicative of the level the student has achieved. The theme of the works will be decided by the student and instructor. The student will be required to have an exhibition of these works to be viewed by the public. Prerequisite: Approval of the instructor. One semester; three credits.

ART 476. SENIOR SEMINAR (GRAPHIC DESIGN)
Students with an emphasis in Graphic Design will be required to produce a portfolio for review. Students will learn professional practices and work on presentational skills. In the end, each student is required to have an exit portfolio review with faculty and have an exhibition of these works to be viewed by the public. Prerequisite: Approval of the instructor. One semester; three credits.

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

**Biology Courses**

**BIOL 101. PUBLIC HEALTH**
This course provides students with an introduction to fundamental concepts and approaches underlying public health. Topics covered include evidence and prevention-based perspectives on health; the social context of health and health disparities; environment and health; health and our food system; the role of community in public health; effective public health interventions; ethical issues in public health; and future directions in public health. Special focus will be paid to the South, Memphis, and the topic of HIV/AIDS. Offered even numbered Fall semesters. One semester; three credits.

**BIOL 102. PRINCIPLES OF EPIDEMIOLOGY**
This course provides students with an introduction to fundamental concepts and approaches underlying public health. Topics covered include evidence and prevention-based perspectives on health; the social context of health and health disparities; environment and health; health and our food system; the role of community in public health; effective public health interventions; ethical issues in public health; and future directions in public health. Special focus will be paid to the South, Memphis, and the topic of HIV/AIDS. Three credits. Offered even numbered Spring semesters. One semester; three credits.

**BIOL 103. BIOLOGY OF ADDICTION**
In this course, we will cover the biological effects of alcohol and drugs on human organisms, 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 recreational settings will be discussed. Prerequisite: BIOL 101 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. 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 judgment. With the laboratory component, this course fulfills University graduation requirements. Prerequisite: MATH 105 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Spring semester. 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. Consecutive: BIOL 107L. Offered as needed. Prerequisite: MATH 105 or higher. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Fall semester. One semester; three credits.

**BIOL 107L. ENVIRONMENTAL BIOLOGY LAB**
Laboratory experience to illustrate and explain the principles covered in BIOL 107. Laboratory sessions will include several outdoor field trips and data collection along the Wall River. Prerequisite: MATH 105 or higher. Corequisite: BIOL 107L. Offered as needed. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Fall semester. One semester; one credit.

**BIOL 109. HUMAN BIOLOGY**
A systematic study of the developmental structure and function of the human organism, including the anatomy and physiology of each organ system and the problems that may occur in each. Genetics, evolution, and ecology, as they apply to the human organism, are also discussed. Special focus is paid to non-majors. Prerequisite: MATH 105 or higher. Corequisite: BIOL 109L. Offered as needed. Credits not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Spring semester. One semester; three credits.

**BIOL 109L. HUMAN BIOLOGY LAB**
Laboratory experience to illustrate and explain the principles covered in BIOL 109. Offered in the Fall semester. Prerequisite: MATH 105 or higher or corequisite: BIOL 109. Credit not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Spring semester. One semester; one credit.

**BIOL 111. PRINCIPLES OF BIOLOGY I**
The first half of a comprehensive study of contemporary biology; this course covers biochemistry, cell biology, genetics, evolution, ecosystems, and disease. Prerequisite: ACT of 22 or higher, or a grade of “C” or higher in CHEM 101. Corequisites: BIOL 111L and BIOL 101 or higher. Offered in both Fall and Spring semesters. One semester; three credits.

**BIOL 111L. PRINCIPLES OF BIOLOGY I LAB**
Laboratory experience to illustrate and explain the principles covered in BIOL 109. Offered in the Fall semester. Prerequisite: MATH 105 or higher or corequisite: BIOL 109. Credit not applicable to the BS in Biology and Biomedical Sciences biology elective requirement. Offered in the Spring semester. One semester; one credit.

**BIOL 112. PRINCIPLES OF BIOLOGY II**
Continuation of BIOL 111, this course covers systems 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 section per week. Prerequisite: BIOL 111 or CHEM 1112 with grades of “C” or higher. Offered in both Fall and Spring semesters. One semester; three credits.

**BIOL 1112. PRINCIPLES OF BIOLOGY II LAB**
Laboratory experience to illustrate and explain the principles covered in BIOL 112. Prerequisite: BIOL 1112. Corequisite: BIOL 111. One semester; one credit.

**BIOL 211. VERTEBRATE EMBRYOLOGY**
A study of human embryology with emphasis on the fundamental development processes common to vertebrate embryos. Topics include gametogenesis, fertilization, and development of the embryo from zygote through the differentiation of the neural tube. The second half of the course is devoted to the development of selected human organ systems including the nervous system, sense organs, and the cardiovascular, digestive, respiratory, and urogenital systems. Prerequisites: BIOL 111L and 112L with grades of “C” or higher and CHEM 113L or higher. Corequisite: BIOL 211L. Offered in the Fall semester. One semester; three credits.

**BIOL 211L. VERTEBRATE EMBRYOLOGY LAB**
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 embryos from zygote through the differentiation of organ systems in amphibian, avian, and mammalian embryos. Prerequisite: BIOL 111L and 112L with grades of “C” or higher and CHEM 113L or higher. Corequisite: BIOL 211L. Offered in the Fall semester. One semester; one credit.

**BIOL 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. Prerequisites: BIOL 111L and 112L with grades of “C” or higher, and CHEM 113L or higher. Corequisite: BIOL 212L. Offered in the Spring semester. One semester; three credits.

**BIOL 212L. COMPARATIVE VERTEBRATE ANATOMY LAB**
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: BIOL 111L and 112L with grades of “C” or higher, and CHEM 113L or higher. Corequisite: BIOL 212L. 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 in the scientific and medical community. In addition to learning the basic meaning of these words, their prefixes, suffixes and combining forms will also be studied. Emphasis will be given to terms applicable to the systems, structures, function and diseases of the human body, also terms applying to veterinary science as well as zoological, botanical, chemical, and geological terms. Terms are presented by given to pronunciation, spelling, and common abbreviations used in scientific writings. Practice with medical and veterinary records will be included. An understanding of etymology will give students in any area of specialization a better comprehension of the fundamental meaning of many English words. Prerequisite: BIOL 111L and CHEM 113L or higher. Offered as needed. One semester; two credits.
BIOL 216. BOTANY
A comprehensive study of the principles of botany. Topics include a survey of the major groups of plants, algae, and fungi, their life cycles, anatomy, morphology, systematics, ecology and evolution. All scheduled field trips are mandatory. Prerequisites: BIOL 112L and CHEM 113L or higher. Corequisite: BIOL 216L. Offered in odd numbered Fall semesters. One semester; three credits

BIOL 216L. BOTANY LABORATORY
A comprehensive field-based study of the principles of botany. There will be several mandatory field trips throughout the semester that involve travel to local sites so that students gain a better understanding of the local flora and how to gather and prepare specimens in the field. Prerequisites: BIOL 112L and CHEM 113L or higher. Corequisite: BIOL 216L. Offered in odd numbered Fall semesters. One semester; one credit

BIOL 217. HUMAN ANATOMY AND PHYSIOLOGY I
The first half of a study of the various levels of organization of the human body. The first semester covers cells, cell metabolism, tissues and the integumentary, skeletal, muscular, nervous, sensory, and endocrine systems. Prerequisites: BIOL 111L and 112L with grades of "C" or higher, and CHEM 113L or higher. Corequisite: BIOL 217L. Offered in the Fall semester. One semester; three credits

BIOL 217L. HUMAN ANATOMY AND PHYSIOLOGY I LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 217. Dissection of a preserved mammalian specimen is required. Prerequisites: BIOL 111L, and 112L with grades of "C" or higher, and CHEM 113L or higher. Corequisite: BIOL 217. Offered in the Fall semester. One semester; one credit

BIOL 218. HUMAN ANATOMY AND PHYSIOLOGY II
A continuation of BIOL 217, this semester covers the cardiovascular, immune, digestive, respiratory, urinary and reproductive systems. Students will be responsible for a non-graded final project. Prerequisite: BIOL 217L, with grades of "C" or higher, and CHEM 113L or higher. Corequisite: BIOL 218L. Offered in the Spring semester. One semester; three credits

BIOL 218L. HUMAN ANATOMY AND PHYSIOLOGY II LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 218. Dissection of a preserved mammalian specimen is required. Prerequisites: BIOL 217, with grades of "C" or higher, and CHEM 113L or higher. Corequisite: BIOL 218. Offered in the Spring semester. One semester; one credit

BIOL 236. NUTRITION
The basic principles of nutrition are studied with particular emphasis on their applications to human health and development. This course includes a study of the 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. Prerequisites: BIOL 112L and CHEM 113L or higher. Offered as needed. 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. (Same as CS 240). Prerequisite: BIOL 111L or CS 172. Offered in odd-numbered Spring semesters. One semester; three credits

BIOL 250. ECOLOGICAL CENSUS TECHNIQUES
This is a field-intensive introduction to the techniques and statistical analyses used in population and community ecology. Experimental design and data collection will be stressed on major groups of organisms, including invertebrates, small mammals, and plants. This course requires mandatory overnight exercises tentatively be taught at the Edward J. Meeram Biological Field Station, and several day trips to various locations throughout the mid-south. Prerequisite: BIOL 112L, with "C" or higher, CHEM 113L with "C" or higher and permission of instructor. Offered in the Summer semester. One semester; three credits

BIOL 290-299. SPECIAL TOPICS IN BIOLOGY
Selected topics of interest. Prerequisites: BIOL 112L and CHEM 113L or higher, permission of the Instructor. Corequisite: The laboratory course if offered. One semester; one to four credits

BIOL 290-299L. SPECIAL TOPICS IN BIOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 290-299L. Prerequisites: BIOL 112L and CHEM 113L or higher. Permission of the Instructor. Corequisite: The lecture course. One semester; one credit

BIOL 303. ALGAE, FUNGI AND LICHIENS
This course will focus on the diversity and comparative study of the structure, function, reproduction, growth, development, ecology, evolution and natural history of algae, fungi and lichens. Economic importance and uses of the various organisms will also be covered. Prerequisites: BIOL 112L and CHEM 113L with grades of "C" or higher. Corequisite: BIOL 303L. Offered in odd numbered Fall semesters. One semester; three credits

BIOL 303L. ALGAE, FUNGI AND LICHIENS LABORATORY
Laboratory exercises will focus on field trip collection and identification of the various algae, fungi and lichen organisms. Taxonomic keys and various chemical tests and laboratory techniques will be used. Proper preserving and herbarium mounting techniques for the lichens will also be covered. Prerequisites: BIOL 112L and CHEM 113L, with grades of “C” or higher. Corequisite: BIOL 303. One semester; one credit

BIOL 304. LIMNOLOGY
Limnology is the study of inland waters, lakes, ponds, rivers and streams. This course examines physical, chemical and biological variables that influence the structure and function of aquatic ecosystems. Both theoretical and applied aspects of limnology will be covered. Students will be examined and studies on aquatic ecosystems, which have been used to test three theories, will be discussed. The role of limnology in the management of water resources will be discussed throughout the course. Prerequisites: junior or senior standing; BIOL 111L, 112L, CHEM 113L, and 114L. Corequisite: BIOL 304L. Offered in odd-numbered Spring semesters. One semester; three credit

BIOL 304L. LIMNOLOGY LABORATORY
Laboratory course to illustrate principles covered in BIOL 304. Several labs will be field trips followed by analysis and discussion of the data collected. This provides the opportunity to ask questions in limnology; illustrate the variation in aquatic habitats, demonstrate the practical aspects of limnological methods, etc.; and apply fundamental concepts and methods of analyzing and writing scientific papers. Prerequisite: BIOL 304; Group III biology elective. Prerequisites: junior or senior standing, BIOL 111L, 112L, CHEM 113L, and 114L. Corequisite: BIOL 304. Offered odd-numbered Summer semesters. One semester; one credit

BIOL 311. GENETICS
A study of the structure and function of nucleic acids in viruses, prokaryotes, and eukaryotes along with basic concepts, principles and applications of classical, molecular and population genetics. Topics include recombinant technology; genetics and cancer, epigenetics, and the human genome. Prerequisites: BIOL 112L with grades of "C" or higher and CHEM 213L. 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. Prerequisites: BIOL 112L with grades of "C" or higher and CHEM 211L. Corequisite: BIOL 311. Offered in the Fall semester. One semester; one credit

BIOL 312. HUMAN PHYSIOLOGY
This course consists of the study of the biochemical and biophysical mechanism underlying human physiology and pathophysiology using a systems-level approach. Emphasis is placed on the integration of functions within both systems to maintain homeostasis. Attendance at a minimum of one off campus seminar is required. Prerequisite: BIOL 112L with grades of "C" or higher, and one additional Biology course at the 200 level or above. Recommended: CHEM 211L, 315 and PHYS 201. Corequisite: BIOL 312L. Offered in the Fall semester. One semester; three credits

BIOL 312L. HUMAN PHYSIOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 312. Prerequisite: BIOL 112L with grades of "C" or higher, and one additional Biology course at the 200 level or above. Recommended: CHEM 211L, 315 and PHYS 201. Corequisite: BIOL 312. Offered in the Fall semester. One semester; three credits

BIOL 312L. MICROBIOLOGY
A study of microbial biochemistry, molecular biology, morphology, physiology, metabolism, growth and control, taxonomy, diversity, genetics, evolution, ecology, and immunology with emphasis on bacteria and viruses. Topics in medical, food and industrial microbiology, and public health. Prerequisites: BIOL 112L with grades of "C" or higher and CHEM 211L. Corequisite: BIOL 312L. Offered in the Fall semester. One semester; three credits

BIOL 313. INVERTEBRATE ZOOLOGY
Taxonomy, ecology, evolution, morphology, and physiology of invertebrate phyla. Prerequisites: BIOL 112L and CHEM 113L or higher, 7 additional credits in biology at the 200 level or higher, and Junior or senior standing. Corequisite: BIOL 335L. Offered in even numbered Spring semesters. One semester; three credits

BIOL 315. INVERTEBRATE ZOOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 315. Prerequisites: BIOL 112L with grades of "C" or higher and CHEM 113L, junior or senior standing. Corequisite: BIOL 315L. Offered in the Spring semester. One semester; two credits

BIOL 340. EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS
This course will cover a wide range of topics in design and analysis of ecological experiments. Students will become familiar with statistical tests for different data sets and understand how to design experiments based on the questions they wish to ask. Students will understand and implement statistical procedures such as ANOVA, but not limited to t-test, paired t-test, one; two, and three-way analysis of variance, regression, correlation, and several multivariate techniques. Prerequisites: BIOL 111L, CHEM 114L and MATH 117 or (MATH 107 & 110) or higher. One semester; three credits

BIOL 346. EVOLUTION
Investigation of the evidence, proponents, and theories of organic evolution with emphasis on modern contributions to the understanding of speciation. Topics covered in this course include macroevolution, phylogenetics and evolutionary history of major groups, adaptation, genetic drift, evolution of genomes, variation, genetic theory of natural selection, and phenotypic evolution. Prerequisites: BIOL 112L and CHEM 113L or higher. Offered in odd numbered Spring semesters. One semester; three credits

ACADEMIC COURSE DESCRIPTIONS

2014-15 Academic Catalog
BIOL 350. RESEARCH METHODS
This course is designed for students who are actively involved in research projects that will not be considered for the completion of their senior internship. Students must be involved in research on or off of CBU campus on the research project. Students should participate in a minimum of 200 hours on the project, including data analysis and documentation. Students will be required to be familiar with several techniques within their particular area of research expertise. These techniques will be summarized within the documentation of their research projects within the methods section. Prerequisites: BIOL 112/L, CHEM 113/L, and permission of the instructor or Chair of the Department of Biology. Offered as needed. One semester; three credits

BIOL 362. BIOLOGY SEMINAR
Seminars in which research scientists are invited to discuss their current research. Students will create a research poster describing a paper from the talk that will be conducted as a requirement for the seminar. Prerequisites or corequisites: junior standing, a grade of "C" or higher in a minimum of two 200 – 400 level biology courses, a grade of "C" or higher in CHEM 212/L, and permission of the instructor or Chair of the Biology Department. Offered in the Spring semester. One semester; one credit

BIOL 365. PALEONTOLOGY
Introduction to the principles of paleontology focusing on the classification, research methods, and the discovery of fossils. Prerequisites: BIOL 111/L, 112/L, and CHEM 113/L or higher, and junior or senior standing. Corequisite: BIOL 365L. Offered in even numbered Spring semesters. One semester; three credits

BIOL 367. PHARMACOLOGY
An introduction to the structure, mechanism, pharmacokinetics, pharmacodynamics, therapeutic uses, and adverse reactions of prototypic agents from the major categories of drugs. Prerequisites: CHEM 211/L. Recommended: BIOL 217/L, 218/L or BIOL 312/L. Offered in odd numbered Spring semesters. One semester; three credits

BIOL 369. HERPETOLOGY
Herpetology is the study of amphibians and reptiles. In this course we will examine the major taxonomic groups of amphibia and reptilia in depth, focusing on local groups and surveying the more interesting exotic members of these taxa to gain an understanding of their diversity. Life history, anatomy, physiology, ecology, and conservation issues are among the topics that will be discussed. Prerequisites: BIOL 111/L, 112/L, CHEM 113/L or higher, seven additional credits of biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 369L. Offered in even numbered Spring semesters. One semester; three credits

BIOL 369L. HERPETOLOGY LAB
The student will learn to visually identify six species level the amphibians and reptiles naturally found in Western Tennessee and the tri-state area. Additionally, the student will learn to identify amphibians by vocalization (frog calls). Initial identification will take place in the lab using preserved specimens and also digital images and sounds. Identification skills will continue to be developed in the field while on field trips to nearby sites. Field techniques will also be reviewed and discussed following implementation in the field. Prerequisites: BIOL 111/L, 112/L, and CHEM 113/L or higher, seven additional credits of biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 369L. Offered in even numbered Spring semesters. One semester; one credit

BIOL 370. TOXICOLOGY
An introduction to the basic principles of toxicology including investigation of the sites and modes of action of toxic agents and the factors affecting their toxicity, this course will also examine sources, fate, and effects of environmental pollutants. Prerequisites: BIOL 112/L and CHEM 211/L; junior or senior standing. Offered in Spring semester of even numbered years. One semester; three credits

BIOL 381. ANIMAL BEHAVIOR
The study of the mechanisms that underlie the 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/L and 112/L with grades of "C" or higher, and CHEM 113/L or higher, and seven additional credits of biology at the 200 level or higher, and junior or senior standing. Offered in even numbered Spring semesters. Group III Biology elective. One semester; three credits

BIOL 390-398. SPECIAL TOPICS IN BIOLOGY
Selected topics of interest. Prerequisite: BIOL 112/L and CHEM 113/L or higher, and 4 credits in biology at the 200 level or higher; permission of the instructor. One semester; one to four credits

BIOL 390L-398L. SPECIAL TOPICS IN BIOLOGY LAB
Selected topics of interest. Prerequisite: BIOL 112/L, CHEM 113/L or higher, and 4 credits in biology at the 200 level or higher; permission of the instructor. Corequisite: the lecture course One semester; one credit

BIOL 412. ECOLOGY
Study of the principles of ecology. Topics to be investigated include population organization, demographics and regulation, ecosystem and community structure/function, abiotic factors, and cycling of energy. Prerequisites: BIOL 112/L, CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 412L. Offered in odd numbered Fall semesters. One semester; three credits

BIOL 412L. ECOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 412. The course includes data-gathering in both terrestrial and aquatic ecosystems and mandatory field trips to ecologically important sites. Students will also complete a semester-long project, with the intent to publish results. Prerequisites: BIOL 112/L, CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher, and junior or senior standing. Prerequisite or corequisite: BIOL 412L. Offered in even numbered Fall semesters. 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. Prerequisites: BIOL 112/L, CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 413L. Offered in the Fall semester. One semester; three credits

BIOL 413L. PARASITOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 413. Students conduct surveys to study the distribution of parasites and conduct long-term studies on the pathology of parasitic infection. Students are required to participate in the Gulf Coast Field trip. Prerequisites: BIOL 112/L, CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 413L. Offered in the Fall semester. One semester; one credit

BIOL 414. ANIMAL HISTOLOGY
A study of the microscopic and ultramicroscopic structure of vertebrate (primarily mammalian) tissues and organs, i.e., microscopic anatomy. Special emphasis is placed on the relationship of structure to function. Group I Biology elective. Prerequisites: BIOL 111/L and BIOL 112/L, with grades of "C" or higher, CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher, and junior or senior standing. Corequisite: BIOL 414L. Offered in odd numbered Spring semesters. One semester; three credits

BIOL 414L. ANIMAL HISTOLOGY LABORATORY
Laboratory experience to illustrate and explain the principles covered in BIOL 414. Prerequisites: BIOL 111/L and BIOL 112/L with grades of "C" or higher, CHEM 113/L or higher, seven additional hours of biology at the 200 level or higher, and junior or senior standing. 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. Immune problems such as allergy, autoimmunity and AIDS are also discussed. Prerequisites: BIOL 112/L and CHEM 211/L. Recommended: BIOL 311. Corequisite: BIOL 415L. Offered in the Fall semester. One semester; one credit

BIOL 420. ENTOMOLOGY
This course explores the most successful group of organisms on earth, the insects. We will study anatomy, physiology, taxonomy, and diversity with behavioral and ecological emphasis. Prerequisites: Junior or senior standing, BIOL 112/L and CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher. Corequisite: BIOL 420L. Offered as needed. One semester; three credits

BIOL 420L. ENTOMOLOGY LABORATORY
Laboratory experience to illustrate and reinforce principles covered in BIOL 420. Lab will include field trips, use of dichotomous keys for identification, and some experimental components. Students will make their own museum quality insect collections. Prerequisites: Junior or senior standing, BIOL 112/L and CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher. Corequisite: BIOL 420. Offered as needed. 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 cellular recognition and the clinical and molecular nature of cancer are also discussed. Prerequisites: BIOL 112/L and CHEM 211/L. 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. Prerequisites: BIOL 112/L and CHEM 211/L. Corequisite: BIOL 421L. Offered in the Spring semester. One semester; one credit

BIOL 430. BIOLOGY OF ZOO ANIMALS
The laboratory experience integrates knowledge and application by emphasizing the practical aspects of the care of exotic and domestic vertebrates. Students will conduct library research in aspects of vertebrate families and prepare a species profile. Work at the Memphis Zoo under the guidance of a zoologist and field trip are integral components of the laboratory experience. Prerequisites: BIOL 112/L and CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher. Corequisite: BIOL 430. Offered in the Fall semester. One semester; three credits

BIOL 430L. BIOLOGY OF ZOO ANIMALS LABORATORY
The laboratory experience integrates knowledge and application by emphasizing the practical aspects of the care of exotic and domestic vertebrates. Students will conduct library research in aspects of vertebrate families and prepare a species profile. Work at the Memphis Zoo under the guidance of a zoologist and field trip are integral components of the laboratory experience. Prerequisites: BIOL 112/L and CHEM 113/L or higher, seven additional credits in biology at the 200 level or higher. Corequisite: BIOL 430. Offered in the Fall semester. One semester; three credits

BIOL 440. RESEARCH I
Research projects are conducted under the guidance of a practicing researcher, typically facilitated by Dr. James Moore. Research is performed in the summer preceding the senior year and usually requires 200 – 300 in-field hours. Students are required to attend lab discussions and meet regularly with Dr. Moore or their research mentor off-site. Students are required to take the ETS Biology II exam (BIOL 499) that will be administered in exam week of the fall semester. Prerequisites: BIOL 340, senior standing or permission of the instructor. Offered in the Fall semester. One semester; two credits
BIOL 441. RESEARCH II
This course is a continuation of BIOL 440 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 Spring semester. Students will also present their results at the annual Tennessee Academy of Science meeting. Prerequisite or coquisite: BIOL 340, BIOL 440, and BIOL 499. One semester; two credits.

BIOL 451. NEUROSCIENCE
This course will investigate the field of neuroscience with emphasis on neuroanatomy of the mammalian brain. Also contained within this course will be the study of neurophysiology and neuropharmacology using both vertebrate and invertebrate central and peripheral nervous systems. Offered in the Spring semester. Prerequisites: junior or senior standing or permission of the instructor; BIOL 218/L or BIOL 312/L and CHEM 211/L or higher. Recommended: CHEM 315. Corequisite: BIOL 451L. Offered in the Spring semester. 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. Prerequisites: junior or senior standing or permission of the instructor; BIOL 218/L or BIOL 312/L and CHEM 211/L or higher. Corequisite: BIOL 451. Offered in the Spring semester. One semester; one credit.

BIOL 461. INDEPENDENT RESEARCH I
Under the guidance of a faculty member, senior students design and conduct an organized research project usually requiring 100-150 in-lab hours. Course emphases include experimental design, controls, analysis of results, use of professional literature, and the writing of a draft of a journal-quality paper. Prerequisites: 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, INTERNSHIP IN BIOLOGY/BIOMEDICAL SCIENCE I
Research projects are conducted under the guidance of a practicing research scientist or clinician. The student is not limited as to the location of the project. This position may be paid or unpaid, depending on each individual student's situation. Students are encouraged to apply early for competitive fellowships. The commitment is generally 200-300 hours on the project, usually during the summer between the junior and senior year. Students are required to attend group discussions at CBU during the summer or to correspond on-line with the course director (if research conducted outside of Memphis). Prerequisites: BIOL 362, senior standing or permission of the Biology Departments Chair. Offered in the Summer Semester. One semester; one credit.

BIOL 464. MENTORED RESEARCH, INTERNSHIP IN BIOLOGY/BIOMEDICAL SCIENCE II
This course is a continuation of BIOL 463. During this course the students will meet weekly to discuss their results of their research projects. In addition to discussion, individual sections of a journal-style article will be written, peer reviewed, and a formal paper will be completed by the end of the semester. Students will begin to prepare a presentation of their research as well. Prerequisite: CHEM 212/L, one other Chemistry course with lab at the 200 level or above, and BIOL 463; Corequisite: BIOL 499. Prerequisite or coquisite: CHEM 315/L. Offered in the Fall semester. One semester; two credits.

BIOL 465. MENTORED RESEARCH, INTERNSHIP IN BIOLOGY/BIOMEDICAL SCIENCE III
This course is a continuation of BIOL 464. During this course the students will meet weekly to practice presenting their research project results. In addition to peer review of the presentations, students will present their results in a public forum as an oral paper and in a poster session on CBU campus. Prerequisites: BIOL 464 and 499. Offered in the Spring semester. One semester; two credits.

BIOL 490-498. SPECIAL TOPICS IN BIOLOGY
Selected topics of interest. Prerequisite: BIOL 112/L and CHEM 113/L or higher, seven additional credits of biology at the 200 level or higher, permission of instructor. One semester; one to three credits.

BIOL 490L-498L. SPECIAL TOPICS IN BIOLOGY LABORATORY
Laboratory to accompany BIOL 490-498. Prerequisites: BIOL 112/L and CHEM 113/L or higher, seven additional credits of biology at the 200 level or higher, permission of instructor. One semester; one to four credits.

BIOL 499. SENIOR COMPREHENSIVE
First semester seniors are required to take a comprehensive exam on selected fields of biology. The exam is two hours in length and is given during exam week in the Fall semester. A passing score is required for graduation. August and December graduates (students off paradigm) must take and pass the exam the Fall semester of the year prior to their graduation. Pass/Fail grading. One semester; zero credit.

TENTATIVE SUMMER COURSES
in affiliation with the Gulf Coast Research Laboratory (GCLR), Ocean Springs, MS:
- Barrier Island Ecology
- Coastal Ornithology
- Marine Biology
- Marine Mammals
- Marine Ecology
- Marine Conservation
- Shark Biology
- Oceanography
- Marine Ichthyology
- Marine Invertebrate Zoology
- Marine Aquaculture
- Marine Biology
- Marine Microbiology
- Oceans and Human Health
- Marine Fungi
- Marine Toxicology

For additional information about the course offerings at the GCLR, see the Chair of the Biology Department.
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 and MATH 232. One semester; three credits.

CH E 401, 402. CHEMICAL ENGINEERING SENIOR PROJECT

Real-world problems in chemical engineering and related fields. Senior project must be approved by the course instructor, and the work supervisor when conducted outside of CBU. Credit for CH E 402 is granted upon final review of the report submitted by the student. Prerequisite: Senior standing in Chemical Engineering. One semester each; two credits each.

CH E 410. AIR POLLUTION CONTROL

Causes and consequences of air pollution, regulatory concerns, and methods for controlling and mediating the consequences of air contaminants. Prerequisite: CH E 313 or 115 and junior or senior standing or permission from the instructor. Offered in the Spring semester. One semester; three credits.

CH E 412. INDUSTRIAL AND PROCESS SAFETY

Basic principles of industrial safety. Hazards and risks of industrial processes (particularly those in the chemical process industries) and how these hazards can be controlled. CHEM 113 or 115 and junior or senior standing or permission from the instructor. Offered in the Spring semester. One semester; three credits.

CH E 425. PROCESS DESIGN I

Application of principles and concepts of prior course work with safety, economic, and practical considerations to design equipment to meet a processing need. The emphasis is placed upon a particular unit or subsystem rather than a complete process which is the subject of CH E 426. Process Design II. Prerequisite: CH E 350. Corequisite: CH E 443. Offered in the Fall semester. One semester; three credits.

CH E 426. PROCESS DESIGN II

Application of principles of process and plant design using knowledge from earlier course material to solve comprehensive industrial problems. Includes flow sheet development, equipment sizing and determination of operating parameters, startup and safety considerations, cost estimation and economic analysis. Prerequisite: CH E 425 and CH E 443. Offered in the Spring semester. One semester; three credits.

CH E 437. MODELING AND CONTROL IN CHEMICAL ENGINEERING

Development of mathematical models for Chemical Engineering systems in terms of ordinary differential equations. Design of feedback control systems. Controller stability and tuning. Prerequisite: CH E 330. Offered in the Fall semester. One semester; three credits.

CH E 441. SENIOR LABORATORY I

Experimental study of heat, mass, momentum transfer. Filtration, ion exchange, distillation, etc. Written and oral reports required on results of experiments. Prerequisite: CH E 330. Offered in the Fall semester. One semester; one credit.

CH E 442. SENIOR LABORATORY II

Experimental study of reaction kinetics and behavior of various reactor. Polymerization and characterization of polymers. Written and oral reports are required on experimental results. Prerequisite: CH E 443. Offered in the Spring semester. One semester; one credit.

CH E 443. REACTOR DESIGN

Chemical kinetics of homogeneous and heterogeneous isothermal systems and homogeneous non-isothermal systems. Application of kinetics to analysis and design of batch and flow reactors and their combinations to achieve specified production. Prerequisites: CH E 324, 327. Corequisite: CH E 441. Offered in the Fall semester. One semester; three credits.

CH E 444. POLYMERIC MATERIALS

Introduction to chemistry, physics, technology and uses of common high polymers currently being produced. Prerequisite: CH E 443. Offered in the Spring semester. One semester; three credits.

CH E 446. BIOCHEMICAL ENGINEERING

Extension of chemical engineering fundamentals to biological systems. Prerequisites: CHEM 315 and CH E 443. Offered in the Spring semester. One semester; three credits.

CH E 490-494. SPECIAL TOPICS

Elecive 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 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 four credits.
CHEM 101. INTRODUCTION TO COLLEGE CHEMISTRY
This is the first-semester chemistry course designed to begin the study of chemical principles. Emphasis is on elements and their symbols, names and formulas of compounds, valences, balancing equations, stoichiometry, and the algebra required for proficiency in chemistry. Prerequisite: ALG 115 or minimum ACT subscore of 20 or above. Corequisite: MATH 103, (107&110), or 117 or placement in a higher numbered MATH course. This course does not supply any portion of the credits required in any CBU degree program. Offered in the Fall semester. One semester; three credits

CHEM 105. CHEMISTRY OF COOKING
This course takes an in-depth and hands-on approach to the chemical nature and transformations that occur during classic and modern cooking techniques. A study of basic chemical principles, the scientific method, experimental design and method optimization will be employed to understand the effects of cooking processes on food. This course concludes with a studio abroad trip (required) to take cooking classes and prepare food which is served during class. This trip of culinary adventures will include cooking instruction and tours. Corequisite: CHEM 105L. Offered in the Spring semester of even numbered years. One semester; three credits

CHEM 105L. CHEMISTRY OF COOKING LABORATORY
This course is the laboratory analogue to CHEM 105 Chemistry of Cooking. Each meeting will demonstrate aspects discussed in the lecture. Topics will include the Maillard reaction, gas laws, and thermal properties of cookware. Corequisite: CHEM 105. Offered in the Spring semester of even numbered years. One semester; one credit

CHEM 106. SPECIAL TOPICS
Introductory course in one of the fields of Chemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to three credits each

CHEM 106L. SPECIAL TOPICS LABORATORY
Introductory laboratory course to accompany CHEM 105 or CHEM 106. Prerequisites and corequisites as described in the syllabus for each Special Topics Course. One semester; one credit each

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, stoichiometry, gases, electronic structure, the periodic table, covalent bonding, molecular structure, liquids and solids, and solutions. Prerequisite: CHEM 101 or 115 at Christian Brothers University or high school chemistry and satisfactory performance on departmental placement examination. Prerequisite or corequisite: MATH 117, (107&110), 129, or 131; CHEM 113L. 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 equilibria, precipitations, acids and bases, chemical thermodynamics and kinetics, oxidation and reduction, electrochemistry, and nuclear reactions. Prerequisites: CHEM 113, 113L, and MATH 117, (107 & 110), or 151. Prerequisite or corequisite: CHEM 114L. Offered in the Spring semester. One semester; three credits

CHEM 114L. CHEMICAL PRINCIPLES II LABORATORY
This one-semester laboratory course in chemistry is designed to illustrate and explain the principles covered in CHEM 114. Prerequisite or corequisite: CHEM 114. Prerequisites: CHEM 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, stoichiometry, gases, electronic structure of the atom, the periodic table, bonding, molecular structure, liquids and solids, and chemical kinetics, equilibrium, and electrochemistry. Prerequisite: MATH 117, (107 &110), 129, or 131; ACT Math Subscore of 22 or higher. Prerequisite or corequisite: CHEM 115L. Offered in the Fall semester. One semester; three credits

CHEM 115L. GENERAL CHEMISTRY LABORATORY
A one-semester laboratory course in chemistry designed to illustrate and explain the concepts covered in CHEM 115. Prerequisite or corequisite: CHEM 115. One semester; one credit

CHEM 200. SPECIAL TOPICS
Introductory course in one of the following fields: Environmental Chemistry or Forensic Chemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to three credits each

CHEM 200L. SPECIAL TOPICS LABORATORY
Introductory course in one of the following fields: Environmental Chemistry or Forensic Chemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to three credits each

CHEM 201. INTRODUCTION TO FORENSIC CHEMISTRY
This course is an introduction to the fundamentals of forensic chemistry. Topics include criminalistics, collection and physical evaluation of evidence, and fundamental chemical principles. Current trends in forensic chemistry addressing scientific, technological, and societal effects will be discussed. Prerequisites: CHEM 114 or CHEM 115. Corequisite: 201L. Offered in the Spring semester of odd numbered years. One semester; two credits

CHEM 201L. INTRODUCTION TO FORENSIC CHEMISTRY LAB
This course is designed to introduce students to qualitative and quantitative analysis of physical crime scene evidence. Topics will include serology, trace evidence, explosives and fingerprints. Prerequisites: CHEM 114 or CHEM 115. Corequisite: 201L. Offered in the Spring semester of odd numbered years. 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, SN1, SN2, E1, E2, and radical reactions. This course deals with compounds from the aliphatic series. Prerequisites: CHEM 113L 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 113L, 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 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 organic analytical techniques. Prerequisites: CHEM 211L and UV spectroscopy, aromatic compounds, and polymer structures and reactions. Prerequisites: EAS, NAS, nucleophilic addition, and nucleophilic acyl substitution. This course deals with compounds from both the aliphatic and aromatic series. Prerequisites: CHEM 211L. Prerequisite or corequisite: CHEM 212L. Offered in the Spring semester. One semester; three credits

CHEM 212L. ORGANIC CHEMISTRY II LABORATORY
This course is the laboratory analogue to CHEM 211. 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 211L or prerequisite or corequisite: CHEM 212L. Offered in the Spring semester. One semester; two credits

CHEM 214. QUANTITATIVE ANALYSIS
A course which covers analytical principles and sources of error, principles of volumetric and gravimetric analysis, electrospray, potentiometric titrations, and spectrophotometric analysis. Prerequisites: CHEM 114L or prerequisite or corequisite: CHEM 214L. Offered in the Spring semester. One semester; two credits

CHEM 214L. QUANTITATIVE ANALYSIS LABORATORY
Laboratory to accompany CHEM 214. Prerequisite or corequisite: CHEM 214. Offered in the Spring semester. One semester; two credits

CHEM 311. ORGANIC QUALITATIVE ANALYSIS
This course covers the identification of pure organic compounds and mixtures. The course includes use of spectroscopy and chromatography as well as classical techniques. Prerequisites: CHEM 212L. One hour of lecture and six hours of laboratory work per week. Offered in the Spring semester of odd-numbered years. One semester; three credits

CHEM 315. BIOCHEMISTRY I (Introduction to Biochemistry)
This course is a detailed introduction to the chemistry of the major classes of biologically important molecules including amino acids, proteins, carbohydrates, lipids, and nucleic acids. A discussion of the role of water in biological systems, techniques for isolation and characterization of biomolecules, enzyme kinetics, regulation of enzyme activity, membrane structure and function, biosynthetic general characteristics of metabolic pathways, glycolysis, gluconeogenesis, the Krebs cycle, and glycolgen metabolism will be included. The course will conclude with an introduction to signal transduction pathways. Prerequisites: CHEM 212L or 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 and assays including chromatography, electrophoretic methods, centrifugation, spectroscopy, and enzyme kinetics. Prerequisites: CHEM 212L or prerequisite or corequisite: CHEM 315L. Offered in the Fall semester. One semester; one credit

CHEM 316. BIOCHEMISTRY II (Metabolic Regulation and Signal Transduction)
This course is a continuation of Biochemistry I, providing a comprehensive introduction to the study of metabolic pathways with emphasis on basic principles of regulation. The mechanism of hormone action and interrelationships between signal transduction and metabolic regulation will be discussed. An introduction to drug design and the mechanism of action of drugs in the human body will be included. The course will conclude with an introduction to intracellular and extracellular signaling. Prerequisites: BIOL 211L and CHEM 315L. Offered in the Spring semester. One semester; three credits

CHEM 330. RESEARCH SEMINAR I
A study of the chemical literature and ethical conduct in science. Students will be required to prepare a journal club presentation. Attendance of departmental seminars is also required. Prerequisites: CHEM 212L. Offered in the Fall semester. One semester; zero credits
CHEM 331. RESEARCH SEMINAR II
Students will be required to attend departmental seminars and to submit summaries of these presentations. Students will select a research project and advisor. Prerequisite: CHEM 330. Offered in the spring semester. One semester; zero credit.

CHEM 362. PHYSICAL BIOCHEMISTRY
Studies of the physical properties of biological molecules. Prerequisites: MATH 131, CHEM 351 and 351L, or permission of instructor. Offered in the Fall semester. One semester; three credits.

CHEM 351. PHYSICAL CHEMISTRY I
Studies of the kinetic theory and properties of gases, the laws of thermodynamics, molecular energies, free energy and equilibrium, phase equilibria, ideal and real solutions, colloidal properties, electrochemistry, rates and mechanisms of chemical reactions, catalysis, photochemistry, and collision theory. Prerequisites: CHEM 114L, MATH 251, PHYS 251 and 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 351L. 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, collidodynamics, viscosity and diffusion, and macromolecules. Prerequisites: CHEM 212, 351L, PHYS 252, 252L, and MATH 252. 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 352L. Offered in the Spring semester. One semester; one credit.

CHEM 410. ADVANCED BIOCHEMISTRY
A detailed discussion of selected topics in biochemistry including membrane transport, membrane and organelle chemistry, photosynthesis, nucleic acid chemistry, selected metabolic pathways from lipid and amino acid metabolism, and mechanisms of enzyme action. Drug design and the mechanism of action of selected drugs will also be discussed. Prerequisites: BIOM 112L and CHEM 351L. Offered in the Full semester of odd numbered years. One semester, three credits.

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 methodic sets of techniques are covered, including basic electronics, spectrophotometry, electrochemistry, chromatography, and mass spectrometry. Three one-hour lectures per week. Prerequisites: MATH 131, CHEM 212L and 214L. Prerequisite or corequisite: CHEM 415L. Offered in the Spring semester of even-numbered years. One semester; three credits.

CHEM 415L. ANALYTICAL CHEMISTRY LABORATORY
Experiments dealing with direct analysis, optical spectrophotometry, non-optical spectrophotometry, electrochemical analysis, and chromatography are performed. Prerequisite or corequisite: CHEM 415L. Offered in the Spring semester of even-numbered years. One semester; one credit.

CHEM 420. ADVANCED FORENSIC CHEMISTRY
This course provides advanced treatment of topics introduced in CHEM 201. A discussion of modern techniques and instrumentation used in forensic analysis will be included. Prerequisite or corequisite: CHEM 201 and 214L. Corequisite: CHEM 420L. Offered in the Spring semester of odd numbered years. One semester; three credits.

CHEM 420L. ADVANCED FORENSIC CHEMISTRY LABORATORY
This course is designed to illustrate the principles covered in CHEM 420. Prerequisites: CHEM 212 and CHEM 214L. Corequisite: CHEM 420L. Offered in the Spring semester of odd 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 and 351L. Prerequisites or corequisites: CHEM 321L and 351L. 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. Prerequisites or corequisite: CHEM 422. Offered in the Spring semester of odd numbered years. One semester; two credits.

CHEM 428. RESEARCH SEMINAR III
Students will be required to attend departmental seminars and to submit summaries of these presentations. Students will begin writing their senior research paper. Prerequisite: CHEM 331. Offered in the Fall semester. One semester; zero credit.

CHEM 429. RESEARCH SEMINAR IV (Formerly CHEM 432)
Completion of research project. Preparation of presentation of research at a meeting of a learned society. Completion of a written research paper in a format suitable for publication in a refereed journal. In addition, each student will prepare a poster and present it at a poster session on campus. Students will be required to attend departmental seminars and to submit summaries of these presentations. Prerequisite: CHEM 331. 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, Physical, Petroleum, or Biochemistry. Prerequisites and corequisites as described in the syllabus for each Special Topics course. One semester; one to four credits each.

CHEM 439. ASTROPHYSICAL CHEMISTRY
This is an interdisciplinary capstone course for Science and Engineering majors. Astronomy is used as the framework upon which to hang many other topics; the student's previous knowledge of chemistry, physics, mathematics, and biology will be reviewed and expanded upon, along with history, philosophy, music, and religion. Topics include an overview of the Universe, the sky and the Earth, the history of astronomy, light and telescopes, origin and evolution of the Solar System, the nature and evolution of stars, including supernovae, neutron stars, pulsars, and black holes, the Milky Way and other galaxies, interstellar molecules, life in the Universe, quasars, and cosmology, including the Big Bang and the expanding Universe. Special observing sessions are included. Prerequisites: CHEM 114, PHYS 150 or 250, and MATH 131. Junior standing recommended. Offered in the Spring semester of even-numbered years. One semester; three credits.

CHEM 490. INTERNSHIP IN CHEMISTRY
Students majoring in Chemistry or Biochemistry may be placed in an area company or research facility under approved supervision. Students submit progress reports and a final paper describing the experience. Prerequisites: Junior standing and permission of department chair. One semester; one credit.

CHEM 499. SENIOR COMPREHENSIVE/BIOCHEMISTRY
Students must pass either an external examination in biochemistry chosen by the department (such as the GRE) or pass a comprehensive examination administered by the faculty of the department. A passing score is required for graduation. Offered in the Spring semester. Offered pass/fail. One semester; zero credit.

CHEM 499. SENIOR COMPREHENSIVE/PHYSICS
Students must pass either an external examination covering all of the major fields of chemistry that is chosen by the department (such as the Major Field Assessment in Chemistry) or pass a comprehensive examination administered by the faculty of the department. A passing score is required for graduation. Offered in the Spring semester. Pass/Fail grading. One semester; zero credit.

CHIN 101-102. ELEMENTARY CHINESE I, II
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 course will attain 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 semesters. Two semesters; eight credits.

CHIN 201-202. INTERMEDIATE CHINESE I, II
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 semesters. Two semesters; eight credits.

CHIN 205. MODERN CHINESE LITERATURE IN ENGLISH TRANSLATION
An introductory course of modern Chinese literature (1918-1989) designed to acquaint students with major phases of modern Chinese literature and some masterpieces of representative writers in relation to political and social changes. The course provides opportunities to learn about modern Chinese culture, society, and politics through readings of chosen works and trains students to read thoughtfully and critically. No prior knowledge of Chinese language and culture is required. One semester; four credits.

CHIN 206. INTRODUCTION TO EAST ASIAN CULTURES
This course introduces East Asian cultures through the classic works of China, Japan and Korea. In order to better grasp the culture legacies of East Asia, students will read various cultural texts such as fiction, poetry, drama, and prose in English translation. This course is designed to help students develop a more sophisticated understanding of and critical appreciation for East Asian cultures. No knowledge of East Asian languages or prior coursework on East Asian cultures is required. One semester; four credits.

CHIN 210. CHINESE LITERARY HISTORY
This course introduces one of the world’s richest literary heritages: traditional Chinese literature. It conducts a general survey of Chinese literature from high antiquity up to modern times with the focus on some representative writers and their works. It consists of three major sections: poetry and essays, drama, and fiction. All readings are in English. No prior knowledge of Chinese language and culture is required. One semester; four credits.

CHIN 214. INTRODUCTION TO CHINESE CULTURE
This course introduces students to Chinese civilization and culture from the multiple perspectives of geography, history, philosophy, language, literature, religion, art, people, society, and general ways of life. Major concerns will include, but are not restricted to, forms of material and spiritual culture that have developed and changed through China’s continuous traditions; individual and collective values that underlie social life, political organization, economics systems, family structure, human relationships, and individual behavior; and the rationales that have made Chinese culture what it is. One semester; zero credit.

CHIN 215. GENDER AND SEXUALITY IN CHINESE LITERATURE AND FILM
This course offers a critical survey of women’s images in Chinese literature and films. It seeks to examine the images of traditional Chinese
as well as how these images have changed throughout history. It also seeks to understand the social, cultural and institutional norms of women's behaviors in traditional Chinese society as well as how the fictional imagination conforms to, deviates from and subverts these normative gender behaviors. Offered in the Fall semester. One semester; one credit.

CHIN 220. CONTEMPORARY CHINESE CINEMA
An introductory course on contemporary Chinese cinema that combines film viewing with readings of film theory and criticism. The aim is to provide a window for students to glimpse the complexity of contemporary Chinese culture. Students will view selected Chinese films produced in mainland China, Taiwan, and Hong Kong from the 1980s to the present and be required to read essays of critical studies which explore the interrelations of various issues in Chinese society. One semester; four credits.

CHIN 301-302. ADVANCED CHINESE I, II
This course lays greater emphasis on further developing students' proficiency in reading for understanding and enhancing their ability to write in Chinese. Students will be required to translate from Chinese into English and vice versa. At the end of the year-long course students should be able to read Chinese materials in everyday life, to write compositions in Chinese characters for daily communication, and to translate non-technical materials from Chinese into English and vice versa with the help of dictionaries. Prerequisite: Chinese 202 or the equivalent. Offered in sequence in the Fall and Spring semesters. Two semesters; four credits.

CHIN 409. SPECIAL TOPICS
Intensive study of some aspect or theme of Chinese literature, culture or society in China. May be taken more than once for credit with new topics. Prerequisites: Chinese 301 and 302 or permission of instructor. One semester; four credits.

\\**CIVIL & ENVIRONMENTAL ENGINEERING COURSES**

Requirements for the degree are found on Page 78.

CE 101. INTRODUCTION TO CIVIL ENGINEERING I
Transportation Systems. Transportation planning. Data collection. Analysis, design and construction of transportation facilities. Transportation design project. Computer applications. Offered in the Fall semester. One semester; one credit.

CE 102. INTRODUCTION TO CIVIL ENGINEERING II
Types of structures; common construction materials; basic mechanics; soil and foundations; Excel applications; professional issues; hands-on projects. One semester; one credit.

CE 103. INTRODUCTION TO CIVIL ENGINEERING III
Engineering design process. Computer problem solving. Environmental engineering design cases. Water pollution design projects. Air pollution design. Solid and waste management. Written and oral communications are emphasized. Offered in the Fall semester. One semester; one credit.

CE 111. CIVIL ENGINEERING 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. Introduction to steel and reinforced concrete construction. Introduction to topography, plot plans, legal descriptions and subdivision design. Offered in the Fall semester. One semester; three credits.

CE 125. GEOMATICS

CE 125. GEOMATICS LAB
Field work to support theory covered in CE 125. Roadway design, closed traverse and topographic mapping projects. Three laboratory hours each week. Report writing skills are required. Computer applications. Offered in the Spring semester. Corequisites: CE 111 and ENG 111. One semester; one credit.

CE 201. STATICS
Principles of statics: coplanar and non-coplanar force systems. Equilibrium of force systems, analysis of stresses, friction, centroids, moment of inertia. Prerequisite: PHYS 150. One semester; three credits.

CE 202. INTRODUCTION TO MECHANICS OF MATERIALS
Axial load, shear and moment diagram. Combined Stresses. Study of stresses due to axial bending, and torsional loading. Mohr’s circle of stress. Hands-on lab projects. Prerequisites: CE 102 and 201. One semester; one credit.

CE 203. STRUCTURAL ENGINEERING I

CE 299. HYDRAULICS
Study of hydrostatics includes pressure heads, pressure centers, buoyancy and flotation, stability of gravity dams, flow of fluids in pipes and open channels, nozzles, weirs, compound and branching pipe networks. Fundamentals of conveyance system design. Oral and written communication skills are required. Prerequisite: CE 202. Corequisite: CE 299L. Offered in the Spring semester. One semester; three credits.

CE 299L. HYDRAULICS LABORATORY
Laboratory experimental work to support theory covered in CE 299. Prerequisite CE 202. Corequisite: CE 299. Offered in the Spring semester. One semester; one credit.

CE 301. STRUCTURAL ENGINEERING II

CE 302. STRUCTURAL ENGINEERING III

CE 305. ENVIRONMENTAL SITE ASSESSMENT
Environmental site assessment, environmental laws and regulations; planning and conducting; title search, site walk-through, water and soil sampling; laboratory and field testing of soil and groundwater; fundamentals of site remediation. Written and oral communication skills are required. Prerequisite: CE 299. Offered as needed. One semester; three credits.

CE 313. HYDROLOGY
The aspects of hydrology which are concerned 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. Prerequisite: CE 299. Offered in the Fall semester. One semester; three credits.

CE 314. ENGINEERING ECONOMY (Formerly CE 314 Economic Factors in Design)

CE 315. JUNIOR PROJECT
Individual design team projects are initiated by the student (or suggested by the faculty) and approved by the faculty, investigated and developed throughout three semesters preceding the student's graduation. Students submit proposals for CE 315, CE 431, and CE 432. Students attend senior presentations and other professional lectures. Report writing and oral presentation. Prerequisite CE 203. To be taken three semesters preceding the student's graduation. One semester; zero credits.

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 and 115L. 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, traffic assignment, and intermodal systems. Computer applications. Oral and written communication skills are required. Prerequisite: CE 125. 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. Geographic design of urban arterials and interchanges. 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 as needed. Prerequisite: CE 125. 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 bearing resistance. Prerequisites: CE 222. Corequisite: CE 322L. Offered in the Fall semester. One semester; three credits.

CE 322L. GEOTECHNICAL ENGINEERING LABORATORY
Standard laboratory tests to determine soil properties. Written and oral communication skills are required. Corequisite: CE 322. Offered in the Fall semester. One semester; one credit.

CE 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, planning and scheduling, critical path analysis, and network analysis. Prerequisites: CE 222 and CE 299. Offered in the Fall semester. 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. Offered as needed. One semester; three credits

CE 400. THE COMPLET ENGINEER
This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics; regulatory issues; health, safety, and environmental factors; reliability, maintainability, producibility, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy. (Same as CH E 400, ECE 400, and ME 400) Prerequisites: Permission of the department and MATH 232. One semester; three credits

CE 401. ADVANCED ENVIRONMENTAL ENGINEERING ANALYSIS AND DESIGN
Advanced concepts in environmental engineering. Industrial waste treatment, toxic material disposal, physical, biological, and chemical treatment schemes. Oral and written communication skills are required. Prerequisite: CE 317. Offered as needed. One semester; three credits

CE 402. OPEN CHANNEL HYDRAULICS
Study of open channel fluid conveyance systems. Special emphasis on the design and analysis of natural and artificial channels. Characteristics of flow systems. Prerequisite: CE 299 or equivalent. Offered as needed. 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 as needed. Prerequisite: CE 299. One semester; three credits

CE 409. SPECIAL TOPICS IN STRUCTURAL ENGINEERING
Topics vary depending on senior projects. Prerequisites: CE 302. One semester; three credits

CE 410. INTRODUCTION TO BRIDGE ENGINEERING
Design, rehabilitation, and maintenance of modern highway bridges. AASHTO LRFD specifications. Offered as needed. One semester; three credits

CE 413. INTRODUCTION TO WIND AND EARTHQUAKE ENGINEERING
Analysis and design of buildings under wind and earthquake. Retrofit and repair. Offered as needed. Prerequisite: CE 293. One semester; three credits

CE 417. ENVIRONMENTAL ENGINEERING LABORATORY
Laboratory work to support treatment concepts presented in CE 317. Written communication skills are required. Prerequisite: CE 317. Offered in the Fall semester. One semester; one credit

CE 418. ADVANCED DESIGN OF FOUNDATIONS
Counterfort retaining walls; construction of earth dams; seatage; sheet piles; foundations on swelling soils; soil improvement. Oral and written communication skills are required. Offered as needed. Prerequisite: CE 340. 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; material selection and mixture design; theory and design of flexible and rigid pavements for highways and airports; pavement evaluation and rehabilitation. Oral and written communication skills are required. Offered as needed. Prerequisite: CE 322. One semester; three credits

CE 425. HEAVY CONSTRUCTION EQUIPMENT AND METHODS
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 317. Offered as needed. One semester; three credits

CE 428. CONSTRUCTION MANAGEMENT
Students are exposed to the total management of a construction project to specifications on time and within budget. Prerequisite: CE 293. Offered as needed. One semester; three credits

CE 495. 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, a final report, and a final oral presentation to the faculty. Minimum time 200 hours. Prerequisites: CE 203 and permission of department. One semester; three credits

CE 496-498. TOPICS IN CIVIL ENGINEERING
Directed work on a special problem. Problems of an 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. Prerequisites: Senior standing and a duly executed contract. One semester; one, two, and three credits respectively.

COMPUTER SCIENCE COURSES
The requirements for the degree are found on Page 97. Requirements for the dual degree in Computer Science and Mathematics are found on Page 99. Requirements for the dual degree in Computer Science and Electrical Engineering are found on Page 81.

CS 172. FUNDAMENTALS OF COMPUTER SCIENCE (Formerly CS 122)
This course provides a basis for understanding 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: ECE 101 or MATH 117, (107 B & 110), 129, or 131. Corequisite: CE 172. Offered in the Spring semester. One semester; three credits

CS 172L. FUNDAMENTALS OF COMPUTER SCIENCE LAB (Formerly CS 122L)
Lab to accompany CS 172. Corequisite: CS 172L. One semester; one credit

CS 234. DATA STRUCTURES
The course teaches the student important data structures, such as lists, stacks, queues, trees and tables. The student designs and implements correct readable and efficient software systems with interacting components. Prerequisite: CE 172. Corequisite: CS 294L. Offered in the Fall semester. One semester; three credits

CS 234L. DATA STRUCTURES LAB
Lab to accompany CS 234. Corequisite: CS 234. One semester; one credit

CS 240. INTRODUCTION TO BIOINFORMATICS
(Same as BIOL 240) The course covers introductory topics in bioinformatics. Topics include the structure of DNA, string representation in PERL, data search, pairwise alignments, substitution patterns, protein structure prediction and modeling, proteomics and the use of web-based tools for topics in bioinformatics. (Same as BIOL 240). Prerequisite: CE 172 or BIOL 111 and 111L Offered in odd-numbered Spring semesters. One semester; three credits

CS 301. C PROGRAMMING
The course dedicates half of the problem solving and the design of algorithms and their implementation in the C programming language. It considers the fundamentals of procedural programming with applications in business, engineering and science. Topics include variables, expressions and statements, console input/output, modularization and functions, arrays, pointers and strings, data structures, and file input/output. Its laboratory focuses on designing and implementing applications. Prerequisite: CS 234. One semester; two credits

CS 360. OBJECT ORIENTED DESIGN
The course uses object oriented analysis and design techniques and tools to develop and implement solutions to problems in business, engineering and science. Prerequisite: CS 234. Offered in the Spring semester One semester; three credits

CS 370. OPERATING SYSTEMS (Formerly CS 380)
This course introduces the topics that govern the behaviour of operating systems. Topics include processor scheduling, memory management, input, output, file storage allocation, protection and security. (Same as ECE 370). Prerequisite: CS 254 or ECE 235. Same as ECE 370. Offered in the Spring semester. One semester; three credits

CS 400. INTERNSHIP IN COMPUTER SCIENCE
Computer science majors receive on-the-job training in the offices of cooperating firms. To receive credit, the student must submit periodic reports and a detailed final report of the work done. The authorized supervisor at the firm must verify these reports. Prerequisites: Junior standing and approval of the Computer Science faculty. Pass/Fail grading. One semester; one to three credits

CS 440. ALGORITHMS
This course explores 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 as needed. Prerequisites: MATH 141 or 405 and CS 254. 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: CE 360 or ECE 360. Offered in the Spring semester of odd numbered years. One semester; one to three credits

contractual considerations, time cost trade-off, schedule monitoring/updating and integration of schedule and cost. Computer applications. Offered as needed. One semester; three credits

ACADEMIC COURSE DESCRIPTIONS
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CE 490-494. SPECIAL TOPICS
Elective courses of special or current interest. Taught by faculty with special or unique qualifications. Taken by Juniors and Seniors. Prerequisites: Announced with course offerings, junior or senior standing. One semester; one to four credits

CE 495. INTERNSHIP IN CIVIL AND/OR ENVIRONMENTAL ENGINEERING
(Formerly CE 499) Students majoring in civil/environmental engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports, a final report, and a final oral presentation to the faculty. Minimum time 200 hours. Prerequisites: CE 203 and permission of department. One semester; three credits

CE 496-498. TOPICS IN CIVIL ENGINEERING
Directed work on a special problem. Problems of an 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. Prerequisites: Senior standing and a duly executed contract. One semester; one, two, and three credits respectively.
CRIMINAL JUSTICE COURSES

CJ 150. PUBLIC ADMINISTRATION
A history and overview of the field of Public Administration as a profession and an academic discipline. It is designed to give the student a solid and in-depth understanding of past, present, and future problems of administrators in managing government organizations in the political environment. Interrelationships between chief executives, legislators, the judiciary, interest groups, and bureaucracies are considered. One semester; three credits.

CJ 200. CRIMINAL JUSTICE
An analysis of the structure, functions, and decision process of social agencies that deal with the management and control of crime and criminal offenders. Includes study of the nature, causes, and role of criminal behavior in society. One semester; three credits.

CJ 205. CRIMINOLOGY
This course will offer an introduction to theoretical explanations for the causes of crime. We will take a psychosocial approach to understanding crime causation and prediction through the use of data and specific theories. One semester; three credits.

CJ 210. CRIMINAL LAW
Criminal Law is an examination of some of the substantive aspects of criminal law, including principles of criminal liability, specific analysis of elements of crimes, and substantive defenses to crimes. Throughout the course, there is an ongoing examination of Constitutional safeguards that control the substantive and procedural aspects in the criminal justice system. Course instruction consists of lecture, use of hypothetical case studies and reading and analysis of selected laws and court decisions. One semester; three credits.

CJ 215. CORRECTIONS
This course will offer a comprehensive look at the corrections system that makes up the corrections system in the United States. The history and future of the corrections system will be analyzed through an examination of the political and social climate in our country. One semester; three credits.

CJ 220. POLICING
This course is an in-depth study of law enforcement in the United States, the largest and most visible part of the criminal justice system. Students will focus on the differences and functions of federal, state, local, county and private policing in this country. One semester; three credits.

CJ 225. JUVENILE JUSTICE
The focus of this course is to examine the juvenile delinquency phenomenon through the historical context of delinquency, the changing legal environment (including major court decisions which have transformed the juvenile system), exploring the theories of the causes of juvenile delinquency, and discussion of juvenile delinquency prevention and control programs. One semester; three credits.

CJ 245. CHILD SEXUAL ABUSE
This course 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 course will present a brief history of the most 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 instruction. 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
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 with a grade of “C” or higher. (Same as SOC 362). One semester; three credits.

CJ 365. DISSIDENT 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). Prerequisite: PSYC 105 with a grade of “C” or higher or SOC 101 with a grade of “C” or higher. One semester; three credits.

CJ 370. APPLICATIONS OF MEMORY
An examination of the application of memory in such diverse areas as courtroom testimony (e.g., factors influencing witnesses, hypnosis, repressed memory, false memory), memory for everyday events, memory aids, and advertising. The relevant theories and research in each area are examined. (Same as PSYC 370). Prerequisite: PSYC 105 with a grade of “C” or higher. One semester; three credits.

CJ 375. FRAUD EXAMINATION
This course gives a comprehensive view of the growing significance of fraud in today’s business world. This course will examine the nature of fraud, the types of fraud, recent developments in fraud, and the victims of fraud. Students will learn to perform an analysis of fraud using specialized software. (Same as ACCT 385). One semester; three credits.

CJ 380-387. SELECTED TOPICS IN CRIMINAL JUSTICE
Directed work on a special topic or project in criminal justice. One semester; one to three credits.

CJ 390-399. HONORS SPECIAL TOPICS IN CRIMINAL JUSTICE
Special topics in criminal justice open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; three credits.

CJ 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). Prerequisite: PSYC 105 with a grade of “C” or higher. 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
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
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 323. THE ECONOMICS OF HEALTH AND HEALTHCARE
This course uses the tools of economic thinking and economic analysis to examine the current state of health and healthcare in the United States. Economic concepts to be discussed include scarcity, rationing, the roles of the free market and government, sensitivity to price, determinants of the demand for, and the supply of, healthcare, and production possibilities. These and other tools will be used to examine such topics as changing demographics, alternative production and delivery systems, health insurance, regulation of the health sector, and the legal environment. Prerequisite: ECON 214 or consent of instructor. Offered as needed. One semester; three credits.

ECON 325. ENVIRONMENTAL ECONOMICS
This course will examine the emerging field of environmental economics - that is, the connections between economics and the environment. Topics will include the sources of environmental problems, the concept of natural capital, sustainable development, and how to balance environmental policy, economic growth and the constraints of a market-based economic system. Offered as needed. One semester; three credits.

ECON 343. INTERMEDIATE MACROECONOMICS
The theory of national income and employment, analysis of aggregate demand, the general level of prices as well as related questions of policy. Prerequisites: ECON 214 and 215. Offered as needed. 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 and 215. Offered as needed. 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 305. PROFESSIONAL FOUNDATIONS III
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 340. 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 effective cooperation of the internship 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.

EDUC 420. MANAGERIAL ECONOMICS
This course is designed to provide the student with a basic understanding of the principles of international trade, marketing, and finance. Specific topics which will be introduced include but are not limited to: tariffs, subsidies, import restrictions, foreign exchange, methods, agencies, and middlemen and business practices which influence trade relations. In addition, students will study the basics of the field of International Business including national differences in political economy and culture, global trade and investments, foreign direct investments, regional economic integration, foreign exchange markets, and strategic alliances. Prerequisites: ECON 214 and 215. Offered in the Fall semester. One semester; three credits.

EDUC 422. INTERNATIONAL TRADE AND ECONOMICS
This course is designed to provide the student with a basic understanding of the principles of international trade, marketing, and finance. Specific topics which will be introduced include but are not limited to: tariffs, subsidies, import restrictions, foreign exchange, methods, agencies, and middlemen and business practices which influence trade relations. In addition, students will study the basics of the field of International Business including national differences in political economy and culture, global trade and investments, foreign direct investments, regional economic integration, foreign exchange markets, and strategic alliances. Prerequisites: ECON 214 and 215. Offered in the Fall semester. One semester; three credits.

EDUC 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 income and political decision making inside bureaucracies, and development of the process of public policy formulation and implementation. Among the policy areas covered will be an analysis of policy programs in the areas of education, welfare, and health care. Prerequisites: ECON 214. Offered as needed. One semester; three credits.

EDUC 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 and 215. Offered as needed. One semester; three credits.

EDUCATION COURSES
EDUC 200. INTRODUCTION TO UNDERGRADUATE TEACHER EDUCATION
This zero credit course will introduce undergraduate students to the complexities involved in graduate studies including proper APA style, department expectations, licensure requirements, among other topics. This course must be taken in the junior year. One semester; zero credits.

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. Orients 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. FOUNDATIONAL INSTRUCTION
Students acquire background in the foundational structures 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. FOUNDATIONAL INSTRUCTION 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 340. 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 effective cooperation of the internship 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.

EDUC 350. PORTFOLIO AND PRACTICUM - TVAS
This one hour course will explore virtual teaching scenarios, assessments, and reflections of best practices as outlined by the state department of education. Students must complete an approved semester of online teaching prior to the semester; recommended for a semester when not taking EDUC 350 or EDUC 420. One credit.

EDUC 402. PRACTICUM IN EDUCATION
Required for students choosing middle or secondary teaching majors linked with the MAT route to middle or secondary licensure. Also required for students in K-6 Liberal Studies, Pre-licensure program, Pre-K - 3 Early Childhood program, and Special Education Modified K-12 program. Weekly, must be taken every semester prior to the semester; one semester; three credits.

EDUC 405. CURRICULUM AND METHODS IN LANGUAGE ARTS, Pre-K - 3
Students examine the theory and practice of transforming the methods of inquiry and the knowledge base of the language arts into language arts curriculum, emphasizing content and performance standards, 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 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. CURRICULUM AND METHODS IN SOCIAL STUDIES, Pre-K - 6
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and discipline. Ten hours of field experience required. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 411. CURRICULUM AND METHODS IN SCIENCE, Pre-K - 6
Theory and practice in transforming the methods of inquiry and the knowledge base of the sciences into the elementary science curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary science curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 412. CURRICULUM AND METHODS IN SOCIAL STUDIES, Pre-K - 6
Required for elementary licensure. Theory and practice in transforming the methods of inquiry and the knowledge base of the sciences into the elementary social studies curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary social studies curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 420. PORTFOLIO AND PRACTICUM II
Required for elementary licensure. Candidates at a midpoint in the Teacher Education Program complete 30 clock-hours of school-based experience and assessments, including further development of technology-driven portfolio, appropriate Praxis II tests, and application for student teaching experience. Prerequisite: Admission to the Teacher Education Program. One semester; one credit.

EDUC 422. CURRICULUM AND METHODS IN MATHEMATICS, Pre-K - 6
Required for elementary licensure. Theory and practice in transforming the methods of reasoning and the knowledge base of mathematics into the elementary math curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary math curriculum. Field experience is a required part of this course. Prerequisite: Admission to the Teacher Education Program. One semester; three credits.

EDUC 424. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, Pre-K - 6
Required for elementary licensure. Integration of concepts of music, visual art, drama, and dance into the elementary classroom. Prerequisite: Admission to the Teacher Education Program. One semester; one credit.

EDUC 428. YOUTH ADULT LITERATURE
A study of literature written for preadolescent children and adolescents designed for those who will teach middle school and high school English and language arts. Prerequisite: Admission to the Teacher Education Program or permission of instructor. One semester; three credits.

EDUC 430. CURRICULUM AND ASSESSMENT IN SECONDARY SCHOOLS, 7-12
Elective course focusing on standards-based curriculum development and assessment strategies in the secondary school. One semester; three credits.

EDUC 431. STUDENT TEACHING—ELEMENTARY LEVEL I
Directed student teaching in the early childhood grades is under the supervision of a selected cooperating teacher and a selected University supervisor.
EXCE 451. FAMILY CONSULTATION AND SUPPORT
Candidates will gain an understanding of the impact of identification and diagnosis on families, transitioning students between various school settings, transitioning between post school and adulthood, and collaboration with community to aid in post school opportunities. Candidates will also acquire knowledge in the diversity of students, backgrounds, and the role of education. One semester; three credits.

■ ELECTRICAL & COMPUTER ENGINEERING COURSES

Requirements for the degree are found on Pages 79 and 80. Requirements for a dual degree in Electrical and Engineering Computer Science are found on Page 81.

ECE 101. INTRODUCTION TO ENGINEERING PROBLEM SOLVING
Students are provided an overview of engineering and computer science disciplines and careers. Students are introduced to C++, EXCEL, and AutoCad and the application of software to engineering and computer science problems. Students are introduced to a hardware interface by programming the BeagleBone Black microcontroller. Corequisite: Math 117. (107 & 110), 129, or 131. Offered in the Fall semester. One semester; three credits.

ECE 112 COMPUTERS IN ENGINEERING PROBLEM SOLVING (Formally ECE 172)
This course is an introduction to computers and programming in engineering problem solving. It uses object-oriented programming and the use of modern tools and techniques for software engineering practices. It uses the Java language for programming exercises and projects. Include methods, arrays, classes, objects, methods, encapsulation, inheritance, abstraction, flow control, basic data structures, sorting and searching algorithms, and file I/O. Corequisite: Math 117. (107 & 110), 129, or 131. Offered in the Spring semester. One semester; three credits.

ECE 112. COMPUTERS IN ENGINEERING PROBLEM SOLVING LAB (Formally ECE 172L)
Lab to accompany ECE 112 and required by electrical engineering majors in the computer track. Corequisite: ECE 112. One semester; one credit.

ECE 110. INTRODUCTION TO PROGRAMMING USING 3D GRAPHICS
This course is an introduction to object oriented programming using graphics in the creation of 3D movies, games and interactive applications. It studies: Algorithmic thinking and expression (how to read and write in a formal language); Abstraction (how to communicate complex ideas simply, and decompose problems logically); Appreciating elegance (why some solutions are intrinsically better than others); Object design (classes, objects, methods, parameters, and inheritance); Interactive programs (events and event handling); Core programming concepts (functions, if/else, loops, recursion, lists, arrays, variables). One semester; three credits.

ECE 132. INTRODUCTION TO JAVA PROGRAMMING (Formerly ECE 120)
This course concerns more topics in algorithms and program development using object-oriented programming concepts. Include methods, arrays, classes, objects, encapsulation, inheritance, composition, abstraction and graphical user interfaces. It uses the Java language for programming exercises and projects. Online Course. Offered as needed. One semester; three credits.

ECE 150. INTRODUCTION TO MULTIMEDIA DSP
This course is an introduction to Digital Signal Processing applied to Multimedia signals: video, image, music and voice. Topics include compression, enhancement and restoration of multimedia signals. Signal representation, Sampling and Aliasing, FIR and IIR filters, the Z-Transform, Spectrum analysis. It studies the application of DSP in areas such as: biotechnology, medical imaging, economic forecasting, telecommunications, scientific imaging, materials science, weather forecasting, seismic data processing, analysis and control of industrial processes, aerospace and defense, remote sensing, computer-generated animation, etc. Offered in the Fall semester. Corequisite: Math 105, 117, (107 & 110), 129 or 131 or instructor’s approval. One semester; three credits.

ECE 201. ENGINEERING INSTRUMENTATION
A laboratory course designed to instruct students in the theory and use of various engineering instruments and transducers. Emphasis is placed on appropriate error analysis in the reduction, analysis, and reporting of data. Technical report preparation is emphasized. Two lecture periods and one laboratory period of three hours. (Same as ME 301). Prerequisite: ECE 221. Offered in the Fall and Spring. One semester; two credits.

ECE 221. ELECTRIC CIRCUIT ANALYSIS I
Fundamentals of electrical concepts: change, voltage, current, power, resistance, capacitance and inductance. Techniques of circuit analysis; Kirchhoff’s Laws; nodal and mesh analysis, transformations, Thevenin’s and Norton’s theorems; linearity and superposition. Transient analysis; source free R-L-C, R-L-C networks; step function forcing; natural and forced responses. Sinusoidal steady-state analysis; thevenin and norton equivalent circuits, multi-terminal complex impedances; complex power; effective values and balanced three-phase systems. Prerequisite: MATH 132. Corequisite: PHYS 251. 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 domains; system transfer functions. Laplace transform techniques; initial and final value theorems and transfer functions. Prerequisites: ECE 221 and MATH 253. Corequisite: PHYS 251. Offered in the Fall and Spring. One semester; three credits.

ECE 250. DIGITAL DESIGN
advanced arithmetic circuits. Memory devices, processor design and microprogramming. Written reports are required for each of three design projects. Prerequisites: ECE 101 or ME 112. Offered in the Spring semester. One semester; three credits

ECE 251. MICROCONTROLLER INTERFACING AND PROGRAMMING
Embedding digital information, microcontroller technology, assembly language and C, programming, input/output interfacing, data acquisition hardware, interfaces, and timing. Design projects will require writing C programs and interfacing to hardware using the BeagleBone Black microcontroller. Prerequisite: ECE 250. Corequisite: ECE 251L. Offered in the Spring semester. One semester; three credits

ECE 251L. MICROCONTROLLER INTERFACING AND PROGRAMMING LABORATORY
Microprocessor interfacing and programming lab to accompany ECE 251. Corequisite: ECE 250. One semester; one credit

ECE 314. ENGINEERING ECONOMY
Fundamentals of engineering economy. Time value of money and equivalence. Economic analysis of alternatives. Depreciation and after-tax analysis. Effects of inflation on economic analysis. Composite exchange rates. Effects of global economic issues on engineering decision making. Prerequisite: junior or senior standing. (Same as CH E 314, CE 314 and ME 314) One semester; three credits

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 251, ECE 221, and ME 202. Offered in the Fall semester. One semester; three credits

ECE 331. ELECTRONICS I
Properties of semiconductors. PN-junction diodes: theory, models, and circuit applications. Operation and characteristics of bipolar junction and field effect transistors. Analysis and design of transistor bias circuits. Low frequency transistor models. Analysis and design of single stage amplifiers. Introduction to the operational amplifier and some of its applications. Introduction to frequency response of amplifiers. Introduction to oscillators. Prerequisites: ECE 201, 221, and MATH 132. Corequisite: ECE 331L. 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 operational amplifiers and other integrated circuits. Introduction to feedback amplifiers, digital electronics, and small analog-digital systems. Introduction to power devices and circuits. Prerequisites: ECE 222 and 331. Corequisite: ECE 332L. Offered in the Spring semester. One semester; three credits

ECE 332L. JUNIOR LABORATORY I (Formerly ECE 343)
Experiments paralleling topics from ECE 222 and 331. Most experiments will relate to topics from electronics and stress designing with discrete electronic devices. Introduction to integrated circuits through circuit applications. Students will be required to maintain a lab journal. Prerequisites: ECE 201 and 221. Corequisite: ECE 332. Offered in the Fall semester. One semester; three credits

ECE 332L. JUNIOR LABORATORY II (Formerly ECE 342)
Design projects paralleling ECE 332 and 331. Some experiments may be assigned by the instructor, but some projects will be proposed by the students and submitted to the instructor for approval prior to the initiation of the work. An engineering notebook is kept by each student. Prerequisite: ECE 331L. Corequisite: ECE 332L. 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, and digital communications systems. Analysis and design of digital communications systems, information theory, discrete pulse and carrier wave modulation schemes. Prerequisites: ECE 222 and MATH 309 or the successful passing of an ECE departmental exam with applicable mathematical content contained in Math 309. Offered in the Spring semester. One semester; three credits

ECE 350. COMPUTER SYSTEMS DESIGN AND ARCHITECTURE
Computer hardware and software organization, processor programming models, data representation, assembly language programming, design of memory systems, input and output device interfacing, programming, multiprocessing, and introduction to computer communication. Programming projects using C, Linux, and the BeagleBone Black microcontroller will be required. Offered in the Fall semester. One semester; three credits

ECE 370. OPERATING SYSTEMS
Structure and functions of operating systems; process and program scheduling, synchronization and mutual exclusion, memory management; auxiliary storage management, resource allocation and deadlocking. Programming projects using C, Linux, and the BeagleBone Black microcontroller will be required. (Same as CS 370). Prerequisite: CS 254 or ECE 235. Offered in the Spring semester. One semester; three credits

ECE 400. THE COMPLIANT 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. Prerequisite: Permission of the department and MATH 232. 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 AC and DC machines and their use to control systems. Direct energy conversion systems. Prerequisite: ECE 222. Corequisite: ECE 401L. Offered in the Fall semester. One semester; three credits

ECE 401L. ENERGY CONVERSION LABORATORY (Formerly ECE 403)
Laboratory experiments paralleling ECE 401. Single-phase transformers. Induction and synchronous machines. Use of variable frequency sources for speed control of induction motors, voltage and speed control circuits of DC machines. Structured, written laboratory reports. Corequisite: ECE 401. Offered in the Fall semester. One semester; one credit

ECE 406. ELECTROMAGNETIC FIELD THEORY
Field and vector operations. Electrostatic and magnetostatic fields. Time varying fields and electrodynamics. Plane waves. Transmission lines, transient and steady state. Prerequisites: ECE 221, MATH 232 and PHYS 251. Offered in the Fall semester. One semester; three credits

ECE 409. ELECTRICAL AND COMPUTER ENGINEERING PROJECT I
Design, development and implementation of student selected projects. Projects are sponsored by local and national industry. Includes complete engineering documentation as well as economic analysis. Written reports are required with the final product in engineering report form. A formal oral presentation to sponsors, faculty and friends is required. Prerequisites: ECE 409, senior standing and approval of department advisor. Offered in the Spring semester. One semester; three credits

ECE 410. ELECTRICAL AND COMPUTER ENGINEERING PROJECT II (Formerly ECE 409)
Design, development and implementation of student selected projects. Projects are sponsored by local and national industry. Includes complete engineering documentation as well as economic analysis. Written reports are required with the final product in engineering report form. A formal oral presentation to sponsors, faculty and friends is required. Prerequisites: ECE 410, senior standing and approval of department advisor. Offered in the Spring semester. One semester; two credits

ECE 412. ELECTRICAL AND COMPUTER ENGINEERING PROJECT III (Formerly ECE 410)
The three design projects described above are applied by students in which they 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 product in engineering report form. A formal oral presentation to sponsors, faculty and friends is required. Prerequisites: ECE 411, senior standing and approval of department advisor. Offered in the Spring semester. One semester; three credits

ECE 450. COMPUTER NETWORKS
The course emphasizes the relationship between computer systems and network services. HTTP, SNMP, DNS, and other networking services are introduced. 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. Prerequisites: ECE 235 or CS 234 or permission of instructor. Offered in the Spring semester. One semester; three credits

ECE 451. ADVANCED C++ PROGRAMMING
This course extends the object-oriented concepts developed in ECE 342. The course will cover topics that address namespaces, templates, exceptions, run time type indetification, and the standard library including containers, iterators, and algorithms. Programming projects using C++, Linux, and the BeagleBone Black microcontroller will be required. Prerequisites: Senior standing or permission of the instructor and either ECE 172 or CS 172. 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, and protocols for initialization and synchronization. Data link protocols. Point-to-point, multipoint, multidrop, broadcast, and virtual circuit protocols. Written reports are required for each of the three design projects. Prerequisite: ECE 335 or ECE 350. Offered in the Fall semester. One semester; three credits

ECE 471. DESIGN OF DATABASE SYSTEMS
The course stresses the design of databases and their implementation using a relational database management system. Topics include entity-relationship and relational data models and database design. Abstract query languages (relational algebra) and SQL (language for creating, querying, and modifying relational and object-relational databases). Views, integrity, constraints, triggers, transactions and security. Data warehouses, data mining, temporal databases, XML. (Same as CS 471). Prerequisite: junior or senior standing. Offered in the Fall semester. Same as CS 471. One semester; three credits

ECE 477. DIGITAL SIGNAL PROCESSING
ENG 221. 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 and 112 and a literature course. One semester; three credits.

ENG 222. 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 and 112. One semester; three credits.

ENG 215. GATEWAY COURSE FOR MAJORS
A survey of the elements of poetry, drama, and fiction, and an introduction to contemporary critical approaches and MLA style. Will include an emphasis on writing about literature and incorporating critical research. For English, EEC, Creative Writing, 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 and 112 or permission of Department Chair. Offered in the Fall semester. One semester; three credits.

ENG 222. SURVEY OF BRITISH LITERATURE II
A survey of the representative prose and poetry writers of Great Britain since 19th-century Romantic Period. Fulfills ENG 212 requirement. Prerequisites: ENG 111 and 112 or permission of Department Chair. Offered in the Spring semester. One semester; three credits.

ENG 251. 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. ENG 231 and 232 together can be substituted for ENG 111 and 112, and one of the following: ENG 211, 212, 221, or 222. 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 and 112, and one of the following: ENG 211, 212, 221, or 222. Prerequisite: Membership in the Honors Program. Offered in the Spring semester. One semester; four credits.

ENG 240-249. SPECIAL TOPICS
Topics vary with the instructor. Prerequisite: ENG 111, 112 or ENG 231, 232. One semester; one to three credits.

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

ENG 299-309. HONORS SPECIAL TOPICS IN ENGLISH
Special topics in English open to members of the Honors Program or by permission of the instructor and Honors Director. One semester; three credits.

ENG 315. HISTORY OF THE THEATRE
An in-depth study of the theatre including samples of dramatic literature from ancient Greece to the present. (Same as THEA 315) One semester; three credits.

ENG 331. AMERICAN LITERATURE TO 1665
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 1665
A study of representative prose and poetry writers of American literature set against the social, political, and philosophical backgrounds since the Romantic Period. One semester; three credits.

ENG 339. EIGHTEENTH-CENTURY BRITISH NOVEL
Extensive reading in novels by representative eighteenth-century British novelists such as Defoe, Richardson, Fielding, Smollett, and Sterne. One semester; three credits.

ENG 340. NINETEENTH-CENTURY BRITISH NOVEL
Extensive reading in novels by representative nineteenth-century British novelists such as Austen, the Brontes, Dickens, Eliot, and Hardy. One semester; three credits.

ENG 341. NINETEENTH-CENTURY AMERICAN NOVEL
Extensive reading in representative nineteenth-century American novels, set against the social, political, and literary backgrounds of their times. One semester; three credits.

ENG 342. AMERICAN ROMANTICISM
A study of the representative influences, characteristics, and figures of the American Romantic Movement from 1830 to 1860. One semester; three credits.

ENG 343. LITERATURE OF THE AMERICAN SOUTH
A survey of Southern American literature, including its background and themes, with emphasis on twentieth-century writers such as Faulkner, Welty, and Watson. One semester; three credits.

ENG 351. MODERN NOVEL
An examination of modern modes of fiction through representative novelists and the stylistic concepts that shape their expression. One semester; three credits.

ENG 352. MODERN POETRY
A study of theory and representative poets in the United States, Great Britain, and Ireland from 1900 to the 1960s. One semester; three credits.

ENG 354. MODERN DRAMA
An examination of modern American drama from 1880-1960, beginning with a survey of late nineteenth-century European works followed by an intensive study of major playwrights and movements of the twentieth century. One semester; three credits.

ENG 361. AFRICAN-AMERICAN LITERATURE
A study of poetry and prose by representative African-American writers, reflecting the development of African-American literature in the United States. One semester; three credits.

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

ENG 371. BUSINESS COMMUNICATIONS
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,
ENG 373. ADVANCED COMPOSITION
A study of rhetorical theory and rhetorical models accompanied by advanced practice in composition. One semester; three credits

ENG 374. INTRODUCTION TO DRAMATIC WRITING
A study of the major forms of drama and an introduction to the stylistics and rhetorical aspects of those forms through study and practice. The class will culminate in a workshop of the students’ own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 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 workplace. One semester; three credits

ENG 376. CREATIVE WRITING
A study of the major forms of poetry and fiction, specifically the short story, and an introduction to the stylistic and rhetorical aspects of those forms through study and practice. This class includes workshop of the students’ original work. ENG 111 and 112. One semester; three credits

ENG 378. INTRODUCTION TO LITERARY NONFICTION
A study of the major forms of creative nonfiction and an introduction to the stylistics and rhetorical aspects of those forms through study and practice. The class will culminate in a workshop of the students’ own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 379. INTRODUCTION TO SCREENWRITING
A study of the screen writing tradition in which students begin with the basics of visual storytelling, and then examine the two fundamental elements of drama – structure and character. The class will culminate in a workshop of the students’ own work. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 380-389. SPECIAL TOPICS
Topics vary with the instructor. Prerequisite: ENG 111, 112, and one 200 level English course (211, 212, 215, 221, 222, 231, 232). One semester; one to three credits

ENG 390-399. HONORS ENGLISH SPECIAL TOPICS
Special topics in English open to members of the Honors Program or by Permission of the instructor and Honors Director. One semester; one to four credits

ENG 401. WRITING POETRY WORKSHOP
A study of the poetic tradition in which students work to find their own poetic voice through the application of various poetic techniques. Students will also workshop their own writing and actively critique the work of their peers. Prerequisite: ENG 111 and 112. One semester; three credits

ENG 431. LITERARY NONFICTION
An application of the tools often associated with writing fiction and poetry to both analyze and produce documents about actual people, places, and events. One semester; three credits

ENG 432. MEDIEVAL LITERATURE
A study of representative works, especially within 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 intensive 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 Spencer, 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 essays. 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 LITERATURE: POETRY AND DRAMA IN AN AGE OF TRANSFORMATION
A study of the major poets and genres of the seventeenth-century, including a small selection of dramas, in relation to the cultural and historical transformations to which they speak. Authors will include canonical poets/dramatists such as John Donne, George Herrick, Ben Jonson, Aemilia Lanyer, Andrew Marvell, and John Milton, as well as a selection of work by more marginal figures. 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
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 214, MUS 153, MATH 105, (117, 129, or 131) and STAT 221. One semester; three credits.

FIN 340. INVESTMENTS
covers the principles governing the selection of investment media, topics in modern portfolio theory, and techniques of analysis and evaluation as applied to various investment alternatives. The functioning of security markets and how financial assets are traded as well as valuation techniques for bonds, equity instruments, options and futures are covered. Emphasis is on gaining a more in-depth understanding of financial investment alternatives, their valuation and analysis. Prerequisite: FIN 327. Corequisite: FIN 340L. Offered in the Spring semester. One semester; three credits.

FIN 340L. INVESTMENTS TVA LAB
Students will meet in a lab environment to apply the concepts and principles governing the selection of equity securities by making investment recommendations – buy, hold, sell – to invest the Tennessee Valley Authority’s $350,000 portfolio. Corequisite: FIN 340. Offered in the Spring semester. One semester; one credit hour.

FIN 346. PERSONAL FINANCE
The course is designed to acquaint the student with basic principles necessary to efficiently manage personal financial affairs. Special attention is given to the areas of budgeting, insurance, consumer credit, housing cost problems, and investment opportunities. This course cannot be used to fulfill any of the Finance requirements in the School of Business. Offered as needed. One semester; three credits.

FIN 350. CAPITAL MARKETS AND INSTITUTIONS
Survey of financial markets and institutions and their individual characteristics; sources of supply of and demand for funds in each market, the complex interrelations among markets and the role of each in the process of capital formation and allocation. Prerequisites: FIN 327. Offered in the Spring semester. One semester; three credits.

FIN 400. FINANCE INTERNSHIP
(formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. Pass/Fail grading. One semester; three credits.

FIN 410. DERIVATIVE SECURITIES
Structure, operation, and mechanics of trading in markets for futures, swaps, options, synthetic options, and futures on options; transfer of risk and stabilization of prices through futures trading; buying/selling strategies; valuation of futures contracts and options. Applications of derivatives to hedging and speculation strategies. Prerequisite: FIN 340. Offered as needed. One semester; three credits.

FIN 427. FINANCIAL MANAGEMENT II
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 PROJECTS IN FINANCE
Readings and discussions of recent significant finance and investment literature. Possible subject areas include leveraged buyouts, mergers and acquisitions, junk bonds, structured markets, fixed-income investments, foreign markets and exchanges, and hedging. Prerequisites: FIN 327 and 340. Offered as needed. One semester; three credits.

FIN 437. INTERNATIONAL FINANCIAL MANAGEMENT
The international aspects of financial management. Topics include currency markets and exchange rate determination, transfer of funds, bank services, international financial institutions, parity conditions, foreign exchange exposure and management, and valuation of international projects. Prerequisite: FIN 427. Offered in the Spring semester. One semester; three credits.

FIN 440. PORTFOLIO MANAGEMENT
The analysis and valuation of securities and the selection, timing, diversification, and other aspects of supervising the management of investment portfolios. Students analyze the composition of, make buy/sell recommendations for, and evaluate the performance of a portfolio during the semester. Prerequisite: FIN 340 and 340L. Corequisite: FIN 440L. Offered in the Fall semester. One semester; three credits.

FIN 440L. PORTFOLIO MANAGEMENT TVA LAB
Students will meet in a lab environment to apply the concepts and principles governing the management of equity portfolios by making investment recommendations used to invest CBU’s Tennessee Valley Authority’s portfolio. Corequisite: FIN 440. Offered in the Fall semester. One semester; one credit.

FIN 455. PRACTICUM AND PROJECT IN FINANCE
This course is designed to explore and put to practical use the entire body of knowledge gained in previous FIN courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student’s ability to apply classroom principles and skills to specific problems in the financial services professions. Prerequisite: Permission of the Instructor. One semester; three credits.

FOREIGN LANGUAGE COURSE REQUIREMENTS (for courses taught at CBU)
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.

FOREIGN LANGUAGE COURSES
FORL 101. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 102. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 201. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 202. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 301. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 302. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 401. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FORL 402. SPECIAL TOPICS IN FOREIGN LANGUAGES
The study of a language other than French, German or Spanish. One semester; one to four credits.

FRENCH COURSES
FREN 101. ELEMENTARY FRENCH I
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits.

FREN 102. ELEMENTARY FRENCH II
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of French. Offered in the Spring semester. Prerequisite: FREN 101. One semester; three credits.

FREN 201. INTERMEDIATE FRENCH I
A review of French grammar with composition and conversation. Second semester includes the reading of French short stories selected from French literature, designed to increase the student’s vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: FREN 101 and 102. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits.

FREN 202. INTERMEDIATE FRENCH II
A review of French grammar with composition and conversation. Second semester includes the reading of French short stories selected from French literature, designed to increase the student’s vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: FREN 201. Not open for credit to native speakers of French. Offered in the Spring semester. One semester; three credits.

FREN 280-289. SPECIAL TOPICS IN FRENCH
Topics of special interest related to French literature, language and culture. Prerequisites: French 101 and 102 or permission from the Department Chair. One semester; three credits.

FREN 301. COMPOSITION AND CONVERSATION
Continued study of French grammar and composition. Drill on idioms and difficult constructions with reading in French civilization. Prerequisites: FREN 201 and 202 or the equivalent. Not open for credit to native speakers of French. Offered in the Fall semester. One semester; three credits.
FREN 302. COMPOSITION AND CONVERSATION II
Continued study of French grammar and composition. Drill on idioms and difficult constructions with reading in French civilization. Prerequisites: FREN 201 and 202 or the equivalent. Not open for credit to native speakers of French. Offered in the Spring semester. One semester; three credits.

FREN 311. SURVEY OF FRENCH LITERATURE I
A survey of the chief French authors and their works from the beginnings through the Golden Age. Readings, lectures, discussions. Prerequisite: Two years of college French or the equivalent. Offered in the Fall semester. One semester; three credits.

FREN 312. SURVEY OF FRENCH LITERATURE II
A survey of the chief periods and movements in French literature from the 18th to the 20th century. Reading in French of selections from the masterpieces of the principal authors of these centuries. Prerequisite: Two years of college French or equivalent. One semester; three credits.

FREN 313. FRENCH CIVILIZATION I
An overview of the chief historical, political, and artistic periods in French civilization, with an emphasis on the 19th and 20th centuries. Readings, lectures, discussions, films, and presentations. Prerequisite: Two years of college French or equivalent. Offered in the Fall semester. One semester; three credits.

FREN 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. One semester; one to three credits.

FREN 400-410. RESEARCH TOPICS IN FRENCH.
Original writing projects or independent study and research in literature, pursued under the guidance of a member of the French faculty. Syllabus and credit hours contracted by the student with the French professor. One semester each; one to three credits each.

FREN 480-489. SPECIAL TOPICS IN FRENCH.
Topics of special interest related to advanced study of French literature, language, or culture. Prerequisites: French 302 and 312 and permission of instructor. One semester; one to three credits each.

□ 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 environments. One semester; three credits.

GEOG 310. PHYSICAL GEOGRAPHY
An introduction to environmental and earth science, particularly weather and climate. Study of atmospheric phenomena, global climate systems and patterns; emphasis on the development of map and globe skills. One semester; three credits.

GEOG 325. REGIONAL GEOGRAPHY
Spatial analysis of economic, cultural, and physical characteristics of selected areas of the world. Comparisons of developing and industrialized nations involving population distribution, spatial patterns of economic activity, and human-environmental relationships. One semester; three credits.

GEOG 340. HUMAN GEOGRAPHY
Study of cultural, political, and economic aspects of major ethnographic areas and selected cultures of the world. One semester; three credits.

□ GERMAN COURSES
GERM 101. ELEMENTARY GERMAN I
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of German. Offered in the Spring semester. Prerequisite: GERM 101. One semester; three credits.

GERM 102. ELEMENTARY GERMAN II
Fundamentals of grammar and pronunciation, elementary conversation. Second semester includes reading and translation of texts of graded difficulty. Not open for credit to native speakers of German. Offered in the Spring semester. Prerequisite: GERM 101. One semester; three credits.

GERM 201. INTERMEDIATE GERMAN I
A continuation of German grammar and composition. Drill on idioms and difficult constructions with reading in German civilization. Prerequisites: GERM 101 and 102. Not open for credit to native speakers of German. Offered in the Fall semester. One semester; three credits.

GERM 202. INTERMEDIATE GERMAN II
A review of German grammar with composition and conversation. Second semester includes the reading of German short stories selected from German literature, designed to increase the student's vocabulary and to contribute to his mastery of idiomatic constructions. Prerequisites: GERM 101 and 102. Not open for credit to native speakers of German. Offered in the Spring semester. One semester; three credits.

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.

GERM 210. READINGS (INTERMEDIATE LEVEL)
Readings designed to meet individual interests and needs. Prerequisites: Permission of instructor. One semester, four credits.

GERM 220/320-221/322. TOPICS IN GERMAN LITERATURE, CULTURE AND SOCIETY
A two-semester survey of the cultural and intellectual history of the German speaking peoples particularly after 1750. The historical periods covered will be presented within the framework of specific topics, such as revolution or national identity. Readings from a variety of areas (literature, philosophy, politics, etc.) films, lectures, reports, and discussions. 220/320 will cover roughly 1770-1980, 221/322 will proceed from 1900-present. German 320-321 is reserved for majors and minors. Students taking these courses toward the major or minor must take one credit of 311 concurrently. Prerequisites: For German 320-321: GERM 301 or 302 or permission of instructor. One semester; four credits.

GERM 240/340. GERMAN CINEMA
This course, examining important German films since the days of the Weim Republic, places special emphasis on the historical and social background of each film as well as the aesthetic qualities of the works. It thereby seeks to contribute to a better understanding of recent German history and of films as an artistic medium. Films makers to be studied include Friedrich Murnauer, Fritz Lang, Leni Riefenstahl, Volker Schlondorff, Helma Sanders-Brahms, Wim Wenders, Rainer Werner Fassbinder, and Wolfgang Becker. All films are subtitled; the course is taught in English. German 340 is reserved for majors and minors, who will do substantial portions of the work for the course in German. One semester, four credits.

GERM 242/342. THE HOLOCAUST IN TEXT, IMAGE, AND MEMORY
Examines the sources of the Holocaust. Prerequisite: Two years of college German or the equivalent. One semester; three credits.

GERM 244/344. GERMAN FAIRY TALES
Emphasis on the Grimm's tales: theoretical approaches to the tales from the late 19th and early 20th centuries as well as later adaptations. Materials and discussions in English. German 344 is reserved for majors and minors, who will do substantial portions of the work for the course in English. One semester; four credits.

GERM 246/346. MARX, NIETZSCHE, FREUD
This course introduces students to the works of Marx, Nietzsche, and Freud. Discussions will center on materialism and its significance for concepts of history and progress, and on the status of the self in society. Discussions of contemporary cultural theory and of popular culture will test the continued relevance of these thinkers. All materials and discussions in English. German 346 is reserved for majors and minors, who will do substantial portions of the work for the course in German. One semester; four credits.

GERM 248/348. SPECIAL TOPICS IN GERMAN LITERATURE
Emphasis on a specific author, group of authors, or theme. Course topics may vary, and students may repeat the course with a different topic. All materials and discussions in English. German 348 is reserved for majors and minors, who will do substantial portions of the work for the course in German. One semester; four credits.

GERM 301. COMPOSITION AND CONVERSATION
Advanced training in written and oral German expression. Prerequisites: German 202, or permission of instructor. Offered in the Fall semester. One semester; four credits.

GERM 302. ADVANCED READING COMPREHENSION
Emphasis on the development of reading skills through a variety of text types. Prerequisites: German 202, 301 or permission of instructor. Offered in the Spring semester. One semester; four credits.

GERM 305. GERMAN IN GERMANY
An introduction to advanced German in Germany. Prerequisite: Permission of CBU Department Chair. Offered in the Summer semester. One semester; four credits.

GERM 310. READINGS (ADVANCED LEVEL)
Readings designed to meet individual interests and needs. May be taken more than once for credit with new topics. Prerequisites: Permission of instructor. One semester; one to four credits.
GERM 311. SUPPLEMENTAL READINGS
This course is reserved for majors and minors enrolled in German 320 or 321. It is designed to give students opportunities to read, write, and speak in German in conjunction with the coursework in English. May be repeated once. Prerequisite: Concurrent enrollment in 320 or 321. One semester; one credit.

GERM 409. SPECIAL TOPICS
Intensive study of an aspect or theme of German literature, culture or society in German. May be taken more than once for credit with new topics. Prerequisites: German 301, 302 or 305 and permission of CBU Department Chair. One semester; four credits.

GERM 486. SENIOR SEMINAR
Independent study designed to give students the opportunity to apply their knowledge of the discipline in a full-length research paper. Prerequisite: Permission of CBU Department Chair. Offered in the Spring semester. One semester; two credits.

GLOBAL STUDIES COURSES
These courses will be developed and the diverse often conflicting, and changing ideas or policies associated with the concept of globalization. A variety of courses will be offered in this field to provide an understanding of the development of major types of Greek poetry, including elegy, and the Hesiodic corpus as well. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the 5th and 4th centuries BCE. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homer, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

GREEK 293/393. GREEK COMEDY
This course, making extensive use of resources available via the internet, focuses on the work of the Athenian comic playwrights. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the 5th and 4th centuries BCE. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

GREEK 294/394. LITERATURE OF THE 4TH CENTURY BCE
This course, making extensive use of resources available via the internet, focuses on the work of the Athenian historians, orators, and philosophers who were active in the 4th century BCE. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at their home institutions. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the 4th century BCE. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

GREEK 295/395. HELLENISTIC LITERATURE
This course, making extensive use of resources available via the internet, focuses on the evolution of Greek literature during the Hellenistic period, which begins with the conquest of Alexander the Great and the foundings of the Museum at Alexandria by Ptolemy I Soter. Students will read and study the works of authors of the period: Callimachus, Theocritus, and Apollonius of Rhodes as well as epigrams from other writers including Meleager, Philodemus, and Pseudo-Apollodorus. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context of the Hellenistic Period. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history, Homeric poetry, the work of the lyric poets, and the literature of the 5th century is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

HISTORY COURSES
These courses will be developed and the diverse often conflicting ideas or policies associated with the concept of globalization. Multiple topics will be covered in this field to provide an understanding of the development of major types of Greek poetry, including elegy, monodic lyric, and choral lyric. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context of the Archaic Period. Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Greek 265 or equivalent. Some familiarity with Greek history and Homeric poetry is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

HIST 107. WORLD HISTORY TO 1500
This course is an introduction to the origins and development of the major world societies through the post-classical period. Major topics include the changing status of women, the origins and spread of world religions, the nature and results of cross-cultural encounters, different approaches to understanding the human relationship to the natural world, and the various factors behind the decline and collapse of civilizations. One semester; three credits.

HIST 108. WORLD HISTORY SINCE 1500
This course is an introduction to the histories of Asia, Europe, Africa, and Latin America since 1500. Major topics include the changing status of women, the origins and spread of world religions, the nature and results of cross-cultural encounters, different approaches to understanding the human relationship to the natural world, and the various factors behind the decline and collapse of civilizations. One semester; three credits.

HIST 151. AMERICAN SOCIETY TO 1877
A survey of Colonial America; the Revolution; Confederation and Constitution; Ante-Bellum Period; the Civil War and Reconstruction. One semester; three credits.

HIST 152. AMERICAN SOCIETY SINCE 1877
A survey of post-Civil War Industrialization and Reform; the Progressive Era; World War I; the Depression and the New Deal; World War II, the Cold War; Recent Developments. One semester; three credits.

HIST 200-210. TOPICS IN HISTORY
Topics vary with instructor. History majors and minors are permitted a maximum of 3 credit hours in this 200 level topics area to count as a substitute for 300/400 level course credit towards their degree. Prerequisite: Sophomore standing. 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: HIST 107 or permission of the instructor. One semester; three credits.

HIST 304. ENGLAND 1760-1959
This course is a survey of British history from the reign of George III to the establishment of a social welfare state under Clement Atlee. Major
topics include the American Revolution, Irish relations, the Napoleonic Wars, Industrial Revolution, Imperialism, and the World Wars. Prerequisite: HIST 108 or permission of instructor. One semester; three credits.

HIST 305. THE MIDDLE AGES
A political, economic, social, and intellectual history of medieval western civilization. Among other things, the course will cover topics such as the transition from Roman to Medieval civilization, monasticism, feudal society, the religious and intellectual revival of the High Middle Ages, the Papal Monarchy and the Crusades, the Black Death and the transition from Medieval to early modern European civilization. Prerequisite: HIST 107 or permission of the instructor. One semester; three credits.

HIST 306. SOCIAL HISTORY OF BRITISH ROCK
This course will use readings, lectures, movies, and discussions to examine the connections between British society and the innovative rock music it spawned from the 1950s to the 1990s. Students will discuss the historical context surrounding the creation of music by bands such as The Beatles, The Rolling Stones, The Clash, The Smiths, Joy Division, Oasis, and Radiohead. Prerequisite: HIST 152. One semester or three credits.

HIST 313. BRITISH INDIA
The history of British India from the founding of the East India Company in 1608 to partition and the transfer of power in 1947. The main focus will be on the encounter between the British and the Indians, but we will also explore the process of British conquest, the developments of colonial policy and imperial ideology, the various forms of Indian reaction and resistance, and the origins and growth of the independence movement. Prerequisite HIST 108 or permission of the instructor. One semester; three credits.

HIST 315. MODERN EAST ASIA
This course examines the history of China and Japan since 1800. Particular attention is given to the transition 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 roots, development, and effects 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 330. ADVANCED POLITICS ON FILM
A concentrated critical analysis of the political aspects of film, the politics of film production, and the interpretation of film. This course will focus on a particular political or social issue, topic, or film genre. (Same as POLS 330) Prerequisite: any Political Science or History course or permission of the instructor. Recommended but not required: POLS 230. One semester; three credits.

HIST 356. AFRICA AND THE WEST SINCE 1450
This course explores the interaction between Africa and the West from 1450 to the present. Major topics will be Africa's role in the Atlantic World, the effects of the Atlantic Slave Trade on Africa, European colonization, decolonization, and post-colonial struggles. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits.

HIST 359. EUROPE AND THE GREAT WAR
This course details the history of World War I 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 360. WEIMAR REPUBLIC AND NAZI GERMANY
This course covers the history of Germany from 1919 to 1945. It will examine the collapse of the Weimar Republic and the rise of Nazi power. It will also cover the life of Adolf Hitler, the Holocaust, and Nazi ideology, policy, and war aims. Prerequisite: Any Political Science or History course or permission of the instructor. One semester; three credits.

HIST 371. REVOLUTIONARY CHANGE IN MODERN EUROPE
This course explores the history of modern Europe through a comparative study of the French and Russian Revolutions. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits.

HIST 376. MEXICO, CENTRAL AMERICA, AND THE CARIBBEAN
A political, military, and cultural history of three important regions of Latin America. This course will examine the course and impact of European conquest, the role of colonial institutions, and independence movements. The greatest attention will be paid to twentieth-century events and trends, in order to analyze their influence on contemporary societies in these areas. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits.

HIST 377. REVOLUTIONARY LATIN AMERICA
This course will examine the role of revolutions throughout nineteenth and twentieth century Latin America. The focus of the course will be on political and military events, as well as the theory behind revolutionary activity. Careful attention will be paid to revolutions in Mexico, Guatemala, Cuba, Nicaragua, and El Salvador. Prerequisite: HIST 108 or permission of the instructor. One semester; three credits.

HIST 385-389. SPECIAL TOPICS IN NON-U.S. HISTORY
Topics vary with instructor. Prerequisite: permission of the instructor. One semester; three credits.

HIST 390-399. HONORS SPECIAL TOPICS
Special topics in history open to members of the Honors Program or by permission of instructor and Honors Director. One semester; one to four credits.

HIST 401-402. INTERNSHIP
Content varies with specific internship program. Prerequisites: permission of History Internship Director and junior standing. One semester each, one to three credits.

HIST 409-407. TOPICS IN HISTORY
Topics vary with instructor. Prerequisite: permission of instructor. One semester; three credits.

HIST 490-498. NON-U.S. HISTORY RESEARCH SEMINAR
Non-U.S topics vary with instructor but will focus on research methods and the completion of a major research project. Each course will be based on a common theme or time period, with students developing their own research project related to the common course theme or period. As part of the writing and research process students will deliver 20 minute presentations of their research. All history majors are required to pass this course or HIST 498 with a minimum grade of C. Prerequisites: 12 hours of history credit and senior standing, or junior standing with permission of the instructor. One semester; three credits.

HIST 499. US HISTORY RESEARCH SEMINAR
US topics vary with instructor but will focus on research methods and the completion of a major research project. Each course will be based on a common theme or time period, with students developing their own research project related to the common course theme or period. As part of the writing and research process students will deliver 20 minute presentations of their research. All history majors are required to pass this course or HIST 498 with a minimum grade of C. Prerequisites: 12 hours of history credit and senior standing, or junior standing with permission of the instructor. One semester; three credits.
HUM 430. FOUNDATION IN HOSPITALITY MANAGEMENT

Hospitality management is a key area in tourism, around which most other tourism products are clustered. For this reason a basic knowledge of the field is crucial to any tourism program. In this course the basic elements of hospitality management will be explained, including personnel management, strategic and operative elements, legal frameworks and quality control measures. One semester; three credits.

HUM 440. EVENT MANAGEMENT

In this course the psychological, organizational and social foundations necessary for staging events will be covered. New trends in the event sector will be explained on the basis of these foundations. Basic technical knowledge needed to stage events will be discussed, such as 1) legal and business parameters; 2) the main technical and organizational considerations in mounting events; 3) entrepreneurial approaches to planning events, including budgeting of supplies, personnel, time and costs on the basis of concrete examples; 4) important risks connected with the mounting of events, such as accidents, as well as strategies to minimize these risks through the use of checklists and other means. One semester; one credit.

HTM 450 - 451. SPECIAL TOPICS

Special topics in the Hotel, Restaurant, Tourism curricula.

HTM 455. PRACTICUM

This course is designed to provide the student with practical experience in the hospitality field. Students will work independently in teams of 6-5 members to organize and complete a specific project. The topics will be interdisciplinary as to interconnect the study program’s subject areas and promote interdisciplinary know-how. The teams will be supervised by an interdisciplinary faculty team. This didactic method is designed to maximize interdisciplinary interactions and support. Students will draw from the theoretical background they have received in previous courses in order to apply their knowledge of tourism and management. Project topics will vary from year to year. One semester; four credits.

LATN 293/393. LITERATURE OF THE NEROIAN PERIOD

Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATN 292/392. LATIN LITERATURE FROM THE LATE REPUBLIC

Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Spring semester. One semester; four credits.

LATN 265. TOPICS IN LATIN LITERATURE

This course will examine what 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 justifications for lives of community involvement.

One semester; three credits.

LATN 251/351. LATIN LITERATURE FROM THE EARLY REPUBLIC

The course will begin making the transition from graded selections in the elementary texts to authentic ancient texts from a variety of Latin authors and genres from antiquity to the modern period. In addition to developing their ability to comprehend and interpret ancient texts, students will continue to work on their oral and writing proficiency. Prerequisite: Latin 201 or the equivalent. Offered in the Fall semester. One semester; four credits.

LATN 252. LATIN LITERATURE FROM THE REPUBLIC

Students will also become familiar with the current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATN 252/352. LATIN LITERATURE FROM THE REPUBLIC

This course concludes the elementary language sequence and prepares students for more advanced work in the language. During this course, writing will begin making the transition from graded selections in the elementary texts to authentic ancient texts from a variety of Latin authors and genres from antiquity to the modern period.

One semester; four credits.

LATN 260. TOPICS IN LATIN LITERATURE

As a four-credit course. Students in special circumstances may take the course for one, two, or three credits with the permission of the instructor.

LATN 290/390. LITERATURE OF THE AUGUSTAN AGE

Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunokis (www.sunokis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the early Republic. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATN 291/391. LITERATURE FROM THE LATE REPUBLIC

This course, making extensive use of resources available via the internet, focuses on the earliest literary documents in the Latin language. Readings will cover the comedies of Plautus and Terence, but students should expect to study other examples of Latin and historical contexts depending on their interests. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATN 292/392. LITERATURE FROM THE REPUBLIC

This course, making extensive use of resources available via the internet, focuses on the literature of Rome during the late Roman Republic. Readings will center on the works of Cicero, Catullus, Caesar, and Sallust. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunokis (www.sunokis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the early Republic. Students will also become familiar with current interpretative approaches to the material. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATN 293/393. LITERATURE OF THE NERONIAN PERIOD

This inter-institutional collaborative course, making extensive use of resources available via the internet, explores the literature of the early Roman Empire, with a particular emphasis on the works of authors who were active during the period of Nero's reign. These authors include Seneca, Lucan, and Petronius, and students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunokis (www.sunokis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will include a rigorous study of the cultural and historical context during the early Principate. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.
LATIN 294/394. ROMAN LITERATURE, 70-180 CE
This course, making extensive use of resources available via the internet, explores the society of the Roman Empire through the works of authors who were writing during the period beginning with the reign of Vespasian and extending to the death of N. Aurelius. Three authors include Marius, Staius, Tacitus, Pliny the Younger, Juvenal, and Apuleius. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will require extensive reading in more than one genre of Latin literature and a rigorous study of the cultural and historical context of Rome in the late first and second centuries CE. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

LATIN 295/395. LATIN LITERATURE FROM LATE ANTIQUITY AND THE MIDDLE AGES
This course examines the literature produced during and after the dissolution of the Roman empire, beginning approximately with the reforms of Diocletian and Constantine and concluding with the remarriage of secular education in the twelfth century. Texts will include selections from the work of Alcuin, Bede, Alcuin, the Heliand, and the works of Bingen, Walter of Chatillon. Students will participate in a weekly webcast lecture, an online discussion moderated by faculty members from institutions that participate in Sunoikisis (www.sunoikisis.org), and weekly tutorials with faculty members at Rhodes. This course is specifically designed for advanced students and will require extensive reading in more than one genre of Latin literature and a rigorous study of the cultural and historical context of Rome and the Latin-speaking world after 180 CE. Prerequisite: Latin 265 or equivalent. Some familiarity with Roman history and the literature of the Augustan period is strongly advised. Permission of the instructor is required. Offered in the Fall semester. One semester; four credits.

MANAGEMENT COURSES
Requirements for the concentration are found on page 69.

MGMT 250. LEADERSHIP AND DIVERSITY
This course, a year-long program is designed to develop leadership and interpersonal skills with the goal of informing positive social attitudes regarding the desirability and value of diversity in the community and the importance of community action. Topics include: leadership, civic responsibility, trust, problem-solving, critical thinking, communication, conflict resolution and human relations. Prerequisite: Admission to the Bridge Builders Junior Leadership Conference. Students will register for the course in the Spring semester. Three credits.

MGMT 251. LEADERSHIP AND SERVICE
The intensive, year-long program will provide students with an opportunity to design and implement major service projects at a local high school. Students will provide leadership for the project by: conducting a needs assessment; identifying a specific need to address in their project; design, staff, and implement the effectiveness of the project; and, present their results to the community. Prerequisite: Admission to the Bridge Builders Senior Leadership Conference. Students will register for the course in the Spring semester. Three credits.

MGMT 290. HONORS LEADERSHIP
Using a multidisciplinary approach to leadership, this class will include both theoretical and practical material from fields such as management, psychology, literature, history and religion. Students will develop their own philosophy of leadership and prepare themselves for leadership roles based on a thorough understanding of case studies and theoretical models. Prerequisite: membership in the Honors Program or permission of Honors Program Director and instructor. Offered as needed. One semester; three credits.

MGMT 291-299. HONORS SPECIAL TOPICS
Special topics in management open to members of the Honors Program or by permission of Honors Program Director and instructor. One semester; one to four credits.

MGMT 300. INTERNATIONAL BUSINESS & CULTURAL EXPERIENCE
An introduction to the field of international business and the implications of international trade and globalization upon American business. Topics include the comparison of political economies and cultures, global trade and investment strategies, foreign investment, regional economic integration, foreign exchange markets, strategic alliances and global marketing. Prerequisite: ECON 214 and 215 or ECE/CH ECE/ENCE 314. 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 and Junior standing or permission of Department Chair. One semester; three credits.

MGMT 352. ORGANIZATIONAL BEHAVIOR AND MANAGEMENT
The psychology of organizations and their effect on individuals and groups. Topics include motivation theory, power and authority, communication, teamwork, leadership, job design and organizational structures. Other issues include globalisation, cultural diversity, ethics and technology. 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 director of the School of Business, 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 employer safety. In addition, the legal environment surrounding human resource issues will be studied. Prerequisite: MGMT 352 or 337. Offered in the Fall semester. One semester; three credits.

MGMT 418. OPERATIONS AND SUPPLY CHAIN MANAGEMENT (Formerly MKTG 418)
This course introduces the student to the operation function of the organization with an emphasis on the supply chain processes. Operations and Supply Chain managers are challenged to improve organizational productivity by reducing costs, creating flexible processes, and improving product and service quality. Emphasis will be placed on analyzing process strategies, performance and quality, inventory control and lean systems, supply chain development, location, and transportation analysis. The course will integrate quantitative modeling with business problem solving by using the tools of forecasting, decision making, linear programming, inventory models, waiting line analysis, and project management models. Prerequisites: MKTG 311, MGMT 352 or 337, and STAT 222. Offered in the Fall semester. One semester; three credits.

MGMT 428. OPERATIONS MANAGEMENT (Formerly MGMT 339)
This course is designed to strengthen the student’s knowledge of and ability to use management science models. In-depth study of modeling such as linear and goal programming, queuing models, simulation, and more advanced decision making models will be the focus. Prerequisite: MGMT 418 or MGMT 411. Offered in the Spring semester. One semester; three credits.

MGMT 430. ETHICAL DECISION MAKING IN BUSINESS
This course applies course in business and management ethics. Various ethical theories will be applied to contemporary business situations. In addition, the course will focus on raising the awareness of the student to ethical issues, principles and arguments by examining the social and corporate environment in which they will be living and working. Prerequisite: PHIL 220 or equivalent, MGMT 337 or 352, MKTG 311 and FIN 217. One semester; three credits.

MGMT 450. ORGANIZATION STAFFING AND DEVELOPMENT
Addresses the organizational staffing cycle from job analysis through recruitment, selection, employee development, career planning, retirement and downsizing. Legal issues pertaining to staffing are covered as well as the training process, including learning theory and technology as applied to management development. Prerequisite: MGMT 412. Offered as needed. One semester; three credits.

MGMT 451. ORGANIZATIONAL REWARD SYSTEMS
Analyzes the components of reward systems, including base pay, incentive pay, and employee benefits. Development of pay plans, performance appraisal systems, various types of individual, group and organization-wide incentive programs, and outlines the various types of employee benefits. Prerequisite: MGMT 300. One semester; three credits.

MGMT 452. EMPLOYEE AND LABOR RELATIONS/EMPLOYMENT AND LABOR LAW
Evolution of current practices related to effective workplace relations between employer and employee in both union and non-union environments. The establishment and maintenance of a safe, healthy, diverse and secure workplace. Legal issues related to Human Resources, including EEO, FLSA, ADA, ERISA, and federal and state labor laws are explored. Prerequisite: MGMT 412. Offered as needed. One semester; three credits.

MGMT 453. SEMINAR IN GLOBAL BUSINESS
This course requires an international trip which provides students an opportunity to explore firsthand the international dimensions of business, to identify and pursue strategic issues in international business and trade, and to gain an awareness of how the cultural, economic, political, and legal environments influence business practices. Students study and conduct research on the country and prepare a report detailing business and cultural practices, political and economic environments. Other business and cultural research/analysis will be based on the emphasis of the course. Students bear the costs of airfare, lodging and meals. Prerequisite: ECON 214 and 215. Offered as needed. One semester; three credits.

MGMT 455. PRACTICUM AND PROJECT IN MANAGEMENT
This course is designed to explore and apply to practical use the entire body of knowledge gained in previous MGMT courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student’s ability to apply classroom principles and skills to specific management problems. Prerequisite: Permission of the instructor. One semester; three credits.

MGMT 460-466. SPECIAL TOPICS IN MANAGEMENT
Three courses are designed to permit intensive study into topics of special interest and timeliness in the area of Management. Prerequisite: MGMT 352. Offered as needed. One semester; three credits.

MGMT 490. SEMINAR IN LEADERSHIP
Readings, critical evaluation and analysis of selected topics in current management literature, research and practice. Individual and group analyses and presentations of assigned topics. Major research project to be presented to faculty and senior students. Prerequisites: MGMT 355, MKTG 351 and FIN 327. Offered in the Spring semester. One semester; three credits.

MGMT 498. BUSINESS POLICY/STRATEGIC PLANNING
This course will consist of a series of lectures and practice exercises in research methods and case analysis. The study of corporate and business level policy and strategy making is developed using a top-management perspective. A research report along with case analysis papers will be prepared by each member of the class. Assignments covering will be used for discussion and evaluation. Prerequisites: FIN 327, MGMT 337 or 352 and MKTG 311. One semester; three credits.

**MIS 153. INTRODUCTION TO COMPUTER APPLICATIONS (Formerly ITM 153)**
This course is intended to provide students a working knowledge of modern computation and business information processing via the common tools of word processing, presentation, spreadsheet, and data base management. Information coverage will include text, numerical, graphical, and functional representations via common business applications such as break-even analysis, present value determination, depreciation schedules, loan amortization tables, etc. One semester; three credits

**MIS 231. INTRODUCTION TO MIS (Formerly ITM 231)**
This purpose of this course is to introduce the fundamentals of systems software, telecommunications, and network design. 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 computer security issues and standards. Prerequisite: MIS 231 and MATH 105, 129 or 131. Offered in the Spring semester. One semester; three credits

**MIS 351. SYSTEMS ANALYSIS AND DESIGN (Formerly ITM 351)**
This course presents methods for analyzing and designing business IT systems. The course emphasizes the Systems Development Life Cycle (SDLC) methodology. Classical and object oriented methods and tools are applied to business analysis and problem solving situations with adjustments as required to today’s business environment. Included are requirements analysis and use case analysis, process models, data models, consistency of process and data models, justification and costing techniques, conversion and implementation procedures. A case study is employed to provide a practical “hands-on” approach. Prerequisite: MIS 231 or permission of instructor. Offered in the Fall semester. One semester; three credits

**MIS 400/401. MIS INTERNSHIP**
Under the supervision of a faculty member, students work on a real world project (“on-the-job-training”) either for a company, for CUR, or for a charity organization. Special CUR approval forms must be completed. A student may take two internships, but only one per graduation. Prerequisite: MIS 231, MIS 295 and MIS 351. Offered as needed. One semester; one to three credits

**MIS 455. INFORMATION SYSTEMS PRACTICUM AND PROJECT MANAGEMENT (Formerly ITM 455)**
This course is designed to explore and put to practical use the entire body of knowledge gained in previous MIS courses. Topics will principally focus upon the managerial aspects of effective information technology deployment. Project Management concepts will be covered, including use of project management tools. A comprehensive project will test student’s ability to apply technology and business skills to develop a workable, manageable, and effective information systems solution. Prerequisite: MIS 231, 295, 351, 470 and 471 or permission of instructor. Offered as needed. One semester; three credits

**MIS 456. CYBER SECURITY INTERNSHIP**
This course is designed to explore and put to practical use the entire body of knowledge gained in previous MIS courses. The focus will be on cyber security. Topics covered include authentication, access control, and personal data protection. Students will be expected to conduct research on specific topics of interest. Prerequisites: MIS 231, 295, 351, 470 and 471 or permission of instructor. Offered as needed. One semester; three credits

**MIS 460-466 SPECIAL TOPICS IN MIS**
Course designed to permit intensive study into topics of special interest and timeliness in the area of Management Information Systems. Prerequisites: dependent upon topics and approval of instructor. Offered as needed. One semester; three credits

**MIS 470. APPLICATION AND WEB DEVELOPMENT (Formerly ITM 470)**
This course familiarizes students with the modern web based application development and programming environment. It also teaches students the basics of key Internet technologies (HTML, JavaScript, Dynamic HTML, CSS, ASP, PHP, AJAX, and XML), and trains students into the application and usage of key Internet tools. Upon completion of this course, students will be able to develop modern advanced dynamic Web sites. Prerequisites: MIS 231 and 351, or permission of instructor. Offered as needed. One semester; three credits

**MIS 471. DATA BASE DESIGN AND BUSINESS INTELLIGENCE (Formerly ITM 471)**
This course familiarizes students with the modern web based application development and programming environment. It also teaches students the basics of key Internet technologies (HTML, JavaScript, Dynamic HTML, CSS, ASP, PHP, AJAX, and XML), and trains students into the application and usage of key Internet tools. Upon completion of this course, students will be able to develop modern advanced dynamic Web sites. Prerequisites: MIS 231 and 351, or permission of instructor. Offered as needed. One semester; three credits

**MIS 481. INFORMATION SECURITY**
This course provides an overview of security challenges and strategies of countermeasures in the information systems environment. Topics include the definition of terms, concepts, elements, and goals incorporating industry standards and practices with a focus on availability, vulnerability, integrity and confidentiality aspects of information systems. This course includes access control to information systems and applications encompassing authentication and accounting for end-users and system administrators. The course also addresses the broad topic of risk management, how risks, threats, and vulnerabilities impact information systems, how to assess and manage risk based on defining an acceptable level of risk for information systems and business continuity planning and disaster recovery. Prerequisite: MIS 231 (or equivalent). Corequisite: MIS 481L. One semester; three credits

**MIS 481L. INFORMATION SECURITY LAB**
This lab accompanies MIS 481 and provides hands on exercises to complement the concepts covered in MIS 481. Prerequisite: MIS 231 (or equivalent). Corequisite: MIS 481L. One semester; one credit

**MIS 482. DIGITAL FORENSICS**
This course covers information system forensics investigation and response. Areas of study include concepts and procedures for investigating computer and cyber-crime and methods for collecting, analyzing, recovering and preserving forensic evidence. Using modern digital forensic tools and procedures forensics experts are also covered. Prerequisite: MIS 481. Corequisite: 482L. One semester; three credits

**MIS 482L. DIGITAL FORENSICS LAB**
This lab accompanies MIS 482 and provides hands on exercises to complement the concepts covered in MIS 482. Prerequisite: MIS 481. Corequisite: MIS 482. One semester; one credit

**MIS 483. SECURITY COMPLIANCE AND AUDITING**
This course covers the regulatory requirements of the American Legal System, privacy laws and issues, and the legal and accounting processes involved in implementing and maintaining business IT systems. It includes the principles, the approaches and the methodology in auditing information systems to ensure the processes and the procedures are in compliance with pertinent laws and regulatory provisions especially in the context of information systems security. Prerequisite: MIS 481. One semester; three credits

**MKTG 311. PRINCIPLES OF MARKETING**
Addresses the marketing-management functions directed toward organizational customers and prospects who buy goods and services necessary for the operation of their own businesses. Concepts of purchasing strategy, material management, and organizational buying behavior are integrated into electronic developments, strategic alliances and partnerships, and just in time. Prerequisite: Junior standing and ECON 214. One semester; three credits

**MKTG 324. MARKETING RESEARCH AND INTELLIGENCE**
The study of techniques and principles for systematically monitoring environments—collecting, recording, analyzing, and interpreting data that can aid decision makers who are involved with marketing of goods, services, or ideas. The application of intelligence and research findings in the development of marketing strategy is emphasized. The class employs research cases and projects to enhance students’ practical research and intelligence skills. Prerequisites: MKTG 311 and STAT 222. Offered in the Spring semester. One semester; three credits

**MKTG 334. MARKET AND CONSUMER BEHAVIOR**
This investigation into consumer behavior brings together relevant research and applications from the behavioral sciences and other fields of marketing. The course will evaluate the decision process that individuals use as they obtain and use goods and services. The course will investigate the factors employed to identify and measure market segments. Emphasis is placed on an analysis of consumer behavior as a basis for marketing strategy. Prerequisite: MKTG 311. Offered in the Fall semester. One semester; three credits

**MKTG 338. SELLING AND SALES MANAGEMENT**
This course will provide a detailed investigation of that portion of the Marketing Mix pertaining to promotion with specific emphasis on Personal Selling. While some discussion will be given to sales techniques, the major emphasis will be concerned with the management of the outside sales force and the activities of those sales force. Prerequisite: MKTG 311. Offered as needed. 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. Offered as needed. 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 offered for this course. 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 offered for this course.

**MKTG 451. MARKETING POLICY AND STRATEGY**

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, and graphing calculator. The course emphasizes the mastery of algebraic functions and their inverses, trigonometric functions and their inverses, Law of Sines and Cosines. The course requires a graphing calculator and stress problem solving. A grade of "C" or higher in this course is required to proceed to MATH 121 or 123. A student can receive credit for only one of MATH 110, 117 or 123. A grade of "C" or higher in this course is required to proceed to MATH 131. Prerequisite: MATH 103, 107 or ALG 120 with a grade of "C" or higher or equivalent. One semester; three credits

MATH 121, STATISTICS INTRODUCTION
This is an introductory statistics course designed for students who are not mathematically oriented. It introduces the student to the study of statistical methods and concepts. This course stresses algebraic skills and problem solving. A grade of "C" or higher in this course is required to proceed to MATH 131. Prerequisite: MATH 103 or equivalent. One semester; three credits

MATH 129, FUNCTIONS AND ENGINEERING CALCULUS I
The goals of this course are to teach the student the basic concepts of college algebra and trigonometry and important concepts of calculus and its applications. Topics include: linear and quadratic equations; algebraic, exponential, and logarithmic functions and their graphs; right triangle trigonometry; trigonometric functions; the derivative and its interpretations; the definite integral and its interpretations; the Fundamental Theorem of Calculus; applications of differentiation and integration; and applications of derivatives and integrals. The course requires a graphing calculator and stress problem solving. A student can receive credit for only one of MATH 110, 117 or 123 and for only one of MATH 129 or MATH 131. Six lectures and two recitation periods per week. Prerequisite: MATH 103 or 107 or equivalent. Offered in the Fall semester. 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 per week. A student can receive credit for only one of MATH 129 or 131. Prerequisite: MATH 110 with a grade of "C" or higher, or MATH 117 with a grade of "C" or higher. This prerequisite is waived for a student who passes a departmental placement test. A grade of "C" or higher 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 techniques of integration, applications of integration, differential equations and modeling, approximations using Taylor and Fourier polynomials and series. Prerequisite: MATH 129 or MATH 131 with a grade of "C" or higher. One semester; three credits

MATH 141, INTRODUCTION TO DISCRETE MATHEMATICS
This course provides an introduction to discrete mathematics. The course covers 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, 117, (107&110), 129, or 131. Offered in odd numbered Spring semesters. One semester; three credits

MATH 151, NUMERICAL CONCEPTS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics for elementary school teaching candidates. Topics include: set theory, numbers and numeration, number theory, rational numbers, and problem solving. This course does not meet the CBU General Education Math requirement. Prerequisite: ALG 120 or equivalent. Offered in even numbered Fall semesters. One semester; three credits

MATH 152, MATH TOPICS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics for elementary school teaching candidates. Topics include: informal geometry, measurement, problem solving, descriptive statistics, and elementary probability. This course does not meet the CBU General Education Math requirement: Prerequisite: ALG 120 or equivalent. Offered in odd numbered Fall semesters. One semester; three credits

MATH 162, HEALTH SCIENCE APPLICATIONS OF ALGEBRA AND STATISTICS
This course uses models appropriate to the human sciences to motivate the study of algebra and statistics. Topics are chosen from algebraic expressions, symbol manipulation, linear and quadratic equations, descriptive statistics, exploratory data analysis, the normal distribution, functions, graphs, and linear, polynomial, rational, exponential, and logarithmic models. The course stresses interpretation of the mathematical model in its diverse applications. Prerequisite: MATH 103 or equivalent and admission to RN to BSN program. One semester; three credits

MATH 201, APPLIED STATISTICS
The course concerns the use of statistical methodology in planning, presentation, analysis and interpretation of scientific experiments and field observations. Topics are chosen from elements of probability and statistical inference, including estimates of parameters, confidence intervals, tests of hypotheses for quantitative and qualitative observations, correlation, nonparametric methods. Its goal is to allow science majors to analyze real data in a correct statistical manner. Offered in the Spring semester. Prerequisite: MATH 106, 129 or 131. One semester; three credits

MATH 231, DIFFERENTIAL EQUATIONS
This course is an introduction to the concepts and methods of ordinary differential equations. Topics include: first-order equations, elementary numerical methods, applications. Second-Order Linear Homogeneous Equations, the methods of undetermined coefficients and variation of parameters for nonhomogeneous linear equations, Laplace transforms, and models in science and engineering. Prerequisite: MATH 132. One semester; three credits

MATH 232, CALCULUS III
Algebra of vectors in a plane and in space; the calculus of vectors; vector functions; basic concepts of multivariable calculus; partial derivatives;
multiple integrals. Prerequisite: MATH 231. One semester; three credits
MATH 301. GEOMETRY AND HISTORY OF MATHEMATICS
The course contains topics in geometry and the history of mathematics. Topics include Euclidean and non-Euclidean geometry, mathematical
structures and the historical development of mathematical concepts. Prerequisite: MATH 132. Offered in odd numbered Spring semesters. One
semester; three credits
MATH 308. STATISTICS
The course considers statistical methods with applications in engineering and science. Topics are selected from an introduction to probability,
descriptive statistics, sampling methods, design of statistical experiments, concepts of hypothesis testing and confidence intervals, correlation, linear
regression and analysis of variance. Offered in the Spring semester. Prerequisite: MATH 252. 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, discrete and continuous random variables, probability distributions such as binomial, hypergeometric, Poisson, geometric, uniform, normal,
exponential, chi-square, T and F distributions, probability models, central limit theorem and functions of a random variable, bivariate, marginal, and conditional distributions. Offered in the Fall semester. Prerequisite: MATH 232. One semester; three credits
MATH 329. APPLIED NUMERICAL ANALYSIS
The course teaches the student the basic techniques of modeling and numerical computation with emphasis on applications and the use of numerical
software. Topics will be chosen from the following: modeling of physical systems with algebraic, differential and integral techniques; algorithms for
approximation, fitting functions to data; algorithms for the solution of linear systems and for finding eigenvalues and eigenvectors; algorithms for the
solution of differential and integral equations; Fourier transforms. Offered in the Fall semester. Prerequisite: MATH 252 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 252. Offered in odd numbered Fall semesters. One semester; three credits
MATH 402. ABSTRACT ALGEBRA
The course contains an introduction to some basic concepts of abstract algebra, namely groups, rings, and fields and includes applications. Prerequisite:
MATH 232. Offered in the Spring semester of even numbered years. One semester; three credits
MATH 405. DISCRETE MATHEMATICS
This course is an introduction to graph theory and combinatorics. The topics will be chosen from the following: the basic properties of graphs and
digraphs, graphs as models, Eulerian and Hamiltonian circuits, graph coloring, trees, network algorithms, generating functions, and recurrence
relations. Prerequisite: MATH 231. Offered in the Spring semester. One semester; three credits
MATH 413. COMPLEX ANALYSIS
(Formerly MATH 403)
This course concerns itself with the rudiments and techniques of complex analysis. Topics that are covered include: complex sequences, the derivative of
a complex function, the Cauchy-Riemann equations, integration in the complex plane and the Cauchy-Goursat theorem. Cauchy's integral formula,
Morera's theorem, Taylor and Laurent series, residue theory, and the evaluation of definite integrals. Prerequisite: MATH 252. 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 252. 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 or Senior standing and approval of the department head. Offered in sequence in the Fall and Spring semesters. One semester each, one and two credits respectively
ME 112. SCIENTIFIC PROGRAMMING
This course covers fundamental programming techniques used to solve engineering problems that require repetitive or iterative calculations. Emphasis is
placed on writing structured, portable, efficient, and understandable MATLAB and Excel programs. Corequisite: MATH 131. Offered in the
Fall semester. One semester; three credits
ME 121. SOLIDS MODELING
Emphasis on visual aspects of engineering communications, expression of ideas, developing spatial concepts as related to design. Design is taught
using 3-D modeling and parametric design. CAD applications. One semester; three credits
ME 201. MANUFACTURING PROCESSES
Production and 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. Conquisite: ME 121. Offered in the Spring semester. One semester; three credits
ME 202. DYNAMICS
Kinematics of planar and rigid bodies in two dimensions. Force-mass-acceleration, work-energy, and impulse-momentum methods will be
covered. Prerequisites: CE 201. 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. Prerequisite is
placed on producing analog and digital readouts, recording and reporting of data. Technical report preparation is emphasized. Two lecture periods and
one laboratory period of three hours. (Same as ECE 205) Prerequisite: ECE 221. Offered in the Fall semester. One semester; two credits
ME 302. ENERGY SYSTEMS LABORATORY
Experimental study of basic fluid flow and heat transfer phenomena, flow-meaurements, 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 301, 313. Corequisite: ME 306. Offered in the Spring semester. One semester; two credits
ME 305. ENGINEERING THERMODYNAMICS I
Fundamental laws and concepts of the macroscopic approach to the thermodynamics of pure materials. Properties of pure materials from
tables, charts and ideal-gas equation. Heat and work. First and second law analysis of open and closed systems. Introduction to heat engines
and heat pumps. (Same as CHE 305) Prerequisites: MATH 132. Corequisite: PHYS 150 and CHEM 113 or 115. One semester; three credits
ME 306. HEAT TRANSFER
An introductory treatment of convection, conduction, and radiation heat transfer. Analysis of steady and unsteady heat conduction in simple
geometries, boundary layer analysis and empirical correlations for convection, and basic theory of radiation heat transfer. Prerequisite: ME 313.
Offered in the Spring semester. One semester; three credits
ME 312. MECHANICS OF DEFORMABLE SOLIDS
Axial load, shear, bending moment diagrams. Differential equations of beams. Stress of stresses due to axial, bending, torsional load, and
One semester; three credits
ME 313. FLUID MECHANICS
analysis and dimensionless groups. Dynamics of frictionless incompressible flow. Modified Bernoulli equation. Flow of viscous fluids. Pipe
flow theory. Empirical formulas and charts. Introduction to boundary layer theory, turbulent flow, and one-dimensional steady compressible
flow. Prerequisites: MATH 252, ME 202 and 305 (or CHE 205). Offered in the Fall semesters. One semester; three credits
ME 314. ENGINEERING ECONOMY
(Formerly ME 314 Engineering Factors in Design)
making. (Same as CHSE 314, ECE 314 and CE 314.1) Prerequisite: MATH 132. One semester; three credits
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. Thermochromal reactions including combustion processes, fuel properties, and equilibrium composition. Prerequisites: ME 305 or
CHE 305 and CHEM 114 (or 115). 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 202. Corequisite: ME 312 and
121. Offered in the Fall semester. One semester; three credits
ME 318. DYNAMICS OF MACHINES
The dynamic analysis of machine parts by use of the principles of linear and angular momentum and the work-energy relationships. Graphical
and analytical methods. Analysis and balancing of shaking forces in machines, flywheel analysis, basic gear analysis, gyroscopic forces in machines.
Three lectures each week. Prerequisite: ME 317. Offered in the Spring semester. One semester; three credits
ME 319. PRINCIPLES OF PACKAGING
Overview of the historical development of packaging, the system of packaging science, along with information about economic importance, social
implications and packaging as a profession. Study of the functions of packaging and materials, container types, processes, technology and equipment
employed to protect goods during handling, shipping and storage. Introduction of package development process, packaging testing and evaluation


ME 408. MECHANICAL ENGINEERING PROJECT

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 particles or waves will be examined. Emphasis on the fundamental role light plays in our daily lives. Three lectures each week. Prerequisite: MATH 105 or higher. Corequisite: NSCI 122L. Offered in the Fall semester.

ME 442. INTRODUCTION TO ELECTRICAL ENGINEERING

Overview of electrical 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 packaging design process, protective packaging theories and applications, selection and design, other distribution packaging related materials and applications. Introduction to packaging testing and evaluation methods, standards, and equipment/systems. Introduction to basics of packaging materials, packaging design and development, and sterilization methods used in biomedical industry. (Same as CHE 320 and PKG 320). Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; two credits

ME 446. SPECIAL TOPICS IN MECHANICAL ENGINEERING

Principles of spark ignition and compression engines. Both two and four-stroke engines are considered. Fuel combustion, cooling, and turbocharging effects. Experimentation methods of determining engine performance. Guest lectures and plant tours. Prerequisites: ME 306 and 316. One semester; three credits

ME 453. INTERMEDIATE MANUFACTURING

Introduction to the application of 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 454. INTERNAL COMBUSTION ENGINES

Principles of spark ignition and compression engines. Both two and four-stroke engines are considered. Fuel combustion, cooling, and turbocharging effects. Experimentation methods of determining engine performance. Guest lectures and plant tours. Prerequisites: ME 306 and 316. One semester; three credits

ME 455. 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. SPECIAL 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: junior or senior standing and approval of department. One semester; one to three credits

NATURAL SCIENCES COURSES

Requirements for the degree are found on Pages 105 and 106.

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 trade, the solar system, the nearby stars, and the life beyond our local environment. Three lectures per week. Prerequisite: MATH 105 or higher. Corequisite: NSCI 111L. Offered in the Fall semester. One semester; three credits

NSCI 111L. INTRODUCTION TO ASTRONOMY LAB

Laboratory to accompany NSCI 111. Corequisite: NSCI 111. Offered in the Fall semester. One semester; one credit

NSCI 115. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS

This course is intended mainly for liberal arts and business students. It will combine readings and experiments using selections from the classical writings from the Greeks to the 20th century. Authors who will be read in part include Hippocrates, Copernicus, Newton, and Darwin. Prerequisite: MATH 105 or higher. Corequisite: NSCI 115L. Offered in the Spring semester. One semester; three credits

NSCI 115L. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS LAB

Laboratory to accompany NSCI 115. Corequisite: NSCI 115. Offered in the Spring semester. One semester; one credit

NSCI 122. THE NATURE OF LIGHT

An introduction to the field of optics for non-science majors. The question for the course is "What is light?" Different theories that model light as rays, waves, and photons are discussed to explain phenomena ranging from the formation of rainbows and mirages to the operation of lenses, lasers, holograms, and optical fibers. Prerequisite: MATH 105 or higher. Corequisite: NSCI 122L. One semester; three credits

NSCI 122L. THE NATURE OF LIGHT LAB

Laboratory to accompany NSCI 122. Corequisite: NSCI 122. One semester; one credit

NSCI 126. FORENSIC ANTHROPOLOGY

Prerequisite: MATH 105 or higher. Corequisite: NSCI 126L. (Same as ANTH 126) One semester; three credits

NSCI 126L. FORENSIC ANTHROPOLOGY LAB

Laboratory to accompany NSCI 126. Corequisite: NSCI 126. (Same as ANTH 126L) One semester; one credit

NSCI 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. (Same as ANTH 128). Prerequisite: MATH 105 or higher. Corequisite: NSCI 128L. One semester; three credits

NSCI 128L. PHYSICAL ANTHROPOLOGY LAB

Laboratory to accompany NSCI 128. (Same as ANTH 128L). Corequisite: NSCI 128. One semester; three credits

MUSIC COURSES

MUSC 111. MUSIC APPRECIATION

Open to all students. Required for all music minors. An introduction to perceptive music listening through study of melody, harmony, rhythm, texture, etc. Extensive listening to characteristic selections and major forms from different periods of music. One semester; three credits

ACADEMIC COURSE DESCRIPTIONS

2014-15 Academic Catalog
NURS 390-399. ADVANCED SPECIAL TOPICS
Advanced courses in different areas of the natural sciences that are not offered on a regular basis. These include courses taught by visiting faculty members with special qualifications or new courses taught by existing faculty members. Prerequisite: MATH 105 or higher. Corequisite: corresponding course.

NURS 402. PROFESSIONAL ROLE DEVELOPMENT II
This course explores issues and trends of the professional nursing role. The focus will be on global, legal and ethical principles that guide health care delivery. Students will actively participate in the design, implementation and presentation of the practicum project. Prerequisite: NURS 320 and permission of the instructor. One semester; six credits.

NURS 412. SENIOR RESEARCH
Students conduct research under the mentorship of an established scientist. The students will actively participate in the design, implementation, and presentation of the research project. Prerequisite: NURS 410 and permission of the instructor. One semester; two credits.

NAVY ROTC COURSES
Navy ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

NURSING COURSES
NURS 300. DIMENSIONS OF PROFESSIONAL NURSING
This is the first course in the RN to BSN program introducing the student to professional nursing practice. An introductory discussion of the focus of the CBU Nursing program includes general nursing, QSEN, AACN Baccalaureate Essentials, Benner Novice to Expert theory and APA style of writing. Students will assess and develop their nursing informatics competencies. Roles and responsibilities of a nursing student at CBU are included. Co-requisite: NURS 302 and 304. One semester; three credits.

NURS 302. INTRODUCTION TO PROFESSIONAL ROLE DEVELOPMENT
This course emphasizes the theoretical basis for nursing theory, professional development, and socialization, the application of APA format in written assignments, and effective communication. An introduction to translational awareness will be made through patterns of knowing in critical thinking, creativity, empathy, and personal expression. Students will have an opportunity to explore the complexities of healthcare and interdisciplinary team concepts while providing optimal care with specific application to the professional role of nursing. Co-requisite: NURS 300 and 304. One semester; four credits.

NURS 304. HEALTH ASSESSMENT FOR RNS
This course uses didactic and simulated clinical experiences to develop skill levels of the Registered Nurse to conduct a comprehensive health assessment with adults in various settings. The course emphasizes the integration of observations, systematic data collection, and effective communication in performing patient-centered health assessments that include risk assessment and risk reduction. Prerequisite: permission of the Director. One semester; four credits.

NURS 307. SPECIAL TOPICS IN NURSING
This course is designed to offer directed work on a special topic or project in nursing with approval of the director. Prerequisite: permission of the Director. One semester; one to four credits.

NURS 402. PROFESSIONAL ROLE DEVELOPMENT II
This course explores issues and trends of the professional nursing role. The focus will be on global, legal and ethical principles that guide health care delivery. Students will actively participate in the design, implementation and presentation of the practicum project. Prerequisite: NURS 320 and 303. Corequisite: NURS 405 and 406. One semester; six credits.

NURS 405. GLOBAL HEALTH NURSING
This course emphasizes the concept of the global community. The concept of the global community will be discussed in preparation for the student to meet the needs of client and client-centered systems through applications of Health Promotion-Disease Prevention embedded in the community/public health nursing setting. The course will explore the needs of the clients across the life span; discuss communicable disease and methods to create healthy communities. Issues of health disparity and access to care will be explored. The student will demonstrate synthesis of course topics in the clinical setting. Prerequisite: NURS 300 or 301, 302 or 303, 305 or 309. Co-requisite: NURS 402 and 406. One semester; six credits.

NURS 406. COMMUNITY HEALTH NURSING CLINICAL
This course includes application of concepts of the global community and client centered care in multiple settings through service-based care delivery to underserved/vulnerable populations locally, regionally, and internationally. The clinical may include participation in public health, occupational health, school-health nursing, and simulation experiences. Prerequisite: NURS 300 or 301, 302 or 303, 304 or 305. Corequisite: NURS 306. CF or Fall/Fall grading. One semester; two credits.

NURS 412. LEADERSHIP
This course emphasizes the principles of leadership and management to meet the needs of clients and client-centered systems/facilities for the delivery of cost-effective health care. An overview of leadership and management theories will enhance the student's knowledge of the legal and ethical implications of the role of professional nurse including conflict management, group process, delegation, staffing, budgeting, quality improvement, effective communication, informatics, change process, healthcare policy, organizational structure and other issues. Concepts and skills are stressed to enhance student professional development. Prerequisite: NURS 402 or 404 or 405. Co-requisite: NURS 413 and 416. One semester; five credits.

NURS 413. PRACTICAL PRACTICE AND LEADERSHIP CLINICAL
This course emphasizes the principles and methodology of health practice and management in multiple settings to promote individual and group satisfaction within the work environment through a student/preceptor designed practicum. This course includes synthesis of didactic theory and content in the practicum project including application of current issues and trends in leadership and management and the interdisciplinary and interprofessional role of the nurse in health-care delivery in the 21st century. Prerequisite: NURS 402 or 404 or 405. Corequisite: NURS 412 and 416. Pass/Fail grading. One semester; two credits.

NURS 416. EVIDENCE-BASED NURSING
This course emphasizes the significance of integrating current evidence-based practice with clinical expertise, family and patient preferences and the delivery of optimal care. It introduces research methodology principles, analysis of research design, ethical conduct in research, and research dissemination. Synthesis is monitored through a literature review and written assignments. Prerequisite: (NURS 402 and 404) or (NURS 405 or 406). Co-requisite: NURS 412 and 413. One semester; three credits.

NURS 417. SPECIAL TOPICS IN NURSING
This course is designed to permit intensive study into topics of special interest and timeliness in the area of nursing with approval of the director. Prerequisite: Permission of Director. One semester; one to four credits.

PACKAGING COURSES
PKG 101. INTRODUCTION TO PACKAGING
Introduction to various areas of packaging industry, including distribution packaging, medical device packaging, food packaging; materials, including plastic and paper; and skills, including business, science/engineering, and graphic design. Offered in the Fall semester. One semester; one credit.

PKG 200. MECHANICS OF SOLIDS
Principles of statics, equilibrium and non-equilibrium forces systems. Equilibrium of force systems. Centroids and moment of inertia. Axial load, shear and moment diagrams. Study of stresses due to axial, bending, and torsional loading. Design applications. Prerequisite: PHYS 150. One semester; three credits.

PKG 201. PACKAGING SEMINARS
Current practice and issues in packaging industry. Presentations by packaging professionals. One semester; one credit.

PKG 296-298. SPECIAL TOPICS IN PACKAGING
Elective courses of special interest or current interest in packaging. One semester; one to four credits.

PKG 319. PRINCIPLES OF PACKAGING
Overview of fundamental development of packaging, the system of packaging science, along with information about economic importance, social implications and packaging as a profession. Study of the functions of packaging and materials, container types, processes, technology and equipment employed to protect goods during handling, shipping and storage. Introduction of package development process, packaging testing and evaluation methods, standards, and equipment. Brief review of governmental regulations affecting packaging. (Same as CHE E 319 and CHE M 319) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits.

PKG 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING
Overview of physical distribution systems, various distribution hazards imposed to products/packages in transit, rules and regulations governing distribution packaging, and common industries and practices on distribution packaging. Study of the packaging materials, including barrier, transport, labeling and marketing of the pharmaceutical industry. (Same as CHE E and CHE M 320) Prerequisites: MATH 131 and CHEM 113 or 115. Offered in the Spring semester. One semester; three credits.

PKG 490. PACKAGING PROJECTS
Individual projects related to packaging. Reports are presented in both oral and written form. Prerequisites: PKG 101, 201, and (319 or 320). One semester; two credits.

PKG 495. PACKAGING INTERNSHIP
Students are placed in packaging related facilities under the supervision of qualified packaging professionals. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior or senior standing and permission of the department. One semester; three credits.
PHI 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. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 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. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 223. BUSINESS ETHICS (formerly PHI 323)
An analysis of business ethics, the responsibilities of business firms to employees, owners, consumers, and society. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 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. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 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. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 280-289. HONORS SPECIAL TOPICS IN PHILOSOPHY
Special topics in philosophy open to members of the Honors Program or by permission of the instructor. One semester; one to three credits

PHI 317. ANCIENT PHILOSOPHY
An in-depth treatment of selected philosophers from the ancient and medieval periods including Plato and Aristotle. Prerequisite: sophomore standing or higher. One semester; three credits

PHI 318. MODERN PHILOSOPHY
An in-depth treatment of selected philosophers from the 17th to the 19th centuries, beginning with Descartes. Does not presuppose PHI 317. Prerequisites: sophomore standing or higher. One semester; three credits

PHI 320. CONTEMPORARY PHILOSOPHY
An introduction to the major currents of 20th Century philosophical thought in America and Europe. The focus will be on the question of the meaning of subjective existence. Answers to this question will be examined from the perspectives of analytic philosophy, pragmatism, existentialism, and contemporary continental thought. Prerequisites: sophomore standing or higher. One semester; three credits

PHI 322. MEDICAL ETHICS
A review and evaluation of various theories of moral philosophy and an investigation into some of the current moral issues in the fields of biology and medicine. Prerequisite: sophomore standing or higher. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 324. TECHNOLOGY AND HUMAN VALUES
A philosophical examination of social and ethical issues relating to technology. Topics include: ethical responsibilities of engineers; the ethics of risk assessment and cost-benefit analysis, environmental sustainability and technology; technology and human nature; technology and globalization; and the impact of modern technology on human values. Prerequisite: sophomore standing or higher. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHI 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, sustainable development, and the relationship of scientific, technological, economic, legal, and socio-political considerations in the analysis of current issues in environmental ethics. Prerequisite: sophomore standing or higher. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHIL 335. PHILOSOPHY OF RELIGION
An examination of philosophical issues relating to religion, the concept of God, arguments for and against God's existence, the nature of religious experience, knowledge, faith, the problem of evil and free will. (Same as RS 335). Prerequisite: any RS 201 course or higher. One semester; three credits

PHIL 340. ETHICAL THEORY
An examination of various philosophical theories, including those of Aristotle, Kant, and Mill, concerning moral values. Questions discussed include the following: whether morality is best defined in terms of rights, duties, consequences, authenticity of commitment, or models of virtue, and whether morality can be judged by some absolute standard or is always relative (if so, to what?) Prerequisites: sophomore standing or higher. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHIL 350. PHILOSOPHY OF THE ARTS
A study of various philosophical responses to questions concerning art. Topics include the nature of art, the relation between different arts, the nature of artistic creation, and the problem of evaluating works of art. Examples from literature, music, and the visual arts. Prerequisite: Sophomore standing or higher. One semester; three credits

PHIL 380-389. HONORS SPECIAL TOPICS IN PHILOSOPHY
Special topics in philosophy open to members of the Honors Program or by permission of the instructor. One semester; one to four credits

PHIL 391-396. SPECIAL TOPICS IN ETHICS
Selected philosophical topics in the areas of meta-ethics, normative ethics, or applied ethics; content variable with instructor. Prerequisite: Sophomore standing or higher. (Satisfies the "Moral Values" general education requirement). One semester; three credits

PHIL 491-496. SPECIAL TOPICS IN PHILOSOPHY
Selected philosophical topics; content variable with instructor. Prerequisite: Sophomore standing or higher. One semester; one to three credits

PHIL 497. SENIOR SEMINAR (formerly PHI 499)
This seminar, for Religion & Philosophy majors in their senior year, introduces students to philosophical, theological, and scriptural research methods to prepare students for satisfactory completion of their Senior Projects (PHIL/RS 498). During this semester long seminar, each student will develop a research program for his or her senior thesis, with the semester culminating in a presentation of each student's project proposal and outline. Offered in the Fall semester. One semester; one credit

PHIL 498. SENIOR PROJECT
The Senior Project is a capstone independent study requirement for senior Religion & Philosophy majors. Under the supervision of a senior project faculty advisor and the chair of the Religion and Philosophy Department, each student will assemble a faculty committee to evaluate a research paper related to the student's previous studies in religion and/or philosophy. The final project will also be presented to the faculty of the Religion & Philosophy Department. Prerequisite: PHIL 497 or RS 497. Offered in the Spring semester. One semester; two credits

PHYSICIAN ASSISTANT COURSES
PE 201. RHYTHMIC ACTIVITIES AND GAMES
Activities and games designed for teaching of elementary students. Offered in the Fall and Spring semesters. One semester; one credit

PHYSICIAN ASSISTANT COURSES
PHAS 401. INTRODUCTORY CLERKSHIP I
This six hour course is an opportunity for the discerning student to obtain valuable first-hand experience by witnessing the activities of a Physician Assistant or other medical professional in a clinical setting. The experience will allow the student to develop greater insight into the role and practice of a Physician Assistant. Students will have set assignments that will be evaluated for the development of critical thinking skills required for education and practice. Students wishing to take this course must apply and be approved by the faculty of the Department of Physician Assistant Studies. This is a mandatory course for students following the MSPAS Pathway for CBU Natural Science Majors. One semester; six credits

PHAS 401. INTRODUCTORY CLERKSHIP II
This course is a continuation of PAS 400. Students who have satisfactorily completed PAS 400 will be assigned to shadow a practicing PA to develop greater insight into the role and practice of a Physician Assistant. The将继续 have set assignments that will be presented to the Course Instructor and evaluated for evidence of critical thinking skills necessary to successfully complete PA education. Upon successful completion students will be awarded 6 semester hours credit. Students wishing to take this course must apply and be approved by the faculty of the Department of Physician Assistant Studies. This is a mandatory course for students following the MSPAS Pathway for CBU Natural Science Majors. One semester; six credits

PHAS 402. INTRODUCTION TO THE HEALTH PROFESSIONS
Health care in the United States is provided by a variety of professional and paraprofessional entities. This course will introduce the student to many of the entities that constitute the healthcare workforce. Students will appreciate the complexity of the roles in providing care to patients across the life span and in a variety of socioeconomic environments. This course will build upon the exposure the student has experienced in PAS 400. One semester; two credits

PHAS 403. MEDICAL TERMINOLOGY
This course will familiarize the student to the "language of medicine". Students will gain an appreciation for the prefix, root and suffix of terminology and the application in the medical arts. This course will also focus on the spelling and common abbreviations used in medical settings. This course
A study of electromagnetic radiation, with emphasis on the visible portion of the spectrum. Topics include optical detectors, superposition of waves, interference, far-field and near-field diffraction, polarization, waveguides and optical fibers, and laser theory. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of even numbered years. One semester; three credits

PHYS 415L. OPTICS LABORATORY
Laboratory to accompany PHYS 415. Corequisite: PHYS 415. Offered in the Fall semester of even numbered years. One semester; one credit

PHYS 430. THERMAL PHYSICS
The first part of the course focuses on a classical treatment of thermodynamics from the perspective of physics. The second part of the course examines thermodynamics from the modern statistical mechanics viewpoint. Topics include the fundamental laws of thermodynamics, entropy, ideal gases, the Boltzmann distribution, the partition function, and applications to real systems. Prerequisites: PHYS 252 and MATH 232. One semester; three credits

PHYS 447. QUANTUM MECHANICS I
A detailed introduction to quantum mechanics including thermal radiation, deBoer's postulate, Schrödinger's equation, one-electron atoms, spin and transition rates. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of odd numbered years. One semester; three credits

PHYS 448. QUANTUM MECHANICS II
A continuation of the study of quantum mechanics including statistical mechanics, time-independent and time-dependent perturbation theory, and scattering. Prerequisite: PHYS 447. Offered in the Spring semester of even numbered years. One semester, three credits

PHYS 452. ADVANCED PHYSICS LABORATORY
A laboratory course in advanced selected experiments. A written report on each experiment is required. Prerequisite: PHYS 252L. Offered in the Spring semester of odd numbered years. One semester; one credit

PHYS 491. RESEARCH I
An independent investigation in some field of physics. A choice of topic for research is made, and a written description of the proposed research including bibliographical references is required. Prerequisite: Departmental approval or Senior standing. Offered in the Fall semester. One semester; zero credit

PHYS 492. RESEARCH II
The research proposed in PHYS 491 is carried out. A formal written report plus an oral presentation to the class and the departmental faculty is required. Prerequisite: PHYS 491. Offered in the Spring semester. One semester; two credits

PHYS 495. SPECIAL TOPICS IN PHYSICS
Directed work on a special topic in physics approved by the department. One semester; one to three credits

PHYS 699. 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 credit

■ POLITICAL SCIENCE COURSES

POLIS 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. One semester; three credits

POLIS 113. WORLD POLITICS
This course examines how politics unfold at the global level. Special attention will be paid to global actors and institutions: nation-states, international organizations, non-governmental organizations, and multi-national corporations. Topics include: conflict and cooperation, terrorism, the world economy, the environment, nuclear weapons, human rights, and the interplay of culture, ideology, technology, and geography. One semester; three credits

POLIS 115. NATIONS AND STATES (Comparative Politics) (Formerly POLIS 210)
Comparing nation-states from different regions of the world through an examination of their politics, governments, economic systems, and cultures. The course will include discussion of democratic and non-democratic regimes, and different constitutional models. It shall also explore the role of culture, history, ideology, religion, and geography in shaping political systems. One semester; three credits

POLIS 200-205. SPECIAL TOPICS IN POLITICAL SCIENCE
Topics vary with instructor. No prerequisite. One semester; one to three credits

POLIS 215. INTRODUCTION TO POLITICAL SCIENCE
This course is intended to introduce the student to the American legal system and to various practice areas of the law. Topics discussed include: law (and why) the American legal system is organized, including how the legislative process and executive branch are involved in this system; the focus on the role of ethics, procedure, and jurisdiction in the law; and an introduction to the primary substantive areas of the law that first year law students encounter, including torts, family, estate, property, contracts, business, and criminal law. (Same as PREL 215). One semester; three credits

POLIS 220. SCIENCE FICTION AND POLITICS
The examination of a special topic in political science in works of science fiction and fantasy. The focus of the course will be the critical readings of texts, both written works and film. Issues discussed include: identity, the Self and the Other, conflict and war, the organization of society, utopia/anti-utopia, and the relationship between technology and culture. One semester; three credits

POLIS 320. SURVEY OF POLITICS ON FILM
A survey of film as a vehicle for the communication of ideas and as an art form. The critical analysis of film as a political text. The way in which political and social issues are depicted in film. Other issues discussed include prejudice and stereotyping in film, propaganda, and film censorship. One semester; three credits.

UPPER DIVISION COURSES ARE OPEN TO STUDENTS WHO HAVE SUFFICIENTLY STANDING AND MEET SPECIFIC COURSE PREREQUISITES, IF ANY.

POL 310. 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. (Same as PREL 310). Prerequisite: POLS 112 or HIST 151 or permission of the department head. One semester; three credits.

POL 320. ADVANCED POLITICS ON FILM
A concentrated critical analysis of the political aspects of film, the politics of film production, and the interpretation of film. This course shall focus on a particular political or social issue, topic, or film genre. (Same as HIST 330) Prerequisite: any Political Science or History course or permission of the instructor Recommended but not required: POLS 250. One semester; three credits

POL 340. WEIMAR REPUBLIC AND NAZI GERMANY
This course covers the history of Germany from 1919 to 1945. It will examine the collapse of the Weimar Republic and the rise of Nazi power. It will also cover the life of Adolf Hitler, the Holocaust, and Nazi ideology, policy, and war aims. (Same as HIST 340). Prerequisite: any Political Science or History course or permission of the instructor. One semester; three credits

POL 356. THE HOLOCAUST: POLITICAL AND RELIGIOUS DIMENSIONS
The Holocaust remains one of the most shocking and disturbing episodes in human history and, as a consequence, people of many backgrounds and beliefs have struggled with the profound political, religious, moral, and psychological questions it raises. This course examines the Holocaust as an event in human political history, and as a challenge for ethical and theological reflection. (Same as RS 356) Prerequisite: any RS 200 level course. One semester; three credits.

POL 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.

POL 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, POLS 112 or 113. One semester; three credits.

POL 390-399. HONORS SPECIAL TOPICS
Special topics in political science open to members of the Honors Program or by permission of the instructor and Honors Director. Topics vary with instructor. One semester; three credits.

POL 470-479. TOPICS IN POLITICAL SCIENCE
Topics vary with instructor. Prerequisite: Any political science or history course, or permission of instructor. One semester each; one to three credits each.

Cont. covers with specific internship program. Prerequisite: Permission of Political Science Internship Director. One semester each; one to three credits each.

PSY 227. SPORT PSYCHOLOGY
This course analyzes consumer behavior from a psychological perspective. Topics include the impact of motivation, information processing, memory, personality, attitudes, and lifestyles on consumer decision processes and purchases. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits.

PSY 228. PSYCHOLOGY OF MEDIA
This course investigates the media construction of reality by examining media representations of different social constructs. Students examine how reality is created from a cognitive psychological and social-cognitive approach and from different media theories. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits.

PSY 229. HONORS PSYCHOLOGY OF MEDIA
This course investigates the media construction of reality by examining media representations of different social constructs. Students examine how reality is created from a cognitive psychological and social-cognitive approach and from different media theories. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits.

PSY 235. FUNDAMENTALS OF APA WRITING STYLE AND ETHICS
Students will learn to write in an APA-style research paper. They will write an APA-style research proposal with the potential of completing the research in the Correlational or Experimental Methods course. Students will also learn other research reporting methods including PowerPoint and poster presentations. Students will complete certification in APA ethics. Open to other students by instructor permission only. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits.

PSY 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 with a “C” or higher. One semester; three credits.

PSY 241. CONSUMER PSYCHOLOGY
This course analyzes consumer behavior from a psychological perspective. Topics include the impact of motivation, information processing, memory, personality, attitudes, and lifestyles on consumer decision processes and purchases. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits.

PSY 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 with a “C” or higher or SOC 101. One semester; three credits.
PSYC 275. GRADUATE SCHOOL & PROFESSIONAL CAREERS IN PSYCHOLOGY
A survey of various professional careers in psychology and a thorough examination of the graduate school application and admissions process. Case studies of students in graduate school and professionals in various fields are used. Departmental approval only. One semester; three credits

PSYC 280-287. SELECTED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. One semester; one to three credits

PSYC 290-299. HONORS SPECIAL TOPICS
Special topics in psychology open to members of the Honors Program or by permission of instructor and Honors Director. One semester; one to four credits

PSYC 303. POST TRAUMATIC STRESS DISORDER
The attack on the World Trade Twin Towers in 2001, the war in Iraq and Afghanistan, the BP oil spill, trapped Chinese miners, earthquakes in Haiti, floods in Pakistan, tsunamis in Indonesia, murder and displacement in Darfur, massacre in Tannanum Square. Survivors of these events experienced extreme trauma. Sometimes the consequences of these traumatic experiences cause the person to have trouble dealing with life for months or years. We call this extreme reaction post-traumatic stress disorder (PTSD). Knowledge of PTSD may help an individual become more resilient after experiencing extreme stress. The goal of this course is to familiarize the student with the disorder in order to understand the consequences of severe trauma. Understanding PTSD is necessary not just for mental health providers, but also for the individual who may experience, or knows someone who may experience, such trauma, and the citizen concerned about the well-being of war veterans. In this course we will examine PTSD in depth; anxiety disorders; history and prevalence of PTSD; specific trauma (combat, sexual assault, crime, natural and man-made disasters, terrorism, etc.); symptoms, biology, consequences, impact and treatment of PTSD. Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 305. PROBLEM SOLVING AND DECISION MAKING
The objective of this course is to improve people's ability to solve problems and make decisions using psychological material discussed in class. Students will learn to improve their practical problem solving skills by learning to recognize and overcome conceptual blocks to problem solving. Topics to be covered include creativity, methods of problem solving, memory aids, decision-making tools, avoiding biases of judgment, etc. Students will be given assignments revolving around practical problems and decisions (e.g., how to improve time management). Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 306. HUMAN FACTORS
Human factors, also called engineering psychology, ergonomics or usability engineering, deals with the importance of designing for human use. Equipment, machines, and technology will be operated a little more slowly and be a little more precise to error. One 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 analysis and design of human-system 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. Product design will be discussed in terms of usability and consumer behavior/preferences. Topics include the following: perception, cognition, and environment. Prerequisite: PSYC 105 with a "C" or higher. 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 the 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. (Same as SOC 310) Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 315. EDUCATIONAL PSYCHOLOGY
Focuses on the application of psychology to the school setting. It is intended to assist students in mastering an organized sampling of scientific knowledge in the areas of development, learning, motivation, individual differences, and evaluation. Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 317. PSYCHOPATHOLOGY
A survey of various types of mental disorders including their causes, symptoms, diagnosis, and treatment. Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 318. HONORS PSYCHOPATHOLOGY
A survey of various types of mental disorders including their causes, symptoms, diagnosis, and treatment. Prerequisite: Membership in the Honors Program or special permission of the Department Chair. One semester; three credits

PSYC 320. HONORS SEMINAR DEATH AND DYING
This seminar focuses on critically examining and understanding death, the dying process, grief, the ethics of life/death, and a variety of related issues. It integrates a number of multidisciplinary perspectives and resources, emphasizes the exercise of critical thinking and implements the philosophy of writing as an integral means of learning. Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as SOC 320) One semester; three credits

PSYC 325. TOPICS IN AGING
This course explores 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 terminal care, death and childhood, violent death, suicide, death industries, the right to die, and surviving death. (Same as SOC 325) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

PSYC 340. FUNDAMENTALS OF COUNSELING
This course provides 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. Prerequisite: PSYC 105 with a "C" or higher. 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 the broken pieces of each crisis, we focus on the crisis as an event that is currently most prevalent types of crisis in the human experience. In addition, this course considers the importance of the personhood of the counselor and crises that may occur in the human service workplace. Prerequisite: PSYC 105 with a "C" or higher. 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 with a "C" or higher. One semester; three credits

PSYC 350. INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
This course teaches the skills of interviewing and assessment. You will learn appropriate interviewing techniques, data collection, and diagnostic procedures. You will also have the opportunity to work with professionals in the field of psychology and business majors and focus on the practical applications of psychology in the business world. Topics include the psychology of organizations, motivation and supervision, employee selection and development, legal considerations, evaluation, and organizational development. Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 351. ADOLESCENT PSYCHOLOGY
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 with a "C" or higher. 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, cooperation, competition, group structure, and group dynamics. (Same as SOC 353) Prerequisite: PSYC 105 with a "C" or higher. 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 basic statistical methods and basic statistical techniques with an emphasis on correlational methods. Students will conduct a correlational research project which will be presented to other students and faculty. Prerequisite: PSYC 235 and ALG 110 and 120 or ALG 115 or higher. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. One semester; three credits

PSYC 355. EXPERIMENTAL RESEARCH METHODS AND STATISTICS
An introduction to basic experimental research design and related 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 higher in PSYC 354. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. One semester; three credits

PSYC 357. INTERVIEWING, ASSESSMENT, AND TEST INTERPRETATION
An exploration of theoretical perspectives on diversity, problems in defining diversity and specific categories of diversity. Deviant behaviors discussed may include but are not limited to prostitution, gambling, transgenderedness, pornography, mental illness, sexualities, and physical disability. (Same as CJ 365 and SOC 365) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

PSYC 364. STEREOTYPING AND PREJUDICE
This course will analyze and discuss issues related to stereotyping and prejudice, including psychological theory and empirical research on the topic. We will examine the origins, functions, and consequences of stereotyping and prejudice as well as measurement strategies. We will examine issues surrounding the persons both engaging in and targeted by stereotyping and prejudice and discuss historical and contemporary social and political issues relevant to the course. (Same as SOC 364) Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

PSYC 365. DEVIANT BEHAVIOR
An exploration of theoretical perspectives on deviance, problems in defining deviance and specific categories of deviance. Deviant behaviors discussed may include but are not limited to prostitution, gambling, transgenderedness, pornography, mental illness, sexualities, and physical disability. (Same as CJ 365 and SOC 365) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

PSYC 370. APPLICATIONS OF MEMORY
An examination of the application of memory in such diverse areas as courtroom testimony (e.g., factors influencing witness, hypnosis, repressed memory, false memory), memory for everyday events, memory aids, and advertising. The relevant theories and research in each area are examined. 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 terminal care, death and childhood, violent death, suicide, death industries, the right to die, and surviving death. (Same as SOC 325) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits
PSYC 105 with a “C” or higher, PSYC 219, 317, 353, 354 and 440. "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 PSYC 497. PSYCHOLOGY COMPREHENSIVES final project to be presented to and approved by departmental faculty. Prerequisite: senior Standing.

PSYC 490. SENIOR CAPSTONE Directed work on a special topic or project in psychology. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 498. ADVANCED TOPICS IN PSYCHOLOGY Directed work in a special topic in psychology. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 317. SENSATION AND PERCEPTION In this course, we will explore the processes of sensation and perception, through which information in the environment is converted into a form that our brain can process and which ultimately allows us to make sense of our world (sometimes). This exploration will include theories and research on the visual, auditory, somatosensory, gustatory, and olfactory modalities, including how they interact and how certain processes are common across multiple senses. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 390-399. HONORS SPECIAL TOPICS IN PSYCHOLOGY Special topics in psychology open to members of the Honors Program or by permission of the Instructor and Honors Director. 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 with a “C” or higher. 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 processed, stored in memory, and retrieved when needed. Topics include attention, memory, problem solving, creativity, and language. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 450, 451. INDEPENDENT RESEARCH IN PSYCHOLOGY These courses are a two semester sequence intended for advanced (junior status or higher) students who wish with additional experience in research design and statistical analysis. In PSYC 450 the student will investigate in depth a specialized topic in psychology resulting in a proposal that will include a literature review, hypotheses and proposed research design. In PSYC 451 the student will further investigate the topic by engaging in empirical research that is then analyzed, interpreted, and presented in a manuscript. These courses are recommended for students intending to continue their education in a graduate program. Prerequisites: PSYC 354, 355 and permission from the chair of Behavioral Sciences. Two semesters; two credits each.

PSYC 453. PSYCHOLOGY OF PERSUASION This course examines the scientific and social psychological processes that underlie persuasion. Attitude formation and measurement as well as resistance to persuasion will also be examined. Persuasion as it applies to political campaigns, propaganda, and advertising and consumer behavior will be addressed, along with relevant research topics. Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 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 officers’ supervision (Same as CJ 455). Prerequisite: PSYC 105 with a “C” or higher. One semester; three credits

PSYC 460. PRACTICUM IN PSYCHOLOGY The practicum offered for majors with senior status includes several options. The first is a formal internship consisting of 100 hours of professional in-field experience. It is a well-structured program in which students will be required to meet a number of objectives related to their goals, their developing competence, and their interests in psychology and related fields. A 2.5 GPA is required to pursue this option. The second option involves a research assistantship in which seniors will assist practicing graduate-level and professional-level researchers in conducting their projects. Sound performance in the statistics and research courses is a prerequisite for this option. A third option involves the opportunity to be a learning facilitator monitored by a full-time faculty member. In this capacity, the student provides support services to a faculty member in a specific course. These services include preparation of presentation materials, development of study guides, the conceiving and leading of study groups, peer editing, and the compilation of course-related research. This option may be particularly valuable to students seeking careers in academic fields. The guidelines and requirements for this option have been developed and are made available to interested students upon request. A final option is an individually-designed project suited to the needs, interests, and academic strengths of the student. The project will be conducted under the direction of a full-time faculty member. Guidelines for the formal proposals are available. Plans for any of these options should be developed and approved by the Practicum Coordinator. During the semester before the course is taken. Permission of the Practicum Director is required. Prerequisite: senior standing. One semester; three credits

PSYC 480-487. ADVANCED TOPICS IN PSYCHOLOGY Directed work on a special topic or project in psychology. One semester; one to three credits

PSYC 490. SENIOR CAPSTONE Readings, evaluation and analysis of selected topics in the discipline. May require a comprehensive individual empirical research project or other final project to be presented to and approved by departmental faculty. Prerequisite: Senior Standing. One semester; three credits

PSYC 497. PSYCHOLOGY COMPREHENSIVES SENIORS will be required to take a comprehensive examination on selected areas of psychology. Students are required to have completed or be currently enrolled in PSYC 317, 353, 354 and 440. Two final grades. 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 in directed field research at an original field placement or (b) wish to pursue an additional field placement beyond the goals of the internship program and the developing interests of the student. Permission of the Practicum Director is required. One semester; three credits

RELIGIOUS STUDIES COURSES Requirements for the Religion & Philosophy degree are found on Pages 62 and 43. Students are required to take one course at the 200 level before taking courses at the 300 level or above.

RS 200. UNDERSTANDING RELIGION An introduction to religion through a comparative study of all aspects of religious experience in Christianity and other religious traditions. This course will address existential and theological questions through a study of scriptures, sacred reality, symbol, ritual, and ethics. One semester; three credits.

RS 217. OLD TESTAMENT (HEBREW SCRIPTURES) Using the Old Testament as a text and a guide, the course explores the origins and early history of the Jewish people to the Maccabean revolt and encompasses concepts such as Covenant, Prophecy, Messiah. One semester; three credits

RS 218. NEW TESTAMENT A discussion of the Christian scriptures from literary, historical, and theological points of view concentrating on the life and teachings of Christ and the spread of Christianity after His death and resurrection. One semester; three credits

RS 220. HISTORY OF CHRISTIAN THOUGHT: THROUGH THE REFORMATION This course traces the development of Christian history, practice, and theology from the early churches through the Middle Ages and the Reformations. Special attention is paid to how Christian thought and practice develop through controversy and interpretation of the biblical tradition, as well as to the expression and experience of historical Christianity in art, architecture, music, and religious practices. One semester; three credits

RS 221. HISTORY OF CHRISTIAN THOUGHT: SINCE THE REFORMATION This course examines major themes, questions, and issues in Christian theology after the Reformation to the early part of the 21st century. Special attention will be given to the significance of Christian theology and Christian faith for the lives of women and men in the contemporary world. One semester; three credits

RS 230. CHRISTIAN ETHICS An 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 vocational-calling from God. One semester; three credits

RS 245. HONORS RELIGION AND SCIENCE This interdisciplinary module 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 autonomy, 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 pacific and just war traditions will be analyzed, along with their application to forms of state sanctioned violence such as war and capital punishment and the new challenges to these traditions such as military intervention and terrorism. (Same as HUM 254) One semester; three credits

RS 260. PERSON, WORLD, AND GOD This course will focus phenomenologically on ways to recognize God's presence in our everyday lives. How does one person's religious experience compare/contrast with another's? Personality types, prayer forms, biblical references, and theological studies will be examined in tandem with lived experiences. One semester; three credits

RS 270. WORLD RELIGIONS (Formerly RS 350) A survey of the great eastern and western religious traditions. The course covers the history, beliefs, practices, symbols, and sacred scriptures of select religions, including indigenous religions, Hinduism, Buddhism, Judaism, Christianity, Islam, and new religious movements. The course will include visits to religious sites in Memphis. One semester; three credits

RS 271. SOCIOLOGY OF RELIGION (Formerly RS 371) The study of the beliefs, practices, and organizational forms of religion using the tools and methods of sociology. Topics covered may include the relationship between religious traditions and the role of religion in cultural formation and public life, religion and political conflict, the nature of religious cults and sects, the influence of religion on racial, gender, and sexuality issues, and the effect modernity has on religious belief and practice. (Same as SOC 271). Prerequisite: SOC 101 with a grade of “C” or higher. One semester; three credits

RS 280. CATHOLICISM 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
An examination of the teachings, structures, and cultural influence of Roman Catholicism with emphasis on the Catholic understanding of Jesus Christ, the nature of the Church, the Sacraments, and the human person. One semester; three credits

RS 285, THE CHURCH IN THE WORLD
A study of the theological and ecclesial structures of various major Christian churches in terms of their relations with the world and each other. Different models of being church will be analyzed, including approaches to authority, worship, and religious pluralism. One semester; three credits

RS 290-294, SELECTED TOPICS IN RELIGION
Selected topics of special interest at an introductory level. Topics vary with instructor. One semester; three credits

RS 295-299, HONORS SPECIAL TOPICS IN RELIGION
Selected topics of special interest in Religious Studies open to members of the Honors Program or by permission of the instructor. One semester; three credits

RS 300, JESUS CHRIST
An investigation into the historical features of Jesus’ ministry and message and His importance in the world today. The course will examine Christian doctrine about Jesus and probe the reasons for His appeal through the centuries. Prerequisite: any RS 200 level course. One semester; three credits

RS 320, RELIGION IN AMERICA
An examination of the cultural, legal, and historical factors that have helped shape the various religious communities of the United States. One semester; three credits

RS 324, CHRISTIAN SPIRITUALITY
An examination of key figures and themes in Christian spirituality in terms of 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 womenist theology. Special attention will be given to the importance of social context in developing such theologies and their ways of drawing from and critiquing traditional Christian theological views. Prerequisite: any RS 200 level course. One semester; three credits

RS 330, JUSTICE AND SOCIETY
A study of issues relating to justice and human rights in contemporary social life (economic, political, cultural), focusing on the contributions of developing social justice teachings of the churches. Prerequisite: any RS 200 level course. One semester; three credits

RS 331, THE SPIRITUALITY AND ETHICS OF EATING
This course examines the role of food and eating in the sacred texts and rituals of Judaism and Christianity in order to explore the thesis that food is not just a means of sustenance but a relationship linking people to one another, to God, to the land, plants, and animals. Students will be introduced to contemporary environmental, ethical, and spiritual dimensions of food and the way these are reflected in our eating practices. Students will be required to complete a service project for this course. Prerequisite: any RS 200 level course. One semester; three credits

RS 335, PHILOSOPHY OF RELIGION
An examination of philosophical inquiry into the essence of God, 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 PHIL 335). Prerequisite: any RS 200 course or higher. One semester; three credits

RS 340, AFRICAN AMERICAN THEOLOGY
This course examines the unique contributions of African Americans to Christian theology. Discussion of African religions, slave spirituals and narratives, and the ongoing marginalization of African Americans due to structural racism will serve as an introduction. The focus of the course will be on contemporary developments beginning in the late 1960s, which will be explored through close reading of works of Black Liberation Theology. Prerequisite: any RS 200 level course. One semester; three credits

RS 345, GOD, EVIL AND SUFFERING
A consideration of the question of religious faith in the face of evil and seemingly senseless pain and suffering, as well as some of the more carefully reasoned responses proffered within the history of Christian thought, both traditional and modern. Prerequisite: any RS 200 level course. One semester; three credits

RS 355, JUDAISM
Introduction to the history, religion, literature, and practices of rabbinic Judaism. This course will examine how the cultures of the diaspora, as well as being Christianity’s constant “other,” led to the institutions and rituals of modern Jewish experience. The course will also examine issues such as Jewish identity after the Holocaust, and the modern state of Israel. Prerequisite: any RS 200 level course. One semester; three credits

RS 356, THE HOLOCAUST: POLITICAL AND RELIGIOUS DIMENSIONS
The Holocaust remains one of the most shocking and disturbing episodes in human history and, as a consequence, people of many backgrounds and beliefs have struggled with the profound political, religious, moral, and psychological questions it raises. This course examines the Holocaust as an event in human political history, and as a challenge for ethical and theological reflection. (Same as POLS 356) Prerequisite: any RS 200 level course. One semester; three credits

RS 360, ISLAM
An analysis of the Islamic faiths, its history, major beliefs, contribution to civilization around the world, and relationship with Judaism and Christianity.

RS 372, WOMEN AND CHRISTIANITY
A survey of the entire scope of the role of women in Christianity. Beginning from Christian origins, this course examines representations of women as apostles, prophets, martyrs, nuns and beguines, mystics, mothers, and virgins. Special attention will be paid to theological discussions of the position of women, as well as contemporary reevaluations. Prerequisite: any RS 200 level course and junior standing. One semester; three credits

RS 375, THE PROPHETS
The course will focus on the entire prophetic corpus in light of its role in shaping the development of the Hebrew Bible. The course will include a close reading of the texts of both the major and minor prophets. 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 topics 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 390-394, SPECIAL TOPICS IN RELIGIOUS STUDIES
Selected topics of special interest at an advanced level. Topics vary with instructor. Prerequisite: any RS 200 level course. One semester; three credits

RS 395-399, HONORS SPECIAL TOPICS IN RELIGIOUS STUDIES
Selected topics in religious studies open to members of the Honors Program or by permission of the instructor. Prerequisite: any RS 200 level course. One semester; three credits

RS 400, CATHOLIC THOUGHT AND CULTURE THROUGH THE AGES
An interdisciplinary exploration of the thought of the Catholic Church and the liturgical tradition expressed through works of intellect and imagination, from the beginning of the Church up to contemporary times. Classics in literature, art, theology, philosophy, music, the sciences, and/or architecture are discussed. Emphasis is placed on recognizing the integrity of the grounding Catholic vision and on tracing the unified development and expansion of that vision over time. (Note: meets with MACS 610). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 402, CONTEMPORARY RELIGIOUS THOUGHT
A serious study of one or more selected theologians and religious thinkers from the twentieth century. Prerequisite: any RS 200 level course. One semester; three credits

RS 405, HONORS CONTEMPORARY RELIGIOUS THOUGHT
A serious study of one or more selected theologians and religious thinkers from the twentieth century. Prerequisite: any RS 200 level course and membership in the Honors Program. One semester; three credits

RS 410, CATHOLIC BIBLICAL STUDIES
What is a Catholic approach to the study of the Bible? The course will begin with the Church’s teaching on biblical interpretation as contained in such documents as Divino Afflante Spiritu, Dei Verbum, and “The Interpretation of the Bible in the Church.” Selected texts from the Old and New Testaments will then be studied using the Catholic Church’s approach to biblical interpretation in context and foundation. (Note: meets with MACS 610). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 420, CATHOLIC SPIRITUALITY
An exploration of the relationship between religious experience and theological reflection as seen in the works of outstanding spiritual writers of the Catholic tradition, including St. Benedict, St. Francis and St. Clare, St. John Baptist de la Salle. This will include attention to prayer, forms of spirituality, and asceticism. (Note: meets with MACS 620). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 430, GOD AND THE HUMAN PERSON
An investigation of the Catholic doctrine of the human person in relation to God, including topics such as creation and fall, sin, grace, justification and sanctification, and ecclesiological fulfillment. (Note: meets with MACS 630). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 440, CHRISTOLOGY
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
Understanding the person, presence and mission of Christ in Scripture, doctrine, and dogma, and in contemporary theology. (Note: meets with MAC 640). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 450. THEOLOGY OF SACRAMENTS AND WORSHIP
An examination of the historical and sacramental life in the Church and theological reflection on the sacraments. This will include contemporary approaches to the theology of sacraments, especially in relation to Christology and ecclesiology. (Note: meets with MACS 630). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 460. MORAL THEOLOGY
A treatment and assimilation of the Christian moral life, including freedom and moral agency, moral norms and moral reasoning, the place of scripture, tradition, and authority in the moral life, virtues and development of moral character. (Note: meets with MACS 660). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 470. CATHOLIC ETHICS
Critical analysis of the historical and theological foundations for Catholic social teaching and the teachings of the Catholic Church on matters such as war and peace; the rights and duties of states and citizens; the rights, duties, and obligations of members of a family; the rights, duties, and obligations of parents with respect to their children. (Note: meets with MACS 670). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 480. CATHOLICISM AND OTHER FAITH TRADITIONS
As part of the process, students will be introduced to basic sociological terms, concepts, and theories. One semester; three credits

RS 490. ECCLESIOLOGY AND MINISTRY
A seminar in which students will critically examine the nature and structure of the Catholic Church, including its apostolic origins, the Church as communion and sacrament, magisterium and authority, the relation of the local and universal Church, evangelization, ministry and mission. Students will reflect upon their ministry plans/work in relation to the Church's mission. (Note: meets with MACS 690). Prerequisite: any RS 300 level course and permission of the chair of Religion & Philosophy. One semester; three credits

RS 491-496. SPECIAL TOPICS IN RELIGION
Selected topics of interest to individual students or small groups. Prerequisite: Approval of instructor. One semester; one to three credits

RS 497. SENIOR SEMINAR (Formerly RS 499)
This seminar, for Religion & Philosophy majors in their Senior year, introduces students to philosophical, theological, and scriptural research methods to prepare students for satisfactory completion of their Senior Projects (PHIL/RS 498). During this semester-long seminar, each student will develop a research program for their senior thesis, with the seminar culminating in a presentation of each student's project proposal and outline. Offered in the Fall semester. One semester; one credit

RS 498. SENIOR PROJECT
The senior project is a student independent study requirement for Senior Religion & Philosophy majors. Under the supervision of a senior Religion & Philosophy faculty advisor, each student will assemble a committee of three departmental faculty members to evaluate a research paper related to the student's previous studies in religion and/or philosophy. The final project will also be presented to the faculty of the Religion & Philosophy Department. Prerequisite: Either PHIL 495 or RS 497. Offered in the Spring semester. One semester; two credits

RUSSIAN COURSES

RUSS 101-102. ELEMENTARY RUSSIAN
Elementary grammar, reading, and conversation, supplemented by materials on Russian culture. 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 the Fall and Spring semesters. Two semesters; eight credits

RUSS 205. THE RUSSIAN MIND
Study and analysis of the major intellectual currents of modern Russian history through literature, religious philosophy, and film. The study of these works is intended to identify some important attributes of the Russian national identity. Literary works will include those by Tikhonov, Akhmatova, Solzhenitsyn, Pasternak, and Bulgakov. Films will include Dersu Uzala, The Barber of Siberia, and The Russian Ark. One semester; four credits

RUSS 209/309. RUSSIAN IN RUSSIA
A 3-4 week guided excursion with the language and culture aimed at solidifying vocabulary and grammar previously acquired. A significant cultural component is part of the course. Takes place in May-June. Offered in the Summer semester. One semester, four credits

RUSS 301-302. ADVANCED RUSSIAN
Advanced grammar, with greater emphasis on the refinement of conversation and composition skills. Discussion of topics related to contemporary life in Russia. Prerequisite: Russian 202 or equivalent. Offered in sequence in the Fall and Spring semesters. Two semesters; eight credits

RUSS 306. PRACTICS
Practicum in Russian sounds, especially those that tend to be problematic for a non-native speaker. Emphasis on specific phonetic phenomena, such as palatalization and assimilation of consonants, and reduction of unstressed vowels. Examination of word stress, sentence-level intonation, and pronunciation. Corequisite: Course should be taken as early as possible in the study of Russian, but must be taken as a corequisite with Russian 301. Offered in the Fall semester. One semester; one credit

SOCIOLOGY COURSES

SOC 101. INTRODUCTION TO SOCIOLOGY
An introduction to the sociological perspective. Sociology seeks to explain the origin and functioning of social behavior as it appears in such areas as the family, religion, economic structures, political structures, schools, deviant behavior, cultural norms, and other areas of human social interaction. As part of the process, students will be introduced to basic sociological terms, concepts, and theories. One semester; three credits

SOC 160. CULTURAL ANTHROPOLOGY (Formerly ANTH 150 and SOC 150)
This course will primarily focus on the cultural and social anthropology, focusing 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 in human social life in the world 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 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 clashings views on controversial social issues. Students develop and practice skills of social policy analysis. Prerequisite: SOC 101 with a grade of "C" or higher and junior standing. One semester; three credits

SOC 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 PSYC 270) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

SOC 271. SOCIOLOGY OF RELIGION (formerly SOC 371)
The study of the beliefs, practices, and organizational forms of religion using the tools and methods of sociology. Topics covered may include the influence of religion on social and economic stratification and inequality, religion and social order, the role of religion in social change, the relationship between religion and social change, and the relationship between religious institutions and social change. Prerequisite: (Same as RS 300) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

SOC 280-287. SELECTED TOPICS IN SOCIOLOGY
Directed research on a special topic in sociology. One semester; one to three credits

SOC 290-299. HONORS SPECIAL TOPICS
Special topics in societal and cultural issues with emphasis on 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)
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 medical care. A range of definitions of health and illness, as well as the incorporation which from these definitions, will be considered. (Same as ANTH 301). Prerequisite: ANTH 160 or SOC 160. One semester; three credits

SOC 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, violence, death, suicide, death industries, the right todie, and surviving death. (Same as PSYC 310). Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

SOC 320. HONORS SEMINAR: DEATH AND DYING
This seminar focuses on critically examining and understanding death, the dying process, grief, the ethics of life/death, and a variety of related issues. It integrates a number of multidisciplinary perspectives and resources, emphasizes the exercise of critical thinking and implements the philosophy of writing as an integral means of learning. Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as PSYC 320). Prerequisite: Membership in Honors Program or special permission of instructor. One semester; three credits

SOC 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 PSYC 325) Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

SOC 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 PSYC 345). Prerequisite: PSYC 105 with a "C" or higher or SOC 101 with a "C" or higher. One semester; three credits

SOC 350. GLOBAL HEALTH
The course will introduce students to the main concepts of the public health field and the critical links between public health and social and economic development. Students will gain an overview of the determinants of health, how health status is measured, and the influences of various factors, including social, economic, and political issues on the health of individuals and of communities. It will also introduce students to key concepts regarding nutrition, reproductive health, infectious disease, and chronic disease. Material will include key concepts, be practical in orientation, and global in coverage, but with an important focus on the developing world and on the health of the poor. (Same as ANTH 350). One semester; three credits

SOC 351. SOCIOLGY OF THE FAMILY
A survey of changes in family systems over the years. Areas of study include courtship, love, mate selection, parenthood, and family problems. The course also examines cross-cultural comparisons and considers alternatives to traditional family forms. Emphasis is placed on the use of the empirical evidence to evaluate popular beliefs. (Same as ANTH 351). One semester; three credits

SOC 353. SOCIAL PSYCHOLOGY
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 PSYC 353). Prerequisite: PSYC 105 with a "C" or higher. 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. Exposes a variety of addiction issues as they relate to the social institutions of family, education, politics, and medicine. (Same as CJ 362). Prerequisite: SOC 101 with a grade of "C" or higher. One semester; three credits

SOC 364. STEREOTYPING AND PREJUDICE
This course will analyze and discuss issues related to stereotyping and prejudice, including psychological theory and empirical research on the topic. We will examine the origins, functions, and consequences of stereotyping and prejudice as well as measurement strategies. We will examine issues surrounding the persons both engaging in and targeted by stereotyping and prejudice and discuss historical and contemporary social and political issues relevant to the course. (Same as PSYC 364). Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

SOC 365. DEVIANCY BEHAVIOR
An exploration of theoretical perspectives on deviance, problems in defining deviance and specific categories of deviance. Deviant behavior discussed may include but are not limited to prostitution, gambling, transvestism, psychiatric illness, sexual deviancy, and physical disability. (Same as PSYC 365). Prerequisite: PSYC 105 with a "C" or higher. One semester; three credits

SOC 360-387. 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. 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 three courses are recommended for students who may intend to continue their academic career in a graduate program. Prerequisites: Permission of instructor and the Chair of Behavioral Sciences. One to two semesters; one to three credits each

SOC 480-487. ADVANCED TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology. One semester; one to three credits.

SPANISH COURSES
SPAN 101. ELEMENTARY SPANISH I
Fundamentals of grammar and syntax. Intensive drills in understanding, speaking and reading. Fluency of oral-aural skills is the main objective. Not open for credit to native speakers of Spanish. Offered in sequence in the Fall and Spring semesters. Prerequisite: SPAN 101. One semester; three credits

SPAN 102. ELEMENTARY SPANISH II
Fundamentals of grammar and syntax. Intensive drills in understanding, speaking and reading. Fluency of oral-aural skills is the main objective. Not open for credit to native speakers of Spanish. Offered in sequence in the Fall and Spring semesters. Prerequisite: SPAN 101. One semester; three credits

SPAN 201. INTERMEDIATE SPANISH I
Continued attention to essentials of grammar and composition. Readings in the short story and cultural texts. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 101 and 102. Offered in sequence in the Fall and Spring semesters. One semester; three credits

SPAN 202. INTERMEDIATE SPANISH II
Continued attention to essentials of grammar and composition. Readings in the short story and cultural texts. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 101 and 102. Offered in sequence in the Fall and Spring semesters. One semester; three credits

SPAN 301. COMPOSITION AND CONVERSATION I
Continued study of Spanish grammar and composition. Drill on difficult constructions and theme writing. Reports and discussions on selected aspects of Hispanic civilization. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 201, 202 or the equivalent. Offered in sequence in the Fall and Spring semesters. One semester; three credits

SPAN 302. COMPOSITION AND CONVERSATION II
Continued study of Spanish grammar and composition. Drill on difficult constructions and theme writing. Reports and discussions on selected aspects of Hispanic civilization. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 201, 202 or the equivalent. Offered in sequence in the Fall and Spring semesters. One semester; three credits

SPAN 313, 314. SPANISH LITERATURE AND CIVILIZATION
The study of the cultures of Spain and Latin America as reflected in their history, literature, and art from their origins to the present. Prerequisite: Two years of college Spanish or equivalent. Offered in sequence in the Fall and Spring semesters. 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. One semester; one to three credits

SPAN 440-441. RESEARCH TOPICS IN SPANISH
Original writing projects and research in literature, pursued under the guidance of a member of the Spanish faculty. Syllabus and credit hours by contract with the student and the Spanish professor. One semester each; one to three credits

SPAN 480-489. SPECIAL TOPICS IN SPANISH
Topics of special interest related to advanced study of Spanish literature, language, or culture. Prerequisite: Spanish 302 or 314 and permission of instructor. One semester; one to three credits

SPEECH COURSE
SPCH 125. SPEECH COMMUNICATION
A study of the principles of public speaking. Emphasis placed on differences between spoken and written language, organization, persuasive argument, and delivery skills. One semester; three credits

SPORT MANAGEMENT COURSES
Requirements for the concentration are found on page 69.

SMGT 301. SPORT SPONSORSHIP AND SALES
Designs, structures, and strategies utilized to sell and generate revenue in the business cycle. This course will focus on sales proposal development, sponsor solicitations, licensing rights, new business development, endorsements and corporate partnerships. The course also provides an examination of ticket sales department structure, techniques, and strategies. Offered in the Spring semester. One semester; three credits

SMGT 315. SPORT FACILITY AND EVENT MANAGEMENT
Designed as an in-depth study of the managerial activities related to sport facilities and event operations. This course will focus on facility design, planning, personnel, marketing facilities and events, developing revenue streams, scheduling, and operating. An emphasis is placed on utilizing available resources to achieve organizational goals. Offered in the Fall semester. One semester; three credits

SMGT 410. MANAGEMENT OF SPORTS INDUSTRIES
Focuses on management concepts and business skills as they relate to the sports industry. An in-depth look at the organizational structure and method of operation of major sectors of the sports enterprise, examination of important contemporary issues in the sports industry and other administrative aspects of sports enterprises. Prerequisite: Junior standing. Offered in the Spring Semester. One semester; three credits

SMGT 420. MARKETING AND PUBLIC RELATIONS IN SPORTS
This course introduces students to marketing and public relations skills crucial to success in every sports business and examines the unique features of sports marketing that set sports apart from other industries. Includes marketing sport as a product and marketing non-sport products using sport as a promotional tool. Prerequisite: Junior standing. Offered in the Fall Semester. One semester; three credits

SMGT 430. SPORTS INDUSTRIES AND THE LAW
Focuses on an analysis of legal problems and issues confronting the sports manager including suits against the organization, safety, collective
SMGT 440. FINANCIAL MANAGEMENT FOR SPORTS ADMINISTRATION
An examination of financial methods and procedures as they apply to sports administration, taxation, valuation, cost analysis, and budgeting. Topics covered include accounting principles, financial statements, industry ratios, securing funds and related concepts that help determine the viability and strength of businesses in the sports industry. Prerequisite: junior standing. Offered in the Fall semester.

SMGT 450-454. SPECIAL TOPICS IN SPORTS MANAGEMENT
Selected topics of interest to individual students or small groups. One semester, three credits.

SMGT 455. PRACTICUM AND PROJECT IN SPORTS MANAGEMENT
This course is designed to explore and put to practical use the entire body of knowledge gained in previous SMGT courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student’s ability to apply classroom principles and skills to specific problems in the sports industry. Prerequisite: SMGT 410 and 420. Offered as needed.

■ STATISTICS COURSES

STAT 221. ELEMENTARY BUSINESS STATISTICS
A basic course in general statistical methods with applications in the field of business and economics. Content includes analysis of data in terms of measures of central tendency or averages, measures of dispersion and skewness, probability theory, and basic aspects of tests of hypotheses. Prerequisite: MATH 105, 117, 129 or 131 and MIS 153. One semester; three credits

STAT 222. INTERMEDIATE BUSINESS STATISTICS
A further study in statistical methods and its application in the field of business and economics. The course content consists of additional analysis on testing hypotheses; basic quality control evaluation; time series analysis including trend, seasonal and cyclical computations; index numbers, linear regression and correlation with an introductory approach to non-linear, multiple, partial and rank correlation. Prerequisite: MATH 105, 106, 117, 129 or 131, MIS 153 and STAT 221. 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. 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 227-230; 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. Eight semesters; two credits each

THEA 221. ACTING I
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. One semester; one to three credits each

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 321. ACTING II
Continues development of skills acquired in Acting 221 emphasizing emotional preparation, emotional activities, script analysis, and exploration of character through physical technique. Prerequisite THEA 221 or permission of department chair. One semester; three credits.

THEA 322. THEATRE CRITICISM
An examination of critical writings and opinions through the history of the theatre, past and present. The course will analyze and evaluate plays from a variety of critical perspectives. Three credits.

THEA 375. SENIOR RECITAL
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. Eight semesters; two credits each

THEA 401-402. INDEPENDENT STUDY IN THEATRE
An individual study project that will have as its end result the presentation of a well-researched thesis or an approved project in Fine Arts. Syllabus and credit hours contracted by the student with the Chair of the Visual & Performing Arts program. 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 455. PRACTICUM AND PROJECT IN SPORTS MANAGEMENT
This course is designed to explore and put to practical use the entire body of knowledge gained in previous SMGT courses. Project Management concepts will be covered, including use of project management tools. A comprehensive project will assess the student’s ability to apply classroom principles and skills to specific problems in the sports industry. Prerequisite: SMGT 410 and 420. Offered as needed.
MISSION

The mission of the College of Adult Professional Studies (CAPS) is to continue the Lasallian tradition by consistently providing quality education to adult learners and working professionals. CAPS strives to offer career-focused educational programs taught by esteemed faculty and practitioners with real-world experience. Through a philosophy of lifelong learning, our adult students are prepared to transform their lives, workplaces and communities.

PROGRAM DESCRIPTION

We understand that adult professional students are not traditional students. That is why our degree programs are designed with adults in mind. The College of Adult Professional Studies was created to meet the educational needs of working adults so they can realize their dreams of earning a college degree. CAPS presents a curriculum through which a student may earn an Associate's and/or Bachelor's degree by attending classes at times compatible with full-time employment. We offer an accelerated, flexible learning format with 8-week terms. Courses are offered in a hybrid model giving adult students face-to-face time with faculty and peers on CBU's midtown campus once a week along with the flexibility to complete the remaining coursework for the week online. All courses are offered one night per week at either 5:45pm - 7:45pm OR 7:55pm - 9:55pm, followed by three hours each week of online instruction via lecture/chat/online discussion/quiz & tests. Online course components for each course are available 24/7.

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.

CAPS ADMISSIONS & REGISTRATION

(See pages 14-17 in the 2013-14 Catalog for additional information)

An applicant may seek admission to a degree program or as a special student. Degree-seeking students are those working on an Associate's or Bachelor's degree at Christian Brothers University. An applicant for special status may be admitted as a special/conditional student or as a transient student.

Degree Student: A degree student is one who has been fully admitted to one of the CAPS degree programs.

Full-Time Student: A student who registers for 12 or more credit hours of course work in each full semester.

Part-Time Student: A student who is enrolled in less than 12 credit hours of course work in each full semester.

Special Student: A special student is one who is admitted conditionally or is a visiting student and is non-degree seeking.

Transient Student: A student who is a degree-seeking student at another college or university, enrolling 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.

Readmit Student: Students who have previously attended Christian Brothers University and have been out of school for at least two 8-week terms must submit an application for readmission. Approval from appropriate departments must be secured before readmission is granted.

ADMISSIONS PROCEDURES

• Complete an online application.
• Request official transcripts from ALL colleges/universities. If the student has earned less than 24 transferable hours of college credit, he/she must also request an official high school transcript.
• Apply for Federal Assistance by filing the Free Application for Federal Assistance (FAFSA), listing Christian Brothers University as one of the schools to receive the results of your evaluation. Our School Code number is 003482.
• Individual consideration will be given to applicants who may not meet all the specific requirements. Students desiring this consideration must submit a letter to support their ability to succeed in the program.

CAPS EXPENSES & FINANCIAL AID

(See pages 18-21 in the 2013-14 Catalog for additional information)

TUITION & FEES

The CAPS Program Tuition & Fees below apply to the 2013-2014 school year. Please note that all tuition and fees are subject to change at anytime when circumstances warrant.

Tuition (per credit hour) .......................................................... $395.00
Activity & Services Fee, per semester ...................................... $25.00
Technology Fee, per semester .................................................. $50.00
GENERAL EDUCATION COURSE REQUIREMENTS

(See page 23 for “The Pyramid of Learning”, “Student Outcomes” and “Matrix of G.E.R. Outcomes”)

MATHMATICS (3 hours)
MATH 104 or 105

STATISTICS (3 hours)
BUS 205, PSYC 354, STAT 221; this outcome can be challenged by the independent study course MATH 121.

ENGLISH (9 hours)
(a) Composition: ENG 110 & 120 (or equivalency examination).
(b) Literature: One of ENG 200, 220.

RELIGIOUS STUDIES (3 hours at 200 Level and 3 hours at 300 Level for Professional Psychology majors; Business Studies majors may take 6 hours at the 200 and/or 300 Level).

SOCIAL SCIENCE / HISTORY (6 hours)
(Professional Psychology majors must take PSYC 105 and SOC 101). 

NATURAL AND PHYSICAL SCIENCES (3-4 hours)
Any of the following courses: ANTH 126, 128, BIOL 103, 107, 109, 111; CHEM 113, 115; NSCI 111, 115, 122, 126, 128; PHYS 150, 201.

MORAL VALUES (3 hours)
PHIL 219, 220, 223, 224, 234, 324, 325, or 346.

AESTHETICS (3 hours)
ART 101; ENG 200, 220, SPAN 100, SPAN 101, SPAN 102, SPAN 201, SPAN 202; or any foreign language course.

ADULT PROFESSIONAL STUDIES CORE (12 Semester Hours)

ORIENTATION (3 hours)
ORIN 101

SPEECH (3 hours)
SPCH 125

FOREIGN LANGUAGE (3 hours)
SPAN 101

COMPUTER (3 hours)
MIS 153

The above courses have been approved to meet the outcomes as of this printing. Courses may meet more than one outcome; however, each student must take a minimum of 45 hours of General Education Courses. Special Topics courses (courses without a permanent course number or description) may be used to satisfy general education requirements, but must be approved on an annual basis by the College of Adult Professional Studies Curriculum Committee. Students should consult with their advisor before assuming a Special Topics course will meet a requirement.

CAPS ACADEMIC PROGRAMS

(See pages 22-31 for additional information)

ASSOCIATE OF ARTS IN GENERAL STUDIES

ASSOCIATE OF ARTS IN PROFESSIONAL PSYCHOLOGY

ASSOCIATE OF SCIENCE IN BUSINESS STUDIES

BACHELOR OF ARTS IN PROFESSIONAL PSYCHOLOGY

The Bachelor of Arts in Psychology provides fundamentals of psychology, with focus in areas of demand and growth potential with concentrations in:

• CRIMINAL JUSTICE: Designed to provide a broad understanding of the criminal justice system and a fundamental knowledge of the social and behavioral sciences, focusing on topics such as criminology, law enforcement, corrections, public administration, juvenile justice, and counseling.

• ORGANIZATIONAL PSYCHOLOGY: Designed to apply the principles and science of psychology to human resources development and management, focusing on the psychology of organizations, motivations and supervision, employee selection and development, legal considerations, evaluation, and organizational development.

• CONSUMER BEHAVIOR: Designed to give understanding of motivation, persuasion, sales, and promotional strategy to support marketing efforts in a business environment.

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.

BACHELOR OF SCIENCE IN BUSINESS STUDIES

A Bachelor of Science in Business Studies gives the student an edge by preparing them for leadership roles in the business world. Learn organizational behavior, corporate planning, international business, and strategic planning with concentrations in:

• MANAGEMENT: Designed to endow you with the knowledge, analytic capability, critical thinking, leadership skills, and responsibility essential to successful and responsible business careers in a rapidly changing and technologically driven global business environment.

• MANAGEMENT OF INFORMATION SYSTEMS: MIS combines Computer Science with core business courses, and is designed to provide you with necessary skill sets in information systems project management, database management, networks, and web development to join the workforce in the various lucrative fields of information technology (IT). Coursework focuses on topics such as networking and security, systems design and analysis, database design and mining, web applications and development, and project management.

CAPS CLASS ATTENDANCE POLICY

Accelerated hybrid courses meet for “in-class” and “online” learning; therefore, students are expected to attend all in-class sessions and to participate in all online sessions as required by the instructor. Failure to do so may be considered an unexcused absence without prior approval by the course instructor. An absence is defined as (1) failure to attend a face to face class session and/or (2) failure to submit at least one piece of graded online coursework in a given week. In the case of major emergencies (including but not limited to: serious illness/injury, military deployment and work-related travel) the professor may assign extra course work for the student. It is the student’s responsibility to communicate with professor about any circumstances that conflict with class attendance. If a student accumulates two or more unexcused absences during an eight week term, the final grade can be lowered a letter grade at the discretion of the professor. Tardiness disrupts the class and disturbs other classmates; therefore, punctuality for all classes is essential.

CAPS CODE OF CONDUCT

The student is expected to commit to the highest level of academic integrity when involved in and fulfilling requirements for this program. Academic dishonesty on any level and of any form will not be tolerated. This applies not only to active involvement but also to passive knowledge.

Any student involved in academic dishonesty will be dropped from the course and assigned a grade of “F” for the course. Furthermore, academic dishonesty may result in the dismissal or expulsion of the student from the program and/or the University.

CAPS CLASS SCHEDULE

The College of Adult Professional Studies offers 5 nights week terms per year - August, October, January, March, and June. All CAPS courses are taught as evening classes meeting one night per week, with each session lasting two hours (either 5:45pm - 7:45pm OR 7:55pm - 9:55pm).
### COURSE REQUIREMENTS FOR ASSOCIATE OF ARTS IN PROFESSIONAL PSYCHOLOGY

#### GENERAL EDUCATION REQUIREMENTS: (Refer to Page 192 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Critical Reading &amp; Writing</td>
<td>ENGL 110</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Research</td>
<td>ENGL 120</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Advanced Reading &amp; Research</td>
<td>ENGL 200</td>
<td>3</td>
<td></td>
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<tr>
<td>Mathematics</td>
<td>MATH 105</td>
<td>3</td>
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<td>Philosophy/Moral Values</td>
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<td>3</td>
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<tr>
<td>Social Science or History</td>
<td>#</td>
<td>3</td>
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<tr>
<td>Religious Studies-RS</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies-RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td>#</td>
<td>3</td>
<td>Fulfilled by Foreign Language Requirement</td>
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</table>

**TOTAL HOURS FOR GER** 30

#### ADULT PROFESSIONAL STUDIES CORE REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Foundation of Excellence</td>
<td>ORIN 101</td>
<td>3</td>
<td></td>
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<tr>
<td>Speech</td>
<td>SPCH 125</td>
<td>3</td>
<td></td>
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<tr>
<td>Foreign Language</td>
<td>SPAN 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>MIS 153</td>
<td>3</td>
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</tbody>
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**TOTAL HOURS FOR APS CORE** 12

#### FREE ELECTIVES

<table>
<thead>
<tr>
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<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Free Electives</td>
<td></td>
<td>24</td>
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</table>

**TOTAL HOURS FOR ELECTIVES** 24

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . 66** 2.0 CUMULATIVE GPA REQUIRED

### COURSE REQUIREMENTS FOR ASSOCIATE OF ARTS IN GENERAL STUDIES

#### GENERAL EDUCATION REQUIREMENTS: (Refer to Page 192 for Course Options)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Critical Reading &amp; Writing</td>
<td>ENGL 110</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Research</td>
<td>ENGL 120</td>
<td>3</td>
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</tr>
<tr>
<td>Advanced Reading &amp; Research</td>
<td>ENGL 200</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>MATH 105</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy/Moral Values</td>
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<td>Choose from: PHIL 215, 220, 223, 224, 234, 322, or 324</td>
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<tr>
<td>Natural or Physical Science</td>
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<td>3</td>
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</tr>
<tr>
<td>Social Science or History</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies-RS</td>
<td>#</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Religious Studies-RS (300 Level)</td>
<td>#</td>
<td>3</td>
<td></td>
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<tr>
<td>Aesthetics</td>
<td>#</td>
<td>3</td>
<td>Fulfilled by Foreign Language Requirement</td>
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</table>

**TOTAL HOURS FOR GER** 30

#### ADULT PROFESSIONAL STUDIES CORE REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
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<th>NOTES</th>
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<tbody>
<tr>
<td>Foundation of Excellence</td>
<td>ORIN 101</td>
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<tr>
<td>Speech</td>
<td>SPCH 125</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>SPAN 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>MIS 153</td>
<td>3</td>
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**TOTAL HOURS FOR APS CORE** 12

#### SCHOOL OF ARTS CORE REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
<th>CREDITS</th>
<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Cultural Anthropology</td>
<td>SOC 101</td>
<td>3</td>
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<tr>
<td>Human Development</td>
<td>PSYC 218</td>
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<tr>
<td>Personality</td>
<td>PSYC 319</td>
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<tr>
<td>Psychopathology</td>
<td>PSYC 317</td>
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**TOTAL HOURS FOR PSYC CORE** 12

#### FREE ELECTIVES

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<tr>
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<th>COURSE NUMBER</th>
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<th>NOTES</th>
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</thead>
<tbody>
<tr>
<td>Free Electives</td>
<td></td>
<td>12</td>
<td></td>
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</tbody>
</table>

**TOTAL HOURS FOR ELECTIVES** 12

**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION . . . 66** 2.0 CUMULATIVE GPA REQUIRED
### General Education Requirements:
- **Critical Reading & Writing** 3 credits (ENG 110)
- **Writing & Research** 3 credits (ENG 120)
- **Advanced Writing & Research I** 3 credits (ENG 200 or ENG 201)
- **Mathematics** 3 credits (MATH 104)
- **Philosophy/Moral Values** 3 credits (Choose from PHIL 219, 220, 223, 224, 234, 322, 324, 325, or 340)
- **Natural or Physical Science** 3 credits
- **Social Science or History** 3 credits
- **Social Science, Political Science or History** 3 credits
- **Religious Studies** 3 credits (Choose from PHIL 219, 220, 223, 224, 234, 322, 324, 325 or 340)
- **Aesthetics** 3 credits
- **Total Hours for General Education Requirements** 30

### Adverse Professional Studies Core Requirements:
- **Foundation of Excellence** 3 credits (ORIN 101)
- **Speech** 3 credits (SPCH 125)
- **Foreign Language** 3 credits (SPAN 101)
- **Computer** 3 credits (MIS 153)
- **Total Hours for APS Core** 12

### School of Business Core Requirements:
- **Financial Accounting** 3 credits (ACCT 260)
- **Business Law I** 3 credits (BLAW 301)
- **Principles of Microeconomics** 3 credits (ECON 214)
- **Principles of Organization & Management** 3 credits (MGMT 317)
- **Principles of Marketing** 3 credits
- **Total Hours for Business Core** 15

### Free Electives:
- **Total Hours for Electives** 9

**Total Credits Required for Bachelor Degree Completion**: 66

2.0 Cumulative GPA Required

### School of Business Major Requirements: 2.0 GPA in Major/Concentration Required:
- **Financial Accounting** 3 credits (ACCT 260)
- **Managerial Accounting** 3 credits (ACCT 270)
- **Business Law I** 3 credits (BLAW 301)
- **Business Law II** 3 credits (BLAW 302)
- **Business Research Methods** 3 credits (BUS 206)
- **Principles of Microeconomics** 3 credits (ECON 214)
- **Principles of Macroeconomics** 3 credits (ECON 215)
- **Managerial Economics** 3 credits (ECON 420)
- **Business Writing** 3 credits (ENG 371)
- **Financial Management I** 3 credits (FIN 327)
- **Financial Management II** 3 credits (FIN 427)
- **Principles of Organization & Management** 3 credits (MGMT 317)
- **Business Policy Strategic Planning** 3 credits (MGMT 498)
- **Introduction to MIS** 3 credits (MIS 231)
- **Principles of Marketing** 3 credits
- **Total Hours for Major Area** 45

Management or Management Information Systems Concentrations: See Next Page

**Total Hours for Major & Concentration**: 60

### School of Business Major-Specific Electives:
- **Upper Division Business Electives** 9 credits
- **Free Electives** 9 credits
- **Total Hours for Electives** 18

**Total Credits Required for Bachelor Degree Completion**: 123
## Course Requirements for Bachelor of Arts in Professional Psychology

### General Education Requirements: (If - Refer to Page 192 for Course Options)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Critical Reading &amp; Writing</td>
<td>ENG 110</td>
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<tr>
<td>Writing &amp; Research</td>
<td>ENG 120</td>
<td>3</td>
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</tr>
<tr>
<td>Advanced Writing &amp; Research I / II</td>
<td>ENG 220 or 220</td>
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<tr>
<td>Mathematics</td>
<td>MAT 104</td>
<td>3</td>
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<tr>
<td>Statistics</td>
<td>PSYC 235</td>
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<td>Philosophy/Moral Values</td>
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<td>Natural or Physical Science</td>
<td>#</td>
<td>3</td>
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<tr>
<td>Social Science or History</td>
<td>SOC 101</td>
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<td>Social Science or History</td>
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<td>Grade of &quot;C&quot; or Higher Required</td>
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<tr>
<td>Religious Studies–RS (300 Level)</td>
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<td>Aesthetics</td>
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**TOTAL HOURS FOR GER**: 33

### Adult Professional Studies Core Requirements

<table>
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<th>Course</th>
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<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Foundation of Excellence</td>
<td>ORIN 101</td>
<td>3</td>
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<tr>
<td>Speech</td>
<td>SPCH 125</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>SPAN 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>MIS 153</td>
<td>3</td>
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</table>

**TOTAL HOURS FOR APS CORE**: 12

### Liberal Arts Core Requirements: (*One course from Social Sciences or Humanities Cluster must have a "global perspective")

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<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>Foreign Language</td>
<td>SPAN 102, 201 &amp; 202</td>
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<tr>
<td>Fine Arts</td>
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<tr>
<td>School Of Arts Electives</td>
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</table>

**TOTAL HOURS FOR APS CORE**: 15

### Professional Psychology Major Requirements: (Applied Psychology Concentration Required)(2.0 GPA in Major Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Cultural Anthropology</td>
<td>ANTH/PSY 160</td>
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<tr>
<td>Personality</td>
<td>PSYC 215</td>
<td>3</td>
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<tr>
<td>Psychopathology</td>
<td>PSYC 317</td>
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<tr>
<td>Social Psychology</td>
<td>PSYC 353</td>
<td>3</td>
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<tr>
<td>Quantitative Research Methods &amp; Statistics</td>
<td>PSYC 354</td>
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<td>Cognitive Psychology</td>
<td>PSYC 440</td>
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<tr>
<td>Practicum In Psychology</td>
<td>PSYC 440</td>
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<td>Psychology Comprehensive Exams</td>
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**TOTAL HOURS FOR PROFESSIONAL PSYCHOLOGY**: 21

### Org. Psyc., Criminal Justice or Consumer Behavior Concentration Requirements: (See Next Page for Requirements)(2.0 GPA in Conc. Required)

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Professional Psychology Concentration</td>
<td>See Next Page</td>
<td>27-30</td>
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**TOTAL MAJOR REQUIREMENTS**: 48-51

### Free Electives

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**TOTAL CREDITS REQUIRED FOR BACHELOR DEGREE COMPLETION**: 123

**2.0 CUMULATIVE GPA REQUIRED**
CONCENTRATION REQUIREMENTS FOR BACHELOR OF ARTS IN PROFESSIONAL PSYCHOLOGY

(All Applied Psychology majors are required to select one of the following concentrations. A 2.0 GPA is required in concentration."

**CONSUMER BEHAVIOR REQUIREMENTS**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Principles of Microeconomics</td>
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<tr>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Marketing Research &amp; Intelligence</td>
<td>3</td>
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<tr>
<td>Market &amp; Consumer Behavior</td>
<td>3</td>
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<tr>
<td>Selling &amp; Sales Management</td>
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</tr>
<tr>
<td>Promotional Strategy</td>
<td>3</td>
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<tr>
<td>Problem Solving &amp; Decision Making</td>
<td>3</td>
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<tr>
<td>Human Factors</td>
<td>3</td>
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<tr>
<td>Psychology of Persuasion</td>
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**TOTAL HOURS FOR CBH CONCENTRATION**

30

**CRIMINAL JUSTICE REQUIREMENTS**

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<tr>
<td>Public Administration</td>
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<td>Criminal Justice</td>
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<td>Criminology</td>
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<tr>
<td>Criminal Law</td>
<td>3</td>
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<tr>
<td>Corrections or Policing</td>
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<tr>
<td>Juvenile Justice</td>
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<tr>
<td>Criminal Justice Elective</td>
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**TOTAL HOURS FOR CJ CONCENTRATION**

27

**ORGANIZATIONAL PSYCHOLOGY REQUIREMENTS**

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<td>Principles of Microeconomics</td>
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<td>Principles of Macroeconomics</td>
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<tr>
<td>International Business</td>
<td>3</td>
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<tr>
<td>Organizational Behavior &amp; Management</td>
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<tr>
<td>Principles of Organization &amp; Management</td>
<td>3</td>
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<tr>
<td>Human Resources Management</td>
<td>3</td>
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<td>Principles of Marketing</td>
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<tr>
<td>Industrial &amp; Organizational Psychology</td>
<td>3</td>
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<tr>
<td>School of Business Elective</td>
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</table>

**TOTAL HOURS FOR OPST CONCENTRATION**

30

**ACADEMIC COURSES**

Christian Brothers University reserves the right to cancel classes at any time due to insufficient enrollment.

**ALG 105. INTRODUCTORY ALGEBRA**

This course is designed for students who need a review in basic math skills. Topics include real number operations, exponents, percents, and an introduction to variables and algebraic expressions. The course does not supply any portion of the math credits required in any CBU degree program. Students may not receive credit for Algebra 105 after completing any Math course numbered 100 or above. One Semester; three credits

**ALG 108. INTRODUCTORY ALGEBRA II**

This course is a continuation of Algebra 105. Topics include exponents, polynomial operations, factoring, rational expressions, and solving equations and inequalities. The course does not supply any portion of the math credits required in any CBU degree program. Students may not receive credit for Algebra 108 after completing any Math course numbered 100 or above. One Semester; three credits

**ALG 118. INTRODUCTORY ALGEBRA III**

This course is a continuation of Algebra 108. Topics include graphing linear equations and inequalities, solving systems of linear equations, application problems, solving quadratic and rational equations, and radicals. The course does not supply any portion of the math credits required in any CBU degree program. Students may not receive credit for Algebra 108 after completing any Math course numbered 100 or above. Prerequisite: ALG 108. One Semester; three credits

**BUS 205. BUSINESS PROBABILITY AND STATISTICS**

This course covers basic concepts and methods of probability and statistics for use in the business disciplines. Topics include: quantitative analysis, measurement scales, analysis and description of data, types and methods for probability estimation, probability distributions, and measures of central tendency, skewness, and dispersion. Use of computer spreadsheet models for probability and statistics is covered. Prerequisites: MIS 153, MATH 105 or higher, and admission to the CAPS program. One semester; three credits

**BUS 266. BUSINESS RESEARCH METHODS**

This course covers the basic concepts and methods for business research data analysis. Topics covered include estimation, inference, analysis of variance, regression, and hypothesis testing. These are illustrated using modern computer spreadsheet models. Prerequisites: BUS 205 or STAT 221, MIS 153, MATH 105, and admission to the CAPS program. One semester; three credits

**ENG 110. CRITICAL READING AND WRITING**

Prerequisite: Satisfactory performance on a placement test. Practice in effective writing and clear thinking at all levels, with emphasis on reading comprehension and the essay response. Specific steps include: formulating purpose, identifying an audience, thesis development, and organization of cohesive essays through the process of prewriting, composing, and rewriting. (Same as ENG 111) One Semester; three credits

**ENG 120. WRITING AND RESEARCH**

This course emphasizes the process of constructing a focused, logical, coherent, well-supported thesis or point of view. The objective is to critically analyze sources and effectively integrate source material into complex arguments appropriate to audience, purpose, and occasion. Students will employ prewriting exercises, correct use of source citations, and editing for clarity. This course culminates in submission of a research paper. (Same as ENG 112) One Semester; three credits

**ENG 200. ADVANCED WRITING AND READING I**

Instructors select specific topics of study for this course. This will be used as a mechanism to emphasize the interconnectedness of reading and writing. Practice in analysis of information and ideas, planning and developing these, structuring research papers, and writing bibliographies is emphasized. In addition, students read, reflect, and report on written works in order to develop and deepen analytical and argumentative writing and research skills. Course content may vary. (Same as ENG 211) One Semester; three credits

**ENG 220. ADVANCED WRITING AND READING II**

Instructors select specific topics of study for this course, which will serve as mechanisms to emphasize the interconnectedness of reading and writing. Continued practice in analysis of information and ideas, planning and developing these, structuring research papers, and writing bibliographies is emphasized. In addition, students read, reflect, and report on written works in order to develop and deepen analytical and argumentative writing and research skills. Course content may vary. (Same as ENG 212) One Semester; three credits

**MATH 104. INTRODUCTORY APPLIED MATH**

This course contains introductory topics in mathematics for students in arts and business. Topics include lines, linear systems, linear programming, financial math and an introduction to statistics. Prerequisite: ALG 118 or equivalent. (Same as MATH 105) One Semester; three credits

**MATH 105. FOUNDATION FOR EXCELLENCE**

This course is designed to prepare the returning adult student to succeed in the accelerated program and includes an introduction to the concepts of study skills, personal management, and adult learning as well as the written and oral communications skills needed in the program. In addition, this course is intended to facilitate a dynamic learning opportunity for students about creating and achieving healthy living goals. Students will explore and create relationships with other participants to aid them in their end goal of creating a healthy living plan for their own use. One Semester; three credits

**SPAN 100. CONVERSATIONAL SPANISH**

This course takes a blended learning approach and is designed to promote conversational fluency through proper and practical use of fundamental grammar, vocabulary, and syntax. The main emphasis will be on oral communication, with fluency of oral-aural skills as the main objective. (Not open for credit to native speakers of Spanish.) 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 Accountancy
Master of Business Administration
Master of International Business

SCHOOL OF ENGINEERING
Master of Science in Engineering Management

SCHOOL OF SCIENCE
Master of Science in Physician Assistant Studies

GRADUATE ADMISSIONS POLICIES - DEGREE SEEKING STATUS

A bachelor’s degree or its equivalent from an accredited American college or university or from a foreign institution of acceptable standing is required for admission. Each applicant is admitted on the presumption that a bachelor’s degree or its equivalent will be earned by the time of graduate matriculation, or the student’s admission is void.

Applicants for admission to a master’s degree program at Christian Brothers University should demonstrate a high promise of success and should submit:

1. One official transcript of previous academic credits from each of the colleges or universities previously attended (official transcripts submitted that are not in English will require an official translation); MAT and Licensure only candidates must submit 2 copies of official transcripts for each college or university 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) Proof of English proficiency if English is not their native language or was not the language of instruction for their baccalaureate degree, or if they do not hold a graduate degree from a regionally accredited United States institution of higher learning. Proof of English proficiency may be shown by means of the TOEFL exams, IELTS, CAE or CPE. Minimum TOEFL scores are 500 for the paper version, 173 for the computer-based test, 61 for the internet-based tests, IELTS (score 5), CAE (grade C) or CPE (grade C).

5. • MAT and Post-Baccalaureate Teacher Education Program - Acceptable score on the Praxis I, Graduate Record Examination (GRE), or Miller Analogies Test (MAT). Pass the Content Knowledge Praxis II in the area in which you are seeking licensure.

• MED - Acceptable score on the Graduate Record Examination (GRE) or Miller Analogies Test. Exemption granted for those who hold an Apprentice or Professional teaching license and have attained an acceptable G.P.A. in their professional education coursework or hold a transitional or interim license but have passed all Praxis II tests required for license and have attained an acceptable G.P.A. in their professional education coursework.

• MSEL and Fast Track Educational Leadership Program – Admissions testing not required for those who hold an Apprentice or Professional License and have at least three years of teaching experience. The Fast Track requires individuals to already possess a master’s degree.

• MAcc - Official test score report from GMAT (waived for CBU BS in Accounting and BSBA Finance concentration students). Successful completion of an undergraduate degree with a major in accounting or the equivalent coursework. Applicants must meet the general requirements for entry into a Graduate Program at Christian Brothers University as well as the standards for admission to the Master of Accountancy Program. The admissions committee of the Master of Accountancy program bases all decisions upon the prospective student’s overall and accounting grade point averages (GPA)’s, the personal interview, personal and professional references, GMAT score, knowledge of the profession and prior accounting experiences.

Applicants are required to have the following course equivalencies (prerequisites) prior to beginning the MAcc:

• ACCT 260 - Accounting Principles
• ACCT 270 - Managerial Accounting
• ACCT 312 - Accounting Systems
• ACCT 319 - Cost Accounting
• ACCT 412 - Auditing
• ACCT 430 - Federal Income Tax I
• MBA - Official test score report from GMAT or GRE. Documentation of previously earned graduate degree or professional certification may be accepted as a waiver of this requirement at the discretion of the MBA Director.

• MIB – Proof of previously earned master’s degree in a business related field from an accredited institution. Official score report from GMAT or GRE may also be required at the discretion of the Director of Graduate Business Programs.
Each applicant will be notified officially of the results of their application by a letter from a Graduate Program Director. Official acceptance to the
program will govern the student’s program. The PA Program does not provide advanced standing or transfer of academic credit from other Physician Assistant programs. The program has
received provisional accreditation from ARC-PA, the national accrediting agency for Physician Assistant education. The PA Program does not provide advanced standing or transfer of academic credit from other Physician Assistant programs. The program has received provisional accreditation from ARC-PA, the national accrediting agency for Physician Assistant education.

Academic exposure to the following courses will enhance the potential success of a candidate for entry into the program:

• PAS 400 Introductory Clerkship I
• PAS 401 Introductory Clerkship II
• PAS 403 Medical Terminology (Bio 213 may be substituted if offered in Fall Semester.)
• PAS 403 Medical Terminology

Applicants should be aware that completion of all prerequisites does not guarantee and interview or acceptance into the CBU PA Program. The PA Program does not provide advanced standing or transfer of academic credit from other Physician Assistant programs. The program has received provisional accreditation from ARC-PA, the national accrediting agency for Physician Assistant education.

6. And any other requirements set by a specific graduate program.

GRADUATE ADMISSIONS POLICIES - NON-DEGREE SEEKING STATUS

Applicants for admission for non-degree status are required to submit a completed Graduate School Application Form and one official transcript of all previous academic credits from each of the colleges and universities attended. Permission of the graduate director over the course area is required before the special graduate status will be granted. Because students admitted to this status are not officially admitted to a degree program, they are not eligible for federal financial aid. Students wishing to become degree seeking must reapply through the appropriate admission office and meet all other admission requirements for a degree-seeking status. Requirements and regulations prevailing for the semester of formal admission to a graduate program will govern the student's program.

Students unable to submit an official transcript from each previous college or university attended have until the first semester to submit the required documents if they submit the minimum requirements which follow:

1. Graduate Student Application
2. One official transcript providing evidence of a bachelor degree awarded from a regionally accredited college or university in the United States or have acceptable proof of an equivalent degree from a foreign institution
3. Any other materials required by the graduate department

Students in this status must complete the admission process within the first semester by providing all official transcripts from every university attended along with any additional credentials specified by the graduate program director. If all the transcripts and specified credentials are not received by the end of the first semester, the student will not be allowed to continue.

Falsification of admission records by the student is grounds for immediate dismissal.

Each applicant will be notified officially of the results of their application by a letter from a Graduate Program Director. Official acceptance to the
MINIMUM QUALITY POINTS are used to compute the student’s grade point average (GPA). The GPA is the ratio of accumulated quality points to accumulated earned semester credit hours.

Only graduate courses earned at the 600 level or above at Christian Brothers University are included in the computation for graduation.

THE WITHDRAWAL GRADE “W” is given for a course taken by the student who is allowed to withdraw from the course after the add/drop period and before the end of the withdrawal period. The last day for withdrawing from a course is listed in the University Calendar posted on the CBU web site.

THE INCOMPLETE GRADE “I”

Instructors will not assign a grade of “I” to a student for failing to submit required work. Alternatively, an instructor may agree to give a student a temporary grade of “I” if asked by the student in a timely fashion. Instructors are under no obligation to agree to give a grade of “I.” The grade of “I” can only be given after the student, the instructor and the dean of the particular school in which the incompleting grade is being given sign an “Incomplete Contract” specifying the work to be completed and return it to the Registrar’s Office for the posting of the incomplete grade. Incompletes can only be given if the paperwork is completed at least one week prior to the deadline for entering grades. Exceptions to this deadline may only be made by the Associate Registrar. This will only be granted for a documented illness, a serious family emergency, or another issue of comparable magnitude. Requests made by students for an exception to this deadline must be received by the Graduate Registrar by the last day of term. The “I” grade will not be computed in the GPA. When the “I” is changed to a grade, the grade will be calculated into the GPA, and the “I” will now show to the new grade. The “I” grade does not satisfy the prerequisite if the course is used to continue to the next course. The grade is changed to and “FI” if all the work is not completed by the midterms of the following semester for day courses or the end of the following term for evening courses. The “Incomplete Contract” form is located on the website at http://www.cbu.edu/registrar/forms.html.

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

GRADE CHANGES

Grade changes for prior semesters submitted after the mid-point of the following semester will require the faculty member’s signature as well as the signature of the Graduate Program Director and Dean of the school before the grade change can be processed by the Registrar’s Office. Students who are graduating may not have a grade changed once the graduation is finalized and the graduating GPA is locked in. Graduating students only have three business days after the official graduation date to remove an incomplete grade and graduate. If this is not done, the student’s graduation date is postponed, and the student must refile for graduation.

GRADE APPEALS

A student who has evidence that he or she has been assigned a final grade in a capricious, prejudicial, or arbitrary manner may appeal the assigned grade within two weeks after the beginning of the subsequent academic semester (or term). The student should file for a grade appeal formally in the Academic Affairs Office. Then, the student should discuss the grade in question with the professor asked to have the grade changed. If the grade change is not obtained, the student may then appeal the case to the Grade Appeals Committee. The judgment of the Committee is final.

REPEATING COURSES

A graduate course may be repeated only once (a total of two enrollments) in an attempt to improve the grade. The last grade received in a course is used in the calculation of the student’s grade point average. A student may not repeat any course off-campus that has been previously attempted.

MINIMUM QUALITY POINTS

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.

EXPERIMENTAL ASSESSMENT

Students may apply for and be granted college-level credit for knowledge and understanding related to the student’s degree program and gained from work-size or other experiences. Documentation is evaluated for credit by the Graduate Program Director in the area in which credit is sought. The student must submit all appropriate documentation to the Graduate Program Director along with the “Experiential and Non-Credit Learning Assessment” application and the application fee. The Graduate Program Director will complete the evaluation form detailing what, if any, credit should be awarded. Upon payment of appropriate fees the Registrar’s Office will be notified to post the credit. The credit awarded will not be posted to the student’s transcript until the student has earned 12 hours of academic credit at Christian Brothers University.

GRADUATION

Christian Brothers University has only one Graduation Ceremony a year in May, although there are three official graduation dates. Students may graduate in May, August, or December. Only those students who can complete their course work in within the academic year of the graduating ceremony can walk. Graduating students also have three business days after the official graduation date to remove any Incomplete grades, send in any transcripts from other universities, or to have a grade changed in order to be graduated for a particular graduation date. Once a student is graduated, his or her cumulative graduating GPA is locked in and no grade change can be made. Once a student graduates and wants to come back to CBU to take additional courses or enter another program, he or she must contact the Adult Professional Studies Office and reapply for the new program. Students must file an online “Intent-to-Graduate” form on the Registrar’s Web page. If the deadline is not met, a $50.00 non-refundable late fee is assessed and the student will be graduated the next available graduation date.

ATTENDANCE

Any student who has missed a total of eight (8) hours of class time may be given a grade of “F” after the last day to withdraw from classes has passed. All students are expected to attend class beginning with the first class meeting. Students taking courses in the 8-week accelerated programs should plan to attend the first class meeting as each class is equivalent to one week of class time.

TRANSFER CREDITS

A student may transfer credits earned at another accredited college or university only if:

1. the student is a degree student,
2. the courses to be transferred are graduate courses appropriate to the Christian Brothers University graduate program,
3. prior courses were completed within five years before admission to the Christian Brothers University graduate program,
4. grade of “B” (3.0 on a scale of 4.0) or better was achieved, and
5. the transfer is recommended by the Graduate Director and notification sent to the Registrar’s Office.

A maximum of nine semester credit hours with grades of B or better may be transferred from another college or university.

UNDERGRADUATES TAKING GRADUATE LEVEL COURSES

Undergraduate seniors with special permission may be allowed to take up to nine hours of graduate level coursework. An undergraduate student wishing to use the graduate credit as part of their total number of hours for the undergraduate degree may not use course(s) as part of the master’s program. Students should consult with the Office of Financial Assistance for additional eligibility requirements. Students enrolled in a dual enrollment pathway may be allowed additional credit.

POLICY FOR WITHDRAWAL FROM CLASS

Requests for course withdrawals, both complete and partial, must be submitted to the Office of the Registrar by the student. Partial requests are made by completing the online “Withdrawal” form located on the Registrar’s Web page. Anyone requesting a “complete withdrawal” will be required to come to the Registrar’s Office to secure the necessary signatures to complete the withdrawal process. The date on the “complete withdrawal” form will count as the official date of notification for processing the withdrawal. This is the date that will be used by all offices for processing the withdrawal, return to Title IV calculation, and tuition adjustments.

If a faculty member assigns a failing grade for a course due to academic misconduct (e.g. plagiarism, cheating, etc.), a grade of “F” will be immediately assigned, and a withdrawal will be prohibited. If the student wishes to appeal his or her final grade for the course, the student may immediately begin the grade appeal process.

OBTAINING A SECOND MASTER’S DEGREE AT CBU

Any student interested in completing a second master’s degree at CBU can do so (at the discretion of the Program Director of the particular program) by taking an additional 20-26 graduate credit hours depending on program. Program directors of each program will specify which additional courses must be taken to fulfill additional credit hour requirements. Admission policies and procedures are the same as those for any student applying to the program, except that an application fee is not required. Grades for the courses being credited toward the second degree program will be used to calculate the GPA for both degrees. Students must have at
least a 3.0 cumulative graduate grade point average for the required courses in each of the programs. Students seeking a second degree are subject to the policies and procedures of each degree program.

For those students seeking a second degree in the MED and MSEL programs, a minimum of 21 hours must be completed in the second degree program.

GRADUATE EXPENSES PER SEMESTER 2014-15

**Tuition**
- Master of Accountancy, per semester hour (includes books and meals) .................................................. $695.00
- Master of Business Administration, per semester hour (includes books and meals) ......................... $695.00
- Master of Engineering, per semester hour (includes books and meals) .............................................. $6,562.50
- Master of Engineering Management, per semester hour (includes books and meals) ...................... $695.00
- Master of Education, per semester hour ............................................................................................... $565.00
- Master of Arts in Teaching, per semester hour ...................................................................................... $565.00
- Master of Science in Educational Leadership, per semester hour ....................................................... $565.00
- Master of Science in Engineering Management (includes books and meals) ........................................ $695.00
- Master of Arts in Catholic Studies ....................................................................................................... $4,200.00
- Master of Science in Physician Assistant Studies, (cohort II) per semester ......................................... $11,300.00

**OTHER FEES**
- Application Fee, Graduate Education (payable only once) Non-Refundable ........................................... $35.00
- Late Registration, Non-Refundable ........................................................................................................ $250.00
- Technology Fee ....................................................................................................................................... $70.00
- Intern/Student Teaching Fee ................................................................................................................. $150.00
- Alternative License Type Fee ................................................................................................................. $50.00
- MSEL Administrative Internship Fee ..................................................................................................... $100.00
- MSEL Practicum Fee ............................................................................................................................... $625.00
- Experiential Credit Assessment Fee ..................................................................................................... $50.00
- Experiential Credit Posting Fee ........................................................................................................... $100.00
- Experiential Credit Graduate, per credit hour fee ............................................................................... $150.00
- Returned Check Charge ......................................................................................................................... $30.00
- Graduation Fee (payable per degree, non-refundable) ......................................................................... $100.00

**ADDITIONAL REQUIRED FEES AND EXPENSES FOR PHYSICIAN ASSISTANT PROGRAM**
- Background check & Drug Screen ........................................................................................................ $65.00
- Drug Screen, (annual) ............................................................................................................................. $80.00
- Books, (for entire program) ...................................................................................................................... $2000-$2300
- Medical equipment, (for entire program) ............................................................................................... $700-$1000
- Uniforms, (for entire program) ................................................................................................................ $125
- ADA dues, (highly recommended) .......................................................................................................... $75
- TAPA dues, (highly recommended) ......................................................................................................... $80
- Security Deposit for Housing .................................................................................................................. $500
- Cancellation/Withdrawal Fee ................................................................................................................ $500
- Course Remediation Fee ....................................................................................................................... $3000 for up to 3 hours, $500 for each additional hour

All additional required fees and expenses are estimated and/or subject to change. Students must show proof of health insurance at the beginning of each year.

Policies regarding expenses and financial aid are found on page 18.

All tuition and fees are subject to change at any time when circumstances so warrant. Information on indirect costs (books, transportation, etc.) is available in the Student Financial Assistance Office.
MASTER OF ARTS IN TEACHING (MAT) TRANSITION LICENSURE OPTION

The alternative licensure options for the MAT degree at Christian Brothers University are not available to all candidates for the MAT. The individual applicant for a transition licensure program, as required by the State of Tennessee, is jointly selected for admission into the program simultaneous with an offer of employment as a teacher of record into a school district, system, or school with which Christian Brothers University has established a particular partnership. Those admitted to a transition licensure program are part of a cohort and must proceed at the same pace as other cohort members to maintain eligibility for the program. The MAT program for transition licensure differs from the regular MAT 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, MAT candidates in a transition licensure program take a series of practical courses in conjunction with their status in the program. Each course holds one credit, however a $625 fee is attached to each course.

ADDITIONAL COURSES REQUIRED FOR ADDITIONAL ENDORSEMENTS

Additional courses for additional endorsements are selected from among licensure requirements used for the MAT 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 MEd must be complemented by successful completion of all additional requirements before CBU recommends for the additional endorsement.
## COURSE REQUIREMENTS FOR MASTER OF ARTS IN TEACHING (CONT'D)

### SPED

<table>
<thead>
<tr>
<th>Course Description</th>
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<th>Credits</th>
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<tr>
<td>Direct Instruction for Exceptional Learners</td>
<td>EDDL 633</td>
<td>3</td>
<td></td>
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<tr>
<td>Models of Instruction for Exceptional Learners</td>
<td>EDDL 634</td>
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<td>Assessment of Exceptional Learners</td>
<td>EDDL 640</td>
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<td>Family Consultation &amp; Support</td>
<td>EDDL 651</td>
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<td>Inclusion &amp; The General Setting</td>
<td>EDDL 652</td>
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### VISUAL ART

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<tr>
<td>Child Development &amp; Learning</td>
<td>EDPD 615</td>
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<tr>
<td>Adolescent Development &amp; Learning</td>
<td>EDPD 617</td>
<td>3</td>
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<tr>
<td>Literacy Across The Curriculum</td>
<td>READ 628</td>
<td>3</td>
<td></td>
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<tr>
<td>Teaching Visual Arts, K-12</td>
<td>CIED 630</td>
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<tr>
<td>Elective</td>
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### WORLD LANGUAGE

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<td>Child Development &amp; Learning</td>
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<td>EDPD 617</td>
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<td>Core &amp; Assess in Secondary Schools</td>
<td>CRD 630</td>
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<tr>
<td>Literacy Across the Curriculum</td>
<td>READ 628</td>
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</tr>
<tr>
<td>Core &amp; Methods in Reading/Lang Arts, Pre-K-3</td>
<td>READ 605</td>
<td>3</td>
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<tr>
<td>Teaching Foreign Language Methods</td>
<td>CIED 630</td>
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### EARLY CHILDHOOD

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<td>Characteristics of Early Childhood Dev</td>
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<tr>
<td>Core &amp; Methods in Reading/Lang Arts, Pre-K-3</td>
<td>READ 605</td>
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<td>Methods of Teaching Early Childhood Educ</td>
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<td>Core &amp; Methods in Science, Pre-K-6</td>
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<td>Core &amp; Methods in Social Studies, Pre-K-6</td>
<td>CBD 612</td>
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<td>Rhythmic Activities &amp; Games</td>
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<td>Creative Expression in Elem Sch, Pre-K-6</td>
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### TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION

- **SPED**: 32
- **VISUAL ART**: 15
- **WORLD LANGUAGE**: 15
- **EARLY CHILDHOOD**: 20

### TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION . . . . . . 35-40

### 3.0 CUMULATIVE GPA REQUIRED

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## COURSE REQUIREMENTS FOR MASTER OF EDUCATION

The Master of Education (M.Ed) program is designed primarily for the advanced professional development of already-licensed teachers. Concentrations in the M.Ed degree may be used to achieve additional endorsements in several licensure areas. Additional endorsements blend core MEd degree requirements with the specific coursework required for the endorsement. A minimum of 32 graduate credit hours is required to award the MEd degree.

### INSTRUCTIONAL COACHING CERTIFICATION PROGRAM

The Instructional Coaching Certification Program (ICCP) is (1) a stand-alone program for those seeking certification for employment and who already have a master's degree, or (2) it can be a concentration for those admitted to the MED program. The program consists of 12 hours of graduate coursework. Courses: LEAD 612, 621, 632, and 665.

### SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS, AND MEDICINE (STEMM) COLAB EDUCATION CERTIFICATE PROGRAM

The Graduate Certificate in Science, Technology, Engineering, and Mathematics, and Medicine (STEMM) Education is designed for all K-12 educators to improve literacy and integration of STEM concepts across all disciplines such as English, Literature, Social Studies, and Fine Arts. The certificate includes the study of STEM teaching principles, project-based learning methods, collaborative learning and assessment, and a focus on integration of mathematics and computer programming skills.

Science, Technology, Engineering, and Mathematics (STEMM) CoLab is a partner ship between Christian Brothers University and Christian Brothers High School to provide a rigorous and innovative STEMM education program for high school students. STEMM CoLab developed this certificate program with the objective to improve educator pedagogy in STEM education across the academic disciplines while focusing on two (2) themes: (1) curriculum authoring and (2) technology integration. Courses: CIED 693, 694, 695, and 696.

All classes can be applied toward the M.Ed. Program upon successful completion.
GRADUATE PROGRAMS

2014-15 Academic Catalog

GRADUATE PROGRAMS

2014-15 Academic Catalog

COURSE REQUIREMENTS FOR MASTER OF SCIENCE IN EDUCATIONAL LEADERSHIP

The Master of Science (MS) degree in Educational Leadership prepares individuals for roles in administration, supervision, and school leadership in K-12 settings. The courses and modules in this degree program are designed to meet standards for the Tennessee Instructional Leadership Licenses in Tennessee. The program leading to the MS degree in Educational Leadership requires a minimum of 31 graduate credit hours. Admission to the program requires three (3) years of successful teaching experience.

COURSE REQUIREMENTS FOR MSEL

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE NUMBER</th>
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<td>LEAD 610</td>
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<td>LEAD 615</td>
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TOTAL CREDITS REQUIRED FOR MSEL 31

TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION . . . . . .31

COURSE REQUIREMENTS FOR TENNESSEE INSTRUCTIONAL LEADERSHIP LICENSURE PROGRAM

The Tennessee Instructional Leadership Licensure program prepares individuals for roles in administration, supervision, and school leadership in K-12 settings. The courses and modules in this licensure program are designed to meet standards for the Beginning Tennessee Instructional License in Tennessee. The program requires individuals to already possess a master’s degree. It requires 18 hours of graduate credit hours. Admission to the program requires three (3) years of successful teaching experience.

COURSE REQUIREMENTS FOR TN INSTRUCTIONAL LEADERSHIP LICENSURE

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TOTAL CREDITS REQUIRED FOR TN INSTRUCTIONAL LEADERSHIP LICENSURE 18

TOTAL CREDITS REQUIRED FOR FAST TRACK LEADERSHIP PROGRAM . . . . . .18

COURSE REQUIREMENTS FOR TN INSTRUCTIONAL LEADERSHIP LICENSURE (FAST TRACK LEADERSHIP PROGRAM)

The Tennessee Instructional Leadership Licensure program prepares individuals for roles in administration, supervision, and school leadership in K-12 settings. The courses and modules in this program are designed to meet standards for the Beginning Tennessee Instructional License in Tennessee. The program requires individuals to already possess a master’s degree. It requires 18 hours of graduate credit hours. Admission to the program requires three (3) years of successful teaching experience.

COURSE REQUIREMENTS FOR MACS

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TOTAL CREDITS REQUIRED FOR MACS 30

TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION . . . . . .30

COURSE REQUIREMENTS FOR MASTER OF ARTS IN CATHOLIC STUDIES

THE MASTER OF ARTS IN CATHOLIC STUDIES has as its major goal the broadening and deepening of the understanding of the Catholic faith through the study of Catholic theology and the interdisciplinary study of Catholicism’s influence in the world. The program offers systematic and critical exploration of the diverse ways in which the Catholic tradition informs theology, culture, institutions, and identity.

The study of the Catholic faith will help individuals develop an intellectual and academic approach to Catholicism which does justice to the richness and profound truth of Catholicism as a Christian religious tradition. An additional goal is that through the study of Catholicism, individuals will come to understand and deepen their knowledge and love of God, seek the well-being of humankind, and provide well-reasoned motives for the practice of Christian principles. This program will help prepare students for diverse ministries, such as primary and secondary school religion teaching, religious education in parish settings, pastoral leadership, and social service.

The degree is a 30-hour degree program with the courses being offered on the CBU campus on weekends. Students must take nine of the ten courses listed below as well as MACS 699 Thesis. Students are assigned a final paper or thesis that is based on one of the students’ nine term papers. The students are advised and graded jointly by the director and the professor for whom the paper was originally written.

COURSE REQUIREMENTS FOR MACS

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TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION . . . . . .30

THE MASTER OF ARTS IN CATHOLIC STUDIES

— SCHOOL OF ARTS —

ADMINISTRATION

DR. PAUL HAUGHT, Dean
TBA. Director of Catholic Studies Program

THE MASTER OF ARTS IN CATHOLIC STUDIES
GRADUATE PROGRAMS
IN BUSINESS
— SCHOOL OF BUSINESS —
ADMINISTRATION

DR. JOHN M. HARGEETT, Dean

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

DR. JENNIFER WESKE, Director of Master of Accountancy Program

FACULTY

JAMES ALLEN, Assistant Professor
BS, University of Florida, MS, Florida State University; PhD, University of Southern Mississippi

DANIEL M. BRANDON, JR., Professor of Management Information Systems
BS, Case-Western Reserve University; MS, PhD, University of Connecticut

BJOERN CLAASSEN, Associate Professor of Finance
BBA, University of Georgia; MBA in Finance, Kennesaw State University; PhD, University of Mississippi

LINDA CHRISTENSEN, Associate Professor
BSBA, University of Missouri; MBA, Memphis State University; PhD, University of South Carolina; C PA

BEVALEE B. VITALI, Instructor
BA, University of Tennessee; MBA, Union University

RONALD H. EATON, Associate Professor
BBA, MBA, Memphis State University; PhD, University of Arkansas; CPA

KELLI E. HEFFNER, Adjunct Assistant Professor
BA, MA, PhD, Louisiana State University

M. SCOTT LAWYER, Associate Professor of Law
BPA, JD, University of Mississippi

JUDY RAMAGE LAWRENCE, Professor
BBA, Memphis State University; MS, University of Arkansas; DBA, Nova Southeastern University; CPA

ANDREW J. MORGRET, Assistant Professor
BSEd, MED, MBA, Memphis State University; CPA; CGMA

SARAH T. PITTS, Professor
BS, Lenoir Rhyne College; MBA, JD, University of Houston

BEVALEE B. VITALI, Associate Professor of Management
BBA, MBA, University of Central Arkansas; PhD, University of Memphis

FATHER PAUL WATKINS, OP, Assistant Professor
BA, Tulane University; MA, Graduate Theological Union; M. Div., Dominican School of Philosophy and Theology; MBA, University of Virginia; EdD, The University of Memphis

JENNIFER WESKE, CPA, CGMA, Assistant Professor
BBA, Stephen F. Austin State University; MBA, The University of Memphis; PhD, Northern Kentucky University; CPA; CGMA

The School of Business offers a 30 or 31 hour course of study in the Master of Accountancy (MACC) degree. This degree offers concentrations in Forensic Accounting and Financial Management. Students currently enrolled in the CBU B.S. in Accounting degree may apply for the program during their senior year. Students beginning the program with a bachelor's degree from another institution will submit an application to the School of Business Accounting Department Chair. Applicants from institutions other than CBU are required to complete the graduate application for admission and submit GMAT or GRE test scores. All candidates will be interviewed. A student may be permitted to transfer up to 9 hours of credit into the program for any courses taken at another university at the graduate level which includes up to 6 hours for professional exam review courses. Each student will take four core accounting courses. In addition, students have the option of selecting a concentration in one of the two areas by completing the concentration courses. The courses offered in this program will be available only in the spring and fall semesters.

GRADUATE PROGRAMS
GRADUATE PROGRAMS

COURSE REQUIREMENTS FOR MASTER OF BUSINESS ADMINISTRATION

The School of Business offers a 35-hour course of study leading to the Master of Business Administration (MBA) degree. The core curriculum consists of eight courses, preceded by a two hour orientation course (which is a prerequisite for the remaining eight courses). In addition, a student must complete three elective courses. A student may be able to transfer up to nine hours of graduate level business-related course work into the program to meet the requirements of the elective course work, but under no circumstances will be permitted to transfer in any coursework to meet the requirements of the core curriculum coursework.

TRANSFER OF GRADUATE CREDIT – MBA PROGRAM

Every transfer of graduate credit from any institution must be approved in advance by the Director of Graduate Business Programs.

COURSE REQUIREMENTS FOR CMBA

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TOTAL HOURS FOR CMBA: 25

TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION: 35

GRADUATE PROGRAMS IN ENGINEERING

— SCHOOL OF ENGINEERING —

ADMINISTRATION

DR. SIRIPONG MALASRI, Dean
DR. DIVYA CHOUDHARY, Coordinator of Graduate Programs in Engineering

FACULTY

SUSAN BELL, Adjunct Lecturer
A.S., State Technical Institute at Memphis; BS, Memphis State University; M.E.M., Christian Brothers University

DANIEL M. BRANDON, JR., Professor of Management Information Systems
BS, Case Western Reserve University; MS, PhD, University of Connecticut; PMP

SUSAN B. FENTRESS, Adjunct Assistant Professor
BS, University of Wisconsin; JD, Marquette University Law School

NEAL JACKSON, Professor Emeritus, Engineering Management
BS, Memphis State University; MS, University of Arkansas; PhD, University of Mississippi

SIRIPONG MALASRI, Professor, Civil Engineering
B.E., Chulalongkorn University; MEng, Asian Institute of Technology (Thailand); PhD, PE, Texas A&M University

CHARLES MCCAIN, Adjunct Lecturer
BS, Purdue University; MBA, Cannon University; CPA

JUAN CARLOS OLABE-BASOGAIN, Professor, Electrical Engineering
MS, PhD, Universidad Politecnica de Madrid (Spain); IT

CHRISTINE SCIFERT, Adjunct Lecturer
BS, Hamline University; MS, University of Iowa; MEM Christian Brothers University

KIMBERLY G. STROHKIRCH, Adjunct Lecturer
BS, The University of Memphis; MScE., Purdue University

H. JOHN VENTURA, Associate Professor
BS, Christian Brothers College; ME, University of Florida; EdS, PhD, Nova Southeastern University; PE

STANLEY WEINRICH, Adjunct Assistant Professor
BChE, The Cooper Union; MA, PhD, Princeton University; MBA, Pace University

ERIC B. WELCH, Professor, Electrical Engineering
BS, MS, PhD, Mississippi State University

BENNETT M. WETHERALD, Adjunct Lecturer
BS, MEM, Christian Brothers University

MISSION

Graduate Engineering offers the MASTER OF SCIENCE IN ENGINEERING MANAGEMENT and the MASTER OF ENGINEERING MANAGEMENT which build upon the bachelor’s degree preparation in several engineering disciplines, other technical programs such as physics and chemistry, and quantitative management. The purpose of these degree programs is to prepare individuals to successfully address supervisory and managerial needs in a technical environment. Students will take courses in technical fields, finance and accounting for technical managers, computer applications for management, and systems simulation.
COURSE REQUIREMENTS FOR MASTER OF SCIENCE IN ENGINEERING MANAGEMENT

The Master of Science in Engineering Management is targeted toward the graduates of engineering, engineering technology, and science degrees. The program emphasizes the theories, concepts, and applications of the engineering management discipline. Students will conduct research to identify and propose solutions to engineering management problems. The Master of Science in Engineering Management degree consists of two options: Thesis and Non-Thesis.

The Non-Thesis option is recommended for the working engineer or technically prepared professional who has professional industrial experience and who will take an increasingly active role in the organization's decision-making process. The Non-Thesis option consists of eight core and three elective courses. All classes utilize on-line and distance education technologies and are scheduled for those taking classes on a part-time basis.

The Thesis option is recommended for those who either plan to continue on to Doctorial work or are employed at a research intensive organization. The Thesis option consists of nine core and two elective courses. Though most classes utilize on-line and distance education technologies, the program is designed for full-time students.

### ELECTIVE MSEM COURSES:

**TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION**

**TOTAL HOURS FOR MSEM**

**NOTES**

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**TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION**

**TOTAL HOURS FOR MSEM**

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**COURSE REQUIREMENTS FOR MASTER OF ENGINEERING MANAGEMENT**

The Master of Engineering Management program was re-purposed for the Bachelor of Science or arts graduate of a quantitative business degree. The Master of Engineering Management degree consists of 33 semester hours of academic work, which consists of seven core and four elective courses.

**COURSE REQUIREMENTS FOR MEM**

**TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION**

**TOTAL HOURS FOR MEM**

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**COURSE REQUIREMENTS FOR MEM**

**TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION**

**TOTAL HOURS FOR MEM**

**NOTES**

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**ELECTIVE MEM COURSES:**

ENGM 601. Applications in Engineering Management
ENGM 602. Engineering Accounting
ENGM 603. Engineering Financial Management and Accounting
ENGM 604. Social, Legal, and Ethical Considerations for Engineering
ENGM 606. Computer Applications
ENGM 611. Entrepreneurship for Engineering Managers
ENGM 613. Construction Equipment & Methods
ENGM 614. Construction Failure
ENGM 615. Engineering Construction Management
ENGM 621. Engineering Law
ENGM 624. Knowledge Engineering
ENGM 636. Computer Networks
ENGM 637. File Organization and Database Management
ENGM 640. Principles of Packaging
ENGM 641. Distribution and Medical Device Packaging
ENGM 642. Sustainability
ENGM 643. Healthcare Packaging
ENGM 644. Transport Packaging
ENGM 650. Regulatory Affairs and Quality Systems
ENGM 652. Quality Systems for the Medical Device Industry
ENGM 663. Project Risk Management & Contracting
ENGM 691. Special Topics
ENGM 695. Research Methods In Engineering Management
ENGM 698. Professional Seminar
ENGM 699. Research
GRADUATE PROGRAM IN HEALTH SCIENCES

ADMINISTRATION

DR. MARK J. SCOTT, Director of Physician Assistant Studies Program

FACULTY

CARLA LIN-BOSWELL, MD, Clinical Adjunct Faculty - Assistant Professor
BS, Syracuse University; MD, Universidad Central Del Este, SDM - Dominican Republic

ROBERT BOOTH, EMPA-C, Adjunct Instructor, Faculty
BS, University of Mississippi, MS, University of New England

INGRID CANTRELL, PA-C, Adjunct Instructor
BS, Florida State University; MS, Terrace Nazarene University, MS, University of South Florida

JOHN J. DAVIS, PA-C, Instructor
BA, University of Memphis

SANJEEVANI DEOPLAPURE, MD, Clinical Adjunct Faculty - Assistant Professor
BA, Knox College; MD, St. George's University School of Medicine

ERIN KATE DOOLEY, MD, Clinical Adjunct Faculty - Assistant Professor
BA, College of William and Mary; MPH, Old Dominion University & Eastern Virginia Medical School

WILLIAM RODNEY, MD, Clinical Adjunct Faculty - Assistant Professor
BS, University of Mississippi; MS, University of New England

JENNIFER PAXON-SAPUTRA, MD, Clinical Adjunct Faculty - Assistant Professor
BA, College of William and Mary; Divinity; Old Dominion University & Eastern Virginia Medical School MD, Eastern Virginia Medical School

PAUL HAUGHT, Associate Professor
BA, Georgetown University; MA, University of North Texas, PhD, Tulane University

MICHAEL HERR, Adjunct Instructor
BS, Christian Brothers University; PhD, University of Tennessee

J. LUCIUS MCGHEE, MD, Adjunct Associate Professor
BA, Vanderbilt University; MS, University of Tennessee for Health Sciences

WILLIAM ROONEY, MD, Clinical Adjunct Faculty - Professor
BS, University of Washington; BA, University of Washington MD, Cornell Medical College

MICHAEL K. YIAN, Professor
BS, St. Louis College of Pharmacy; MS, University of Mississippi; PhD, University of Mississippi

TASHA SABINO, PA-C, Adjunct Instructor
BA, University of North Carolina - Chapel Hill; MS, University of Utah

JENNIFER PAXON-SAPUTRA, Adjunct Assistant Professor
BS, Christian Brothers University; PhD, University of Tennessee

ANTHONY P. SCHNUERER, Instructor
BA, University of Cincinnati Community College; MA, Cleveland State University

MARK J. SCOTT, PA-C, Clinical Adjunct Faculty
BA, University of Mississippi; MS, California College for Health Sciences; PhD, Richards University

MIRIAMURGE WASHINGTON TOOLEY, MD, Medical Director, Associate Professor
BS, Millsaps College; MD, College of Medicine, University of Mississippi

GARY B. TOOLEY, PA-C, Assistant Professor
BS, University of North Florida; MS, University of North Florida

MISSION

The mission of the Physician Assistant Program at Christian Brothers University is to meet the needs of those suffering from a lack of quality primary care services by training healthcare providers who deliver efficient and compassionate care using current evidence-based medical information and knowledge. Our diverse graduates will become life-long learners collaborating with Physicians and other healthcare workers in their communities to advance the profession of the Physician Assistant.

GRADUATE PROGRAMS

2014-15 Academic Catalog

MASTER OF SCIENCE IN PHYSICIAN ASSISTANT STUDIES

Admission to the program is highly competitive. Application instructions are available at www.cbu.edu/PAS. Students admitted to the program will be provided a Program Handbook which details program policies as well as curriculum and course descriptions. The information contained herein provides an overview of the program and courses. For additional information contact the Department of Physician Assistant Studies.

The program consists of seven consecutive academic semesters. 106 credit hours, with a new cohort of students during the Spring Semester of each year. The first four semesters comprising fifteen months of the program consists of leans didactic coursework including:

PAS 620, PA Professional Introduction
PAS 601, Human Anatomy & Physiology I
PAS 602, Human Anatomy & Physiology II
PAS 603, Public Health
PAS 604, Medical Ethics & Law
PAS 605, Research Methods
PAS 606, Clinical Pharmacology and Therapeutics I-III
PAS 607, Clinical Medicine I
PAS 608, History & Physical I
PAS 609, Clinical Pharmacology and Therapeutics II
PAS 610, Clinical Medicine II
PAS 611, History & Physical II
PAS 612, Clinical Skills I
PAS 613, Clinical Laboratory & Medical Genetics
PAS 614, Clinical Pharmacology and Therapeutics II
PAS 640, Clinical Medicine III
PAS 616, Intro to ER
PAS 617, Clinical Skills I & II
PAS 618, Behavioral Medicine
PAS 625, Specialty Topic I
PAS 626, Specialty Topics II

In addition, during the first 15 months, students will participate in a variety of workshops and seminars to ensure the emphasis on patient care and to prepare the student for clinical rotations. Topics include but are not limited to cultural awareness, diversity training, and American Heart Association programs in Basic Life Support (including Instructors training), Advanced Cardiac Life Support, and an understanding of essential skills workshops. At the end of the twelve months (three semesters), students will rotate through a variety of clinical disciplines at affiliated institutions and practices. Clinical rotations are divided into three categories: Required, Selective, and are scheduled as Grand Clinical Rotations I, Grand Clinical Rotations II, and Grand Clinical Rotations III.

The three courses (PAS 750 Grand Clinical Rotations I, PAS 740 Grand Clinical Rotations II, and PAS 750 Grand Clinical Rotations III) are offered sequentially over three semesters beginning in the 5th Semester of the MSPAS program. The 5th Semester coincides with the Summer term of the University Schedule. Students are assigned into clinical experiences from three main categories:Required, Selective, and Elective. In addition students will participate in scheduled workshops and other programs to develop activities that support the clinical experience. Assessments on clinical components include but are not limited to:

- Case Submissions and examinations
- Individual Research and reports
- Serial objective examinations
- End of rotation examination and evaluation
- Preceptor assessment and evaluation

Each clinical experience component of the program must be completed with a passing score of 70 or above. A student failing to achieve a passing score on a clinical component of any Grand Clinical Rotation will be required to enroll in a Physician Assistant Studies Special Topics Course. Enrolment in a Special Topics Course must be departmentally approved and is designed to allow the student to undertake additional instruction and clinical experience in the component. Enrolment can occur until completion of PAS 750 Grand Clinical Rotation III. Students must demonstrate at the completion of the Special Topics Course the acquisition of knowledge and clinical ability that is sufficient to facilitate entry into a primary care clinical practice.

GRADUATION FROM THE PROGRAM FOR PHYSICIAN ASSISTANT STUDIES

Candidates, if admitted to the Program, will be required to certify in writing that they understand and meet the standards of the PA profession as detailed in the Student Handbook. If a candidate does not feel they may be able to meet the technical standards they should contact the Dean of Students in the Office of Student Life. The Program will attempt, to the best of its ability, to develop mechanisms for otherwise qualified candidates for admission. However, the integrity of the curriculum and the need to provide optimal patient care must be maintained in order to ensure that all parts of the Program Curricula be delivered to all matriculated Program students. The Program requires students to meet standards to ensure that its graduates possess a certain level of cognitive and technical skill. Students must be capable of successfully completing the entire CBU PA Program curriculum upon which they will achieve a Master of Science degree in Physician Assistant Studies and become eligible to sit for the Physician Assistant National Certification Examination (PANCE). Applicants should visit the program website at www.cbu.edu/PAS for up to date information related to program accreditation status as granted by the Accreditation Review Commission on Education for the Physician Assistant.
GRADUATE PROGRAMS

GRADUATION REQUIREMENTS

TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION

COURSE REQUIREMENTS FOR MASTER OF SCIENCE IN PHYSICIAN ASSISTANT STUDIES

COURSE REQUIREMENTS FOR MASTER’S DEGREE COMPLETION

COURSE NUMBER CREDITS NOTES

COURSE

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COURSE REQUIREMENTS FOR CLINICAL PHASE

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TOTAL CREDITS REQUIRED FOR MASTER’S DEGREE COMPLETION

GRADUATE COURSES

BUSINESS

MACT 604. IFRS REGULATIONS AND RESEARCH

This course leads students to explore similarities and differences between GAAP and International Financial Reporting Standards (IFRS). Cannot be taken if students have taken MACT 491. Offered in the Spring semester. One semester; three credits

MACT 620. INTERNATIONAL ACCOUNTING

This course includes a review and analysis of international accounting and a study of the accounting regulations and research currently in process. An emphasis will be on identifying current research and international accounting issues from a management perspective. Students will be required to research current issues and topics. Offered in the Full semester. One semester; three credits

MACT 630. TAX AND BUSINESS STRATEGY

This course provides a framework for recognizing tax planning opportunities and tax strategies in the business environment. This course bridges the gap between traditional business courses that analyze a broad spectrum of factors affecting business decision-making without consideration to the role of taxes and traditional tax accounting courses that concentrate on administrative issues while ignoring the richness of the context in which tax factors operate. One semester; three credits

MACT 640. FINANCIAL INFORMATION SYSTEMS

This course emphasizes ways to enhance the effectiveness of systems designed to collect, process, and share financial information. Students will discover and evaluate how to accomplish the integration of systems, procedures, and people to deliver effective and valuable business processes. This course is available to the CMBA. One semester; three credits

MACT 645. INTERVIEWING TECHNIQUES AND EXPERT TESTIMONY

This class includes observation of court room procedures and cases. An intensive review of interviewing techniques for investigative purposes is presented along with the requirements and expectations for expert testimony. The collection of sufficient evidence is covered in addition to the required techniques and procedures associated with expert testimony. One semester; three credits

MACT 650. CPA REVIEW COURSE

This course will include a review of accounting problems and concepts common on the certification exams. This course will work through a standard set of review books in preparation for the certification exam chosen by the student with departmental approval. In lieu of this course and MACT 655, students may substitute an approved CPA review course. Offered in the Fall semester. One semester; three credits

MACT 655. INTERNSHIP/CERTIFICATION REVIEW

Students are required to obtain an accounting internship with an approved employer. Alternately, students can combine this course with MACT 650 and take an approved professional review course. A successful attempt at one portion of the exam is required to pass this class when taken with MACT 650. Offered in the Fall semester. One semester; three credits

MACT 660. ASSET VALUATION AND BUSINESS STRATEGY

An emphasis will be on identifying current research and international accounting issues from a management perspective. Students will be required to evaluate outcomes and motivate employees through effective reinforcement and future-oriented financial management initiatives. This course is available to the CMBA. One semester; three credits

MACT 665. ADVANCED ACCOUNTING

Advanced Accounting 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 partnerships. Offered in the Fall semester. One semester; three credits

MACT 670. EFFECTIVE FINANCIAL INITIATIVES

This course focuses on a fundamental financial management objective; specifically, to motivate and improve the response of external and internal parties to financial information. Students will learn to evaluate outcomes and motivate employees through effective reinforcement and future-oriented financial management initiatives. This course is available to the CMBA. One semester; three credits

MACT 675. GOVERNMENTAL AND NON-PROFIT BUSINESS

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

MACT 680. STRATEGIC COMPETITIVE ADVANTAGE

This course involves fostering essential competencies and skills required for the fulfillment of the strategic partnership role of financial management professionals. Students will discover and acquire skills to cope with uncertainties, manage risks, and partner with top management to accomplish strategic competitive advantages. This course is available to the CMBA. One semester; three credits

MACT 681. INFORMATION SECURITY

This course provides an overview of security challenges and strategies of countermeasure in the information systems environment. Topics include definition of terms, concepts, elements, and goals incorporating industry standards and practices with a focus on availability, vulnerability, integrity and confidentiality aspects of information systems. This course includes access control to information systems and applications encompassing authentication and accounting for end-users and system administrators. The course also addresses the broad topic of risk management, how risk, threats, and vulnerabilities impact information systems, how to assess and manage risk based on defining an acceptable level of risk for information systems, and business continuity planning and disaster recovery. One semester; three credits
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CMBA 631. INVESTMENTS
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in finance. The course is designed to provide students with the essential financial skills required to evaluate financial decisions in a corporate environment, prepare analyses and argue points in defense of analysis, and evaluate contemporary financial events. Three credits

CMBA 632. BUSINESS LAW
This course is a portion of the CMBA curriculum intended to teach the nature of both the law as well as the regulatory environments in which both businesses, both global and domestic, and their managers must direct. Topics in this course include the foundations of law and the courts systems, and constitutional, administrative, corporate, contracts, tort, international, property (both real and intellectual), employer and employment welfare and discrimination laws. Three credits

CMBA 641. ORGANIZATIONAL BEHAVIOR
This course is a portion of the CMBA curriculum intended for those pursuing a concentration in management. The course studies individual and group behavior as they relate to organizational effectiveness. Emphasis is placed on motivation, leadership, power and politics, the effect of organization design on effectiveness, and group processes. The psychological, interpersonal, and behavioral dynamics in organizations are applied to the management decision making and methods of analyzing and improving performance are also addressed. Three credits

CMBA 643. BARGAINING & NEGOTIATIONS
The course focuses on two-party negotiations in a variety of settings using a mix of discussion, lecture, readings, videos, and review of prior course content. The majority of class sessions revolve around the results of prior negotiations between class members. Class discussions will review the experiences in the form of effectiveness behaviors, tactics and strategies, and analyses that will be helpful for future negotiations. Weekly readings will enhance what students learn in the negotiations and subsequent discussions. Three credits

CMBA 661. GLOBAL HEALTHCARE ECONOMICS
The course uses the tools of economic thinking and economic analysis to examine the current state of health and healthcare in both the United States and International Economies. Economics concepts to be discussed include scarcity, rationing, the role 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, the reimbursement approval process, the emergence of consumer driven healthcare, and the legal environment. Three credits

CMBA 662. GLOBAL MARKETING IN THE BIOMEDICAL INDUSTRY
The course will provide students with the tools necessary to perform the duties of an international marketer through a challenging combination of cases, discussion, lecture, readings, and videos focused on the biomedical industry. Students will earn to identify foreign market opportunities, select and execute a market entry strategy, and design and manage a successful marketing mix. Students will gain exposure to the essential tools of market analysis (buyer behavior and consumer analyst) and the tools marketers rely on to fill customers' and consumers' expectations. Special topics may include consumer behavior, influence, and segmentation, environmental forces influencing pricing, conducting market research for international markets, conducting brand launches, and international aspects of marketing and pricing decisions. Three credits

CMBA 663. GLOBAL SUPPLY CHAIN MANAGEMENT IN THE BIOMEDICAL INDUSTRY
An introduction to global marketing and a description of the complex and dynamic supply chain that exists in the field of biomedical management. The course covers the role of the supply chain in the overall performance of a business, the impact of supply chain management on profitability, and the impact of global issues on the supply chain. Three credits

EXLD 611. LEADERSHIP AND PERSONAL DEVELOPMENT
This course is designed from the self-discovery perspective. It focuses on the importance of self-discovery, self-assessment, and self-development. The course is an introduction to the principles and practices of positive interpersonal relationships for leadership development. The course investigates each student's life crucibles (past), current leadership experiences (present), and personal leadership goals and development plans (future). Three credits

EXLD 612. APPLICATION OF LEADERSHIP
This course covers theories of leadership from trait theory (the first recognized theory of leadership) to the most current leadership thinking today. Students will explore the relationship between leadership and power, leadership and gender, leadership and cultural trends, organization theory, and management thought throughout history. Emphasis will be placed on modern day applications of each theory and lessons leaders can take away from each theory. Three credits

EXLD 613. ORGANIZATIONAL CHANGE AND DEVELOPMENT
This course looks at change and development in organizations and communities and the ways leaders affect and influence that change. Some of the most current change techniques such as appreciative inquiry and world cafe will be studied. Students will use a computer simulation to learn how change manifests in an organizational setting. Three credits

FPNL 681, 682, 683 FINANCIAL PLANNING CONCENTRATION
Concentration objectives include increased knowledge of the technical aspects, practical application, ethical and professionalism of financial planning students will gain knowledge of the process of financial, insurance, investment, income tax, retirement & employee benefit planning and estate planning. Certificate will be awarded upon successful completion of the Certificate in Financial Planning Program as offered at CBU. Other equivalent programs may qualify upon approval by the MBA Director. A student will complete no fewer than 100 contact hours in this field. Prerequisites: Permission of the MBA Director. Nine credits

NPMT 681, 682, 683 NON-PROFIT MANAGEMENT CONCENTRATION
Concentration objectives include increased knowledge of non-profit organizational management decisions ranging from fundraising strategies, grant writing, financial management to organizational leadership. Concentration will be awarded upon successful completion of the 500/colleges 100 cumulative hours of professional development workshops, seminars, or conferences as offered by the Alliance for Nonprofit Excellence. Other equivalent programs may qualify upon approval by the MBA Director. Prerequisite: Permission of the MBA Director. Nine credits

PMGT 681. PROJECT MANAGEMENT
The course in project management is designed to develop an integrated approach to project management that will cover optimization models, practical management and organizational practices, and the use of computer applications and software. The focus will be on developing a process and model for managing projects that includes planning and budgeting, organization and structure, scheduling using Gantt andPERT/CMP, resource allocation, and performance and control techniques. Students will be required to complete a project plan, and guest speakers from the field of project management will supplement the class. Prerequisites: MMGT and STAT 221. Three credits

PMGT 682. PROJECT ORGANIZATION, PLANNING AND LEADERSHIP
This course examines processes involved with project planning and leadership. Areas examined include scope, communications and closure. The course includes a review of program/portfolio management and reporting relationships. Also covered is a detailed study of organizational, management, and current theory on project organizations. Prerequisites: MMGT 681. Three credits

PMGT 683. PROJECT ANALYSIS AND CONTROL
This course provides in-depth study of procedures and processes related to the control of costs, risk, scheduling, and related activities. Computer methods including MS Project and other programs will be examined. In addition, in-depth analysis of cost, time and quality variance will be studied. Prerequisite: MMGT 681. Three credits

■ CATHOLIC STUDIES
MACS 660. CATHOLIC THOUGHT AND CULTURE THROUGH THE AGES
An interdisciplinary exploration of the wisdom of the Catholic tradition expressed through works of intellect and imagination from the beginning of the Church up to contemporary times. Classics in literature, art, theology, philosophy, music, the sciences, and/or architecture are discussed. Emphasis is placed on recognizing the integrity of the grounding Catholic vision and on tracing the unified development and expansion of that vision over time. Three credits

MACS 610. CATHOLIC BIBLICAL STUDIES
What is a Catholic approach to the study of the Bible? The course will begin with the Church’s teaching on biblical interpretation as contained in such documents as Divino Afflante Spiritu, Dei Verbum, and “The Interpretation of the Bible in the Church.” Selected texts from the Old and New Testament will then be studied using the Catholic Church’s approach to biblical interpretation in contrast to fundamentalism. Three credits

MACS 620. CATHOLIC SPIRITUALITY
An exploration of the relationship between religious experience and theological reflection as seen in the works of outstanding spiritual writers of the Catholic tradition, including St. Benedict, St. Francis and St. Clare, St. John Baptiste de La Salle. This will include attention to prayer, forms of spirituality, and asceticism. Three credits

MACS 650. GOD AND THE HUMAN PERSON
An investigation of the Catholic doctrine of the human person in relation to God, including topics such as creation andFall, and sin, grace, justification, the sacraments, and eschatological fulfillment. Three credits

MACS 660. CHRISTOLOGY
Understanding the person, presence and mission of Christ in Scripture, doctrine, and dogma, and in contemporary theology. Three credits
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal skills and ethics, instructional strategies, designing instructional units and lesson plans, and reaching decisions that orchestrate the complex implementation and evaluation of instruction. Three credits

CIED 637. TEACHING FOREIGN LANGUAGE, K-12
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Designed for initial teaching license students. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and instructional strategies. 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 605. URBAN TEACHING STRATEGIES
Candidates develop skills and strategies for investing under-resourced urban students in educational achievement. Restricted to tf and mft. Three credits

CIED 606. CLASSROOM LEADERSHIP
Candidates apply leadership theories and practices to create engaging and disciplined learning environments for under-resourced urban students. Restricted to tf and mft. Three credits

CIED 608. ASSESSMENT OF LEARNING AND PRACTICE (Formerly MED 608)
Students explore various means of acquiring data to determine learning progress among both groups and individuals, with emphasis on hard-to-measure dimensions of learning. Students consider standard measures of learning, standards-driven instruction, and emerging alternative approaches to developing and assessing authentic products, projects and performances. Students gain experience with traditional designs for evaluation and new assessment tools. Three credits

CIED 609. CLASSROOM MANAGEMENT AND METHODS
Students develop and practice competence in various classroom management methods, including unit and lesson planning, interpersonal and group communication skills, and principles of effective classroom organization. Designed for initial teaching license students. Course topics include analyzing, comparing, evaluating, and applying various theories and methods of classroom motivation, management, and instructional strategies that encourage higher dimensions of learning and understanding in high school students. 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 conceptual design. Theoretically derived alternatives are also evaluated in terms of implementation and assessment within particular instructional environments. Three credits

CIED 611. CURRICULUM AND METHODS IN SCIENCE, Pre-K-6
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of the sciences into the elementary and middle school science curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school science curriculum. Three credits

CIED 612. CURRICULUM AND METHODS IN SOCIAL STUDIES, Pre-K-6 (Formerly MED 658)
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of the social studies into the elementary and middle school social studies curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school social studies curriculum. Three credits

CIED 613. CHARACTER EDUCATION (Formerly MED 654)
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 Midwest will be required. Three credits

CIED 615. RHYTHMIC ACTIVITIES AND GAMES
Students explore activities and games designed for elementary age students. One credit

CIED 618. DIFFERENTIATED INSTRUCTION MIDDLE/SECONDARY SCHOOLS (Formerly CIED 656)
Students identify, analyze, compare, and justify varied approaches to creating viable learning environments that successfully serve the needs of diverse learner populations. Two credits

CIED 622. CURRICULUM AND METHODS IN MATHEMATICS, Pre-K-6
Students examine theory and practice in transforming the methods of inquiry and the knowledge base of mathematics into the elementary and middle school mathematics curriculum, emphasizing content and performance standards, planning for instruction, teaching methods, and materials, including the integration of technology into the elementary and middle school mathematics curriculum. Three credits

CIED 624. CREATIVE EXPRESSION IN ELEMENTARY SCHOOLS, Pre-K-6
Candidates integrate concepts of music, visual art, drama, and dance into the elementary classroom. One credit

CIED 626. INTEGRATING CURRICULUM (Formerly MED 660)
Students examine features of integrated curricula and review designs of quality work, including standards-driven instruction, essential elements of quality work, integration of content to strengthen transfer of knowledge, and frameworks for designing both integrated and interdisciplinary work. Students create original work for learners which includes a product focus, product standards, novelty and variety, choice, freedom from initial failure, and authenticity. A variety of performance-based and alternative assessments are included in the integrated framework. Three credits

CIED 627. MIDDLE SCHOOL STRATEGIES (Formerly MED 612)
Students review the elements of high performing middle schools and the characteristics of the young adolescent. Specific components include interdisciplinary teaming, flexible block-of-time scheduling, quality and authentic work designed to address needs of the adolescent, alternative assessment, teacher-based guidance, exploratory experiences, classroom/team management, and current middle school issues. Emphasis is given to the developing and changing roles and relationships of middle school teacher leaders. Three credits

CIED 630. CURRICULUM AND ASSESSMENT IN 7-12 SCHOOLS
Students planning to teach in the secondary school setting engage in curriculum design and development in their content areas and plan assessment strategies that encourage higher dimensions of learning and understanding in high school students. Three credits

CIED 633. TEACHING MATHEMATICS, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary mathematics. Three credits

CIED 634. TEACHING SCIENCE, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary science. Three credits

CIED 635. TEACHING ENGLISH/LANGUAGE ARTS, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary English. Prerequisite: READ 629. Three credits

CIED 636. TEACHING HISTORY/SOCIAL STUDIES, 7-12
Required curriculum and instructional methods course for all students completing a licensure program in secondary history. Three credits

CIED 637. TEACHING FOREIGN LANGUAGE, K-12
Required curriculum and instructional methods course for all students completing a licensure program in a foreign language. Three credits
CIED 653. INTERNSHIP (Formerly MED 653)
Under the guidance of a 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 within 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 internship experience. Students must also be enrolled in CIED 653. Intern Teaching. Restricted to students who entered under previous catalogs. One credit.

CIED 670. PORTFOLIO AND PRACTICUM - TVAAS
This one hour course will explore virtual teaching scenarios, assessments, and reflections of best practices as outlined by the state department of education. May be taken any semester prior to the final semester; recommended for a semester when not taking CIED 671 or CIED 672. Offered in the Fall, Spring, and Summer semesters. One credit.

CIED 671. PORTFOLIO AND PRACTICUM I
Students in the MAT 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 MAT or post-baccalaureate program. One credit.

CIED 672. PORTFOLIO AND PRACTICUM II
Students in the MAT 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 MAT or post-baccalaureate program. One credit.

CIED 673 TEACHING PRACTICUM III OR INTERN TEACHING
Culminating semester-long experience of supervised teaching for students in the MAT degree program or other post-baccalaureate teacher licensure programs. During Teaching Practicum III, students are expected to improve their instructional methods and classroom management, to become more reflective and analytical about their own professional practice, and to utilize clinical methods, assessment strategies, and classroom inquiry techniques to investigate their impact on student learning. Students continue to compile their portfolio and are required to take CIED 674, Professional Seminar and Portfolio III, with CIED 673. There is a $150.00 fee attached to this course. Prerequisite: Permission of Department Chair. Four credits.

CIED 674. PROFESSIONAL SEMINAR AND PORTFOLIO III
Seminar accompanies CIED 673 and supports students in their experience of supervised teaching in the MAT 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. 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 $265.00 fee will be automatically assessed to those enrolled. One semester; zero credits; Repeatable one time.

CIED 676. 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 $265.00 fee will be automatically assessed to those enrolled. Zero credits; Repeatable one time.

CIED 677. 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 $265.00 fee will be automatically assessed to those enrolled. One semester; zero credits; Repeatable until ready for CIED 678.

CIED 678. INTERCH TEACHING
This zero-credit course is for students seeking Alternative I or II licensure ONLY. Students will be supervised and mentored during their time enrolled in this course. A $265.00 fee will be automatically assessed to those enrolled. One semester; zero credits; Repeatable one time.

CIED 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits.

EDD 630. GRADUATE EDUCATION CERTIFICATE COURSES
EDD 635. STEM EDUCATION: A METHODOLOGY FOR ALL DISCIPLINES
This course will develop practical knowledge on how to create successful inclusion environments for students with disabilities. While this course provides a broad perspective of inclusive practices, there will be a particular focus on Science and Social Studies as related to projects and activities. Candidates will gain knowledge on how to plan and implement inclusive strategies, as well as, adapt the general content to meet the needs of special learners. This course includes a 5-hour observation requirement to be completed in a co-teaching setting. Three credits.

EDD 632. TEACHING DIVERSE LEARNERS (Formerly MED 532)
Candidates will explore issues and themes in multicultural education, studying human diversity with its many faces and learning to develop culturally appropriate curricular, classrooms, and schools. Three credits.

EDD 633. DIRECT INSTRUCTION FOR EXCEPTIONAL LEARNERS
Candidates will acquire background and understanding of reading, math and writing challenges in elementary students who have mild or moderate disabilities. This course will help candidates acquire a set of skills that will enable them to determine what core academic concepts are necessary for each student to learn, the instructional methods to teach those basic skills. Candidates will gain knowledge through course readings, application assignments, observations/field experiences, lectures, demonstrations, and group discussions. Three credits.

EDD 634. MODELS OF INSTRUCTION FOR EXCEPTIONAL LEARNERS
Candidates will acquire background and understanding of instructional strategies related to teaching students with mild or moderate disabilities in the upper grades. Students will use generalizations about classroom practice to develop key principles for use of the instructional strategies. Emphasis will be placed on the integration of research findings and theories of instructional models that apply to middle and high school students who need to be involved in higher level thinking. This course will prepare students to plan and implement appropriate lessons, assessments, activities, assignments, teaching strategies, and develop collaborative relationships that actively engage students in their own learning thus creating lifelong learners. Three credits.

EDD 635. USING APPLIED BEHAVIOR ANALYSIS TO CREATE SUCCESSFUL LEARNING ENVIRONMENTS
Candidates will learn principles and procedures to apply them to managing classroom behavior in the following ways: selecting and writing behavioral goals and objectives, collecting data on the seven dimensions of behavior, applying procedures for reducing maladaptive behavior and increasing appropriate behavior, teaching useful target skills, and understanding the functions of behavior in order to complete a functional behavior assessment and behavior intervention plan. Candidates will also learn positive behavior support strategies as they relate to class-wide and school-wide behavior intervention programs. Three credits.

EDD 640. ASSESSMENT OF EXCEPTIONAL LEARNERS
Candidates will become familiar with formal and informal assessment strategies used in the identification and service of students. This course provides instruction in the use of standardized and non-standardized assessment tools. Candidates will have opportunities to review formal assessments by teachers, psychologists, therapists, and medical professionals. In addition, the field experience component will include administering an informal criterion-referenced test. Prerequisite: EDDL 630. Three credits.
EDFD 651. FAMILY CONSULTATION AND SUPPORT
Candidates will acquire the knowledge to engage, support and collaborate with the families of students with disabilities. Candidates will gain an understanding of the law, assessment and diagnosis on families, transitioning students between various school settings, transitioning between pre-school and adulthood, and collaboration with community to aid in post school opportunities. Candidates will also acquire knowledge in the diversity of students and backgrounds, and the law of education. Three credits

EDFD 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits

FOUN DATIONS 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 MEd and MSEL programs for advanced professional development. Two credits

EDFD 603. FOUNDATIONS OF EDUCATION (Formerly MED 643)
Students gain an overview of the philosophical, curricular, cultural, social, historical, legal, economic, and political foundations of education as necessary background for professionalism in teaching. Students reflect on the past and engage current issues to develop perspectives for professional practice. Three credits

EDFD 605. PHILOSOPHY AND ETHICS OF EDUCATION (Formerly MED 645)
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 behavior 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 legal and socially appropriate roles of the educator in both private and public educational settings. Same as LEAD 646. 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. Same as LEAD 607. Three credits

EDFD 608. FUNDAMENTALS OF URBAN EDUCATION.
Candidates develop understanding of and gain experience with the challenges of teaching in urban situations with under-represented students. Restricted to TPA and MTI. 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 682)
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. MENTAL DEVELOPMENT AND EDUCATION (Formerly MED 614)
Students examine and critically assess several theories of mental development—classical, modern, and contemporary. The focus is on how human beings acquire morally responsible character traits and the ability to engage in moral reasoning. The ideas considered form the foundation for evaluating the appropriateness of various educational approaches to teaching values. Three credits

EDFD 615. CHILD DEVELOPMENT AND LEARNING
Students explore models and theories of child development and research-tested approaches in order to implement developmentally appropriate strategies of teaching, learning, and instructional guidance in the elementary and middle-level classroom and school. Three credits

EDFD 617. ADOLESCENT DEVELOPMENT AND LEARNING (Formerly MED 617)
Students examine the special nature of adolescence as a developmental stage, or set of stages, with respect to physical, cognitive, and social dimensions of the adolescent experience. Applications in developmentally appropriate educational practices for middle and high school are also considered. Three credits

EDFD 639. MIDPOINT ASSESSMENT AND PORTFOLIO DEVELOPMENT
This course is required for the Master of Education Degree. Course will be taken during the third semester of the program. Two credits

EDFD 640. EDUCATIONAL RESEARCH (Formerly MED 603)
Students acquire research skills in natural settings by pursuing questions and issues within a typical classroom or school building or relative to matters of significance. The student investigates 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. Prerequisite: EDFD 602. 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 complete program assessments to determine their progress toward program goals. Prerequisite: EDFD 640. Four credits

EDFD 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to three credits

EDUCATIONAL TECHNOLOGY (EDTC)

EDTC 628. USING TECHNOLOGY IN INSTRUCTION
Students explore the potential of the computer and other technologies as an aid to teaching and learning in the classroom. Students become familiar with the educational uses of technology. Three credits

EDUCATIONAL 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 professional development for ongoing professional development. Three credits

LEAD 605. POLICY PERSPECTIVES FOR EDUCATORS (Formerly MED 641)
Students examine the organizational behavior of schools and school systems, analyzing the politics, economics, finance, and sociology of education, with special emphasis on the teacher’s principal 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. Same as EDFD 687. 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 612. PRINCIPLES OF ADULT LEARNING
Students will demonstrate an understanding of theories and principles of adult development and learning, an understanding of their own development and experiences as a learner, demonstrate an understanding of how to assess the needs and interests of adult learners, and how to apply concepts introduced in the course to the teaching and coaching of adult learners. Specifically, students will apply adult learning theory to the facilitation of professional learning and reflection for teaching. Three credits

LEAD 615. STRATEGIES FOR WHOLE SCHOOL RENEWAL (Formerly MED 639)
Students explore strategies for renewing schools based on research into effective and ineffecive 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. Two credits

LEAD 620. SUPERVISION AND TEACHER DEVELOPMENT
Students examine various 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 621. LEADERSHIP IN COLLABORATIVE PROFESSIONAL LEARNING
Students will gain an understanding of and the ability to lead in varied collaborative professional learning approaches, including professional learning communities, coaching (instructional, data, and content area), mentoring, lesson study, and online collaboration. Students will gain practical experience as members of a professional team in analyzing student work and data, and creating lessons to improve student learning. Three credits

EDUC 600. INTRODUCTION TO GRADUATE TEACHER EDUCATION
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 legal and socially appropriate roles of the educator in both private and public educational settings. Same as LEAD 648. Three credits

EDEL 651. FAMILY CONSULTATION AND SUPPORT
Candidates will acquire the knowledge to engage, support and collaborate with the families of students with disabilities. Candidates will gain an understanding of the law, assessment and diagnosis on families, transitioning students between various school settings, transitioning between pre-school and adulthood, and collaboration with community to aid in post school opportunities. Candidates will also acquire knowledge in the diversity of students and backgrounds, and the law of education. Three credits

EDEL 680-690. SPECIAL TOPICS
Selected topics of interest. Permission of the Director of the Graduate Education Program required. One to 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 skills. Topics include decoding, phonics, reading comprehension, fluency, writing, and sharing 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 652)  
Candidates master instructional strategies used to enhance the learning and instruction of K-12 students with reading disabilities in both the regular and special education classroom. Topics include assessment, modification of instruction, research-based instructional practices in reading, and technology. Three credits

READ 633. READING ASSESSMENT STRATEGIES  
This course is designed to provide knowledge and experience with a variety of evaluation tools and techniques to assess individual learner strengths and needs as well as to create appropriate learning experiences based on assessment data. This course is required for the Reading Endorsement. Three credits

READ 634. THE READING AND WRITING CONNECTION  
This course will provide strategies to promote various kinds of writing as well as an understanding of the writing process. Strategies to integrate content areas to support the reading and writing growth will be explored. This course is required for the Reading Endorsement. Three credits

RELIGIOUS EDUCATION (RLED)

RLED 620. PASTORAL FOUNDATIONS OF CATHOLIC EDUCATION  
Students examine key dimensions of Catholic theology as a support for understanding the role and mission of Catholic education and to understand their responsibilities as leaders and teachers in Catholic schools. Three credits

RLED 625. CATHOLIC EDUCATION AND THE LASALLIAN TRADITION  
Students explore the foundations of education from a Catholic perspective and in relation to the Lasallian tradition and mission. Three credits

RLED 650. 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. Six 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 approved by the Chair of the Department of Religion and the Director of the Graduate Education Program. One to three credits

ENGINEERING

ENGINEERING MANAGEMENT (ENGM 600)  
ENGINEERING MANAGEMENT THEORY AND APPLICATIONS  
Management theories, concepts, and applications in an engineering or other technical environment; roles and responsibilities of the engineering manager as integral part of an organization’s overall performance; motivation and leadership theories and methodologies. Three credits
ENGM 601. APPLICATIONS IN ENGINEERING MANAGEMENT (Formerly MEM 601)
Engineering’s role in the firm; organization and structure; leadership and motivation; project management; concepts, methodologies, and procedures for engineering management. Three credits

ENGM 602. ENGINEERING ACCOUNTING (Formerly MEM 602)
Uses and limitations of accounting information; measurement, recording, and analysis of financial data; ratios and financial analysis. Three credits

ENGM 603. ENGINEERING FINANCIAL MANAGEMENT AND ACCOUNTING (Formerly MEM 603)
Understanding of financial decisions by corporations. Uses and limitations of accounting information. Topics include investment, return on assets, asset management, capital planning, budgeting, controls, taxes, and financial 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 practices on social, business and government institutions; issues of the engineer and scientist and their role 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 computer information storage; networks; computer graphics; future applications; management systems. Three credits

ENGM 607. OPERATIONS RESEARCH (Formerly MEM 607)
Linear programming; duality; sensitivity analysis; and network analysis and simulation. Three credits

ENGM 610. ADVANCED ENGINEERING ECONOMY
Application of engineering economic analysis in complex decision situations. Inflation and price changes; uncertainty evaluation using non-probabilistic techniques; capital financing and project allocation; evaluations involving equipment replacement, investment-optimized utilities, and public works projects; probabilistic risk analysis. Three credits

ENGM 611. ENTREPRENEURSHIP FOR ENGINEERING MANAGERS
Organizational and financial planning and evaluation, cost and location studies and market analysis to determine commercial feasibility of new products and services. Three credits

ENGM 612. TECHNICAL PROJECT MANAGEMENT
Development and management of engineering and technology projects. Project proposal preparation; resource and cost estimating; and project control. Three credits

ENGM 613. CONSTRUCTION EQUIPMENT & METHODS (Formerly MEM 613)
Surveying quantities of equipment, labor and materials for general construction projects: excavation, concrete and formwork, carpentry, masonry, structural steel, lath and plaster, interior finishes. Three credits

ENGM 614. CONSTRUCTION FAILURE (Formerly MEM 614)
Occupational safety hazards associated with the construction industry. Emphasis placed on recognition, evaluation and control of safety hazards, particularly as they relate to the Occupational Safety and Health Administration (OSHA) guidelines. Introduction to risk management strategies by identifying potential risks and assigning mitigation control measures. Three credits

ENGM 615. ENGINEERING CONSTRUCTION MANAGEMENT (Formerly MEM 615)
Development of the project schedule including estimate and contractual scheduling requirements examined. The application of the Critical Path Method (CPM) and Program Evaluation Review Technique (PERT) to construction planning, scheduled vs. actual job expenditures, cost forecasting, Proposal solicitation and preparation, bidding strategy, estimate types and content, quantity survey, ethics, and an introduction to computer use in estimating. Three credits

ENGM 616. STRATEGIC MANAGEMENT IN A TECHNICAL ENVIRONMENT
Strategic planning process and strategic management in practice; corporate vision and mission; product, market, organizational, and financial strategies; external factors; commercialization of new technologies; and competition and beyond. Three credits

ENGM 621. ENGINEERING LAW (Formerly MEM 621)
Legal principles and procedures; contracts and patents; liability, product liability, computer and environmental law; government regulation. Three credits

ENGM 624. KNOWLEDGE ENGINEERING (Formerly MEM 624)
Concepts and applications of Artificial Intelligence, Expert Systems, Artificial Neural Networks, Genetic Algorithms, and Software Agents. Three credits

ENGM 636. COMPUTER NETWORKS (Formerly MEM 636)
Fundamentals of computer networks. Introduction to computer networking elements, architectures and protocols. Design and analysis of networks and communication systems. Three credits

PHYSICIAN ASSISTANT STUDIES

PAS 601. HUMAN ANATOMY & PHYSIOLOGY/PATHOPHYSIOLOGY I
This is the first in a series of two courses that will provide a comprehensive study of human anatomy and physiology utilizing a regional approach to gain an appreciation and understanding of the structures and function of organ systems of the human body. The clinical significance of topographical and radiological anatomical features is emphasized. Virtual dissection and laboratory study complement lecture materials. Five credits

PAS 602. HUMAN ANATOMY & PHYSIOLOGY II
This course involves the ongoing study of the anatomy and physiological function of the human body. Course topics are broadly integrated with those covered in other courses within the semester to facilitate better understanding and comprehension. Prerequisite: PAS 601. Five credits
PAS 603. PUBLIC HEALTH
Students explore relevant health-care policy issues that impact healthcare delivery systems and the Physician Assistant profession. Students will learn to promote lifestyle of healthy choices and focus on prevention of disease. Areas of discussion address global health issues, identifying core competency resources, community responses to acts of destruction and addressing barriers such as cultural bias that might affect public health access, and differences in healthcare. Two credits

PAS 604. MEDICAL ETHICS AND LAW
Contemporary professional medical issues are discussed and debated. Issues discussed include ethical theories and issues as they apply to the PA and PA/Physician team, medical law, and developing a basic understanding of the current healthcare delivery system. One credit

PAS 605. RESEARCH METHODS
Students receive instruction in research methods and application in the clinical setting. Students will locate, appraise and integrate evidence from scientific studies, develop skills to apply this knowledge to their patients, apply knowledge of study designs and statistical methods to determine diagnostic and therapeutic effectiveness. Students are prepared to critically read published reports of clinical research and identify strengths and weaknesses and bring this to their practice in an efficient and cost-effective manner to ultimately benefit patient care. Two credits

PAS 606. CLINICAL PHARMACOLOGY AND THERAPEUTICS I
This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 608. HISTORY & PHYSICAL I
Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Three credits

PAS 609. CLINICAL PHARMACOLOGY AND THERAPEUTICS II
This is a continuation of Clinical Pharmacology and Therapeutics I. This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 610. CLINICAL MEDICINE II
This is a continuation of Clinical Medicine I course. This course continues to present a systems approach to the principles of disease processes; a review of basic anatomy, physiology, and pathophysiology; an emphasis on etiology of disease; recognition of signs and symptoms; development of a differential diagnosis, diagnosis, prognosis, treatment, patient education, disease prevention. Nine credits

PAS 611. HISTORY & PHYSICAL II
A continuation of Physical & History I. Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Prerequisite: PAS 608. Three credits

PAS 612. CLINICAL SKILLS I
This is the first of two courses that will focus on the development of a variety of clinical skills and procedures. Course introduces students to various medical procedures experienced in clinical practice. Students will practice skills utilizing models and simulation. Three credits

PAS 613. CLINICAL LABORATORY & MEDICAL GENETICS
This course identifies and describes common laboratory tests, demonstrates what types of laboratory tests to order for specific diseases and disorders, and reviews basic interpretation of laboratory test results. Order in and interpreting genetic testing and application of genetic information and results in the primary care setting will be discussed. Two credits

PAS 614. CLINICAL PHARMACOLOGY AND THERAPEUTICS III
A continuation of Clinical Pharmacology and Therapeutics II, this clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Prerequisite: PAS 609. One credit

PAS 616. INTRODUCTION TO EMERGENCY MEDICINE
This course is designed to provide the students with an introduction and an overview to the discipline of Emergency Medicine. Emphasis will also be placed on acute care and surgical conditions. Two credits

PAS 617. CLINICAL SKILLS II
This is a continuation of PAS 612 in providing students with instruction and practice in clinical procedures utilizing simulation and models to facilitate skill acquisition. Three credits

PAS 618. BEHAVIORAL MEDICINE
This course is designed to provide the student with information to interact effectively and efficiently with patients and family. Information will be provided on behavioral issues that impact health, the genetic and environmental aspects of behavioral disorders, etiology and treatment of substance abuse, responses and coping mechanisms for stress, growth and development, life cycle development, personality development, human sexuality, death and dying and bereavement. Students will develop techniques to evaluate, diagnose, and manage various conditions including those of psychiatric origin as well as the importance of timely referrals to other healthcare professionals. Two credits

PAS 620. INTRODUCTION TO THE PA PROFESSION
This course introduces students to the physician assistant profession. Topics of discussion include history of the profession, national and state organizations, federal and state laws affecting practice, education, integrity, developing a team approach to healthcare, diversity and cultural bias and discussing the future of the PA profession. The course will begin to provide the student with direction in obtaining a medical history. Two credits

PAS 621. CLINICAL MEDICINE I
This is the first of a three course series in which the practice of evidence based medicine is utilized in the study of an organ systems approach to the principles of acute and chronic disease processes in clinical medicine. Emphasis is placed on the etiology of disease, recognition of signs and symptoms, development of differential diagnosis, diagnosis, prognosis, management, patient education, indications for referral and disease prevention. Five Credits

PAS 625. SPECIAL TOPICS
Special topics in Physician Assistant Studies. One to nine credits

PAS 626. SPECIAL TOPICS
Special topics in Physician Assistant Studies. One to nine credits

PAS 646. CLINICAL MEDICINE III
This is a continuation of Clinical Med I & II studying the etiology, presentation, evaluation and management of various diseases and disorders. Instructional emphasis is on the etiology of disease, signs and symptoms, differential-diagnosis, diagnosis, prognosis, treatment, patient education, disease prevention. Nine credits

PAS 730. GRAND CLINICAL ROTATIONS I
Students will begin this course by attending a series of workshops that will further prepare and orient them for the clinical education experience. Students will be assigned to participate in clinical experiences facilitated by Program Clinical Preceptors and Clinical Adjunct Faculty. Rotation assignments (required or elective) will be scheduled by Clinical Staff of the program faculty. Prerequisite: Requires Departmental Approval. Eight credits

PAS 740. GRAND CLINICAL ROTATIONS II
Students will continue their clinical education experiences. Rotation assignments will typically include required or elective experiences however exceptional educational experiences of limited availability may be assigned as an elective by Program Clinical Staff. Sixteen credits

PAS 750. GRAND CLINICAL ROTATIONS III
Students will continue their clinical educational experiences upon completion of their remaining required, elective, and elective rotations within this course. The clinical experiences continue to be facilitated by Program Clinical Preceptors and Clinical Adjunct Faculty. Students will attend seminars to prepare them for topics including but not limited to the PANCE examination and procedure for attaining state licensure. Twenty credits

PAS 751-759. SPECIAL TOPICS
Special topics in Physician Assistant Studies are clinically based and departmentally approved and assigned. One to twenty credits

PAS 605. RESEARCH METHODS
Students receive instruction in research methods and application in the clinical setting. Students will locate, appraise and integrate evidence from scientific studies, develop skills to apply this knowledge to their patients, apply knowledge of study designs and statistical methods to determine diagnostic and therapeutic effectiveness. Students are prepared to critically read published reports of clinical research and identify strengths and weaknesses and bring this to their practice in an efficient and cost-effective manner to ultimately benefit patient care. Two credits

PAS 606. CLINICAL PHARMACOLOGY AND THERAPEUTICS I
This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 608. HISTORY & PHYSICAL I
Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Three credits

PAS 609. CLINICAL PHARMACOLOGY AND THERAPEUTICS II
This is a continuation of Clinical Pharmacology and Therapeutics I. This clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Two credits

PAS 610. CLINICAL MEDICINE II
This is a continuation of Clinical Medicine I course. This course continues to present a systems approach to the principles of disease processes; a review of basic anatomy, physiology, and pathophysiology; an emphasis on etiology of disease; recognition of signs and symptoms; development of a differential diagnosis, diagnosis, prognosis, treatment, patient education, disease prevention. Nine credits

PAS 611. HISTORY & PHYSICAL II
A continuation of Physical & History I. Lecture and practical laboratory course covering theory and application of interviewing skills, history and physical examination skills, elicitation and documentation of patient data, and clinical procedures. Students demonstrate competence through practical evaluations, written documentation, and oral presentations. Prerequisite: PAS 608. Three credits

PAS 612. CLINICAL SKILLS I
This is the first of two courses that will focus on the development of a variety of clinical skills and procedures. Course introduces students to various medical procedures experienced in clinical practice. Students will practice skills utilizing models and simulation. Three credits

PAS 613. CLINICAL LABORATORY & MEDICAL GENETICS
This course identifies and describes common laboratory tests, demonstrates what types of laboratory tests to order for specific diseases and disorders, and reviews basic interpretation of laboratory test results. Ordering and interpreting genetic testing and application of genetic information and results in the primary care setting will be discussed. Two credits

PAS 614. CLINICAL PHARMACOLOGY AND THERAPEUTICS III
A continuation of Clinical Pharmacology and Therapeutics II, this clinically oriented course provides students with knowledge required for the safe and effective use of pharmaceutical agents in the diagnosis, prevention, and treatment of diseases through an understanding of pharmacokinetics and pharmacodynamics. Prerequisite: PAS 609. One credit

PAS 616. INTRODUCTION TO EMERGENCY MEDICINE
This course is designed to provide the students with an introduction and an overview to the discipline of Emergency Medicine. Emphasis will also be placed on acute care and surgical conditions. Two credits

PAS 617. CLINICAL SKILLS II
This is a continuation of PAS 612 in providing students with instruction and practice in clinical procedures utilizing simulation and models to facilitate skill acquisition. Three credits

PAS 618. BEHAVIORAL MEDICINE
This course is designed to provide the student with information to interact effectively and efficiently with patients and family. Information will be provided on behavioral issues that impact health, the genetic and environmental aspects of behavioral disorders, etiology and treatment of substance abuse, responses and coping mechanisms for stress, growth and development, life cycle development, personality development, human sexuality, death and dying and bereavement. Students will develop techniques to evaluate, diagnose, and manage various conditions including those of psychiatric origin as well as the importance of timely referrals to other healthcare professionals. Two credits
### ACADEMIC CALENDAR FOR 2014-2015

#### 16 Week Programs

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</thead>
<tbody>
<tr>
<td>AUGUST</td>
<td>21</td>
<td>Thursday</td>
<td>CBU Community Convocation</td>
<td></td>
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<tr>
<td></td>
<td>22</td>
<td>Friday</td>
<td>Transfer Student Orientation</td>
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<td></td>
<td>22-24</td>
<td>Fri.-Sun.</td>
<td>Welcome Weekend</td>
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<tr>
<td></td>
<td>25</td>
<td>Monday</td>
<td>First Day of Classes</td>
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<tr>
<td></td>
<td>29</td>
<td>Friday</td>
<td>Last Day to Add/Drop Courses</td>
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<tr>
<td>SEPTEMBER</td>
<td>1</td>
<td>Monday</td>
<td>Labor Day Holiday</td>
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<tr>
<td>OCTOBER</td>
<td>17</td>
<td>Friday</td>
<td>Last Day to Remove &quot;I&quot; Grades</td>
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<tr>
<td></td>
<td>20</td>
<td>Monday</td>
<td>Mid-Term Grades Due 10:00 a.m.</td>
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<tr>
<td></td>
<td>20-24</td>
<td>Mon.-Fri.</td>
<td>Fall Break</td>
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<tr>
<td>NOVEMBER</td>
<td>6</td>
<td>Thursday</td>
<td>Last Day to Withdraw from Courses</td>
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<tr>
<td></td>
<td>27-30</td>
<td>Thurs.-Sun.</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>DECEMBER</td>
<td>12</td>
<td>Friday</td>
<td>Last Day of Classes</td>
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<tr>
<td></td>
<td>15-19</td>
<td>Mon.-Fri.</td>
<td>Final Exam</td>
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<tr>
<td></td>
<td>22</td>
<td>Monday</td>
<td>Grades Due 10:00 a.m.</td>
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</tr>
</tbody>
</table>

#### SPRING SEMESTER 2015

| JANUARY            | 9        | Friday                           | New Student Orientation         |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 12       | Monday                           | First Day of Classes            |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 16       | Friday                           | Last Day to Add/Drop Courses    |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 19       | Monday                           | Martin Luther King Day - Holiday|                                 |                                 |                                 |                                 |                                 |                                 |
| MARCH              | 6        | Friday                           | Last Day to Remove "I" Grades   |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 9        | Monday                           | Mid-Term Grades Due 10:00 a.m.  |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 9-13     | Mon.-Fri.                        | Spring Break                     |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 26       | Thursday                         | Last Day to Withdraw from Courses|                                 |                                 |                                 |                                 |                                 |                                 |

| APRIL              | 2-6      | Thurs.-Mon.                      | Easter Holiday                   |                                 |                                 |                                 |                                 |                                 |                                 |

| MAY                | 4        | Monday                           | Last Day of Classes              |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 5        | Tuesday                          | Study Day                        |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 6-11     | Wed.-Mon.                        | Final Exam                       |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 12       | Tuesday                          | Grades Due 10:00 a.m.            |                                 |                                 |                                 |                                 |                                 |                                 |
|                   | 16       | Saturday                         | Commencement                     |                                 |                                 |                                 |                                 |                                 |                                 |
### ACADEMIC CALENDAR FOR 2014-2015
#### All 8-Week Programs

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<thead>
<tr>
<th>Term</th>
<th>Dates</th>
<th>Events/Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Fall Term 2014</td>
<td>AUGUST 23, 29</td>
<td>Saturday, First Day of Classes, Last Day to Drop Courses*</td>
</tr>
<tr>
<td></td>
<td>SEPTEMBER 1, 26</td>
<td>Monday, Labor Day Holiday, Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td></td>
<td>OCTOBER 17-18, 20</td>
<td>Fri-Sat, Final Exams, Monday, Grades Due 10:00 a.m.</td>
</tr>
<tr>
<td>Second Fall Term 2014</td>
<td>OCTOBER 25, 31, 27-30</td>
<td>Saturday, First Day of Classes, Thursday-Sunday, Thanksgiving Holiday, Friday, Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td></td>
<td>NOVEMBER 28</td>
<td>Friday, Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td></td>
<td>DECEMBER 19-20</td>
<td>Fri-Sat, Final Exams, Monday, Grades Due 10:00 a.m.</td>
</tr>
<tr>
<td>First Spring Term 2015</td>
<td>JANUARY 10, 16, 19</td>
<td>Saturday, First Day of Classes, Friday, Last Day to Drop Courses*</td>
</tr>
<tr>
<td></td>
<td>FEBRUARY 13</td>
<td>Friday, Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td></td>
<td>MARCH 6-7, 9</td>
<td>Fri-Sat, Final Exams, Monday, Grades Due 10:00 a.m.</td>
</tr>
<tr>
<td>Second Spring Term 2015</td>
<td>MARCH 14, 20</td>
<td>Saturday, First Day of Classes, Friday, Last Day to Drop Courses*</td>
</tr>
<tr>
<td></td>
<td>APRIL 2-6, 17</td>
<td>Thursday, Easter Holiday, Friday, Last Day to Withdraw from Courses</td>
</tr>
<tr>
<td></td>
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<td>Fri-Sat, Final Exams, Monday, Grades Due 10:00 a.m.</td>
</tr>
<tr>
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<td>MAY 30, 5</td>
<td>Saturday, First Day of Classes, Friday, Last Day to Drop Courses*</td>
</tr>
<tr>
<td></td>
<td>JUNE 10, 24-25, 22</td>
<td>Friday, Independence Day Holiday, Last Day to Withdraw from Courses, Final Exams, Monday, Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

* Courses may be added only prior to the second class meeting of any course.

### ACADEMIC CALENDAR FOR 2015
#### Summer Terms, Day and Professional Studies Programs

<table>
<thead>
<tr>
<th>Term</th>
<th>Dates</th>
<th>Events/Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUNE Session 2015 (5 Weeks)</td>
<td>MAY 26, 27</td>
<td>Tuesday, First Day of Classes, Wednesday, Last Day to Add/Drop Courses</td>
</tr>
<tr>
<td></td>
<td>JUNE 15, 26, 29</td>
<td>Monday, Last Day to Withdraw from Courses, Friday, Final Exams</td>
</tr>
<tr>
<td>JULY Session 2015 (5 Weeks)</td>
<td>JUNE 6, 7, 21</td>
<td>Monday, First Day of Classes, Last Day to Add/Drop Courses from Courses</td>
</tr>
<tr>
<td></td>
<td>AUGUST 7, 10</td>
<td>Friday, Final Exams, Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

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#### Summer Terms, Graduate Education Program

<table>
<thead>
<tr>
<th>Term</th>
<th>Dates</th>
<th>Events/Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUNE Session 2015 (4 Weeks)</td>
<td>JUNE 1, 2, 17, 27</td>
<td>Monday, First Day of Classes, Tuesday, Last Day to Add/Drop Courses, Wednesday, Last Day to Withdraw from Courses, Friday, Final Exams</td>
</tr>
<tr>
<td></td>
<td>JUNE 30, 31</td>
<td>Monday, Last Day to Drop Courses, Independence Day Holiday</td>
</tr>
<tr>
<td>JULY Session 2015 (4 Weeks)</td>
<td>JUNE 1, 7, 16, 26</td>
<td>Monday, First Day of Classes, Tuesday, Last Day to Add/Drop Courses, Wednesday, Last Day to Withdraw from Courses, Friday, Final Exams</td>
</tr>
<tr>
<td></td>
<td>MAY 29, 30, 31</td>
<td>Monday, Grades Due 10:00 a.m.</td>
</tr>
</tbody>
</table>

#### ACADEMIC CALENDAR FOR 2015
#### Summer Terms, Physician Assistant Studies Program

<table>
<thead>
<tr>
<th>Term</th>
<th>Dates</th>
<th>Events/Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER Session 2015 (12 Weeks)</td>
<td>MAY 18, 22</td>
<td>Monday, First Day of Classes, Friday, Last Day to Drop Courses</td>
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<tr>
<td></td>
<td>JUNE 29</td>
<td>Monday, Mid-Term Grades Due 10:00 a.m.</td>
</tr>
<tr>
<td>JULY 2, 3</td>
<td>Thursday, Friday</td>
<td>Last Day to Withdraw from Courses, Independence Day Holiday</td>
</tr>
<tr>
<td>AUGUST 3-7, 10</td>
<td>Monday, Final Exams, Grades Due 10:00 a.m.</td>
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