
ARMY ROTC COURSES DESCRIPTIONS

MSL 1010: Foundations of Officership. **3 credits**
Designed to generate interest and further study into military science and the U.S. Army. Must be taken concurrently with MSL 1010L.

MSL 1020: Basic Leadership. **3 credits**
Designed to generate interest and further study into military science and the U.S. Army plus build upon the experiences learned in MSL 1010. Must be taken concurrently with MSL 1020L.

MSL 2010: Leadership and Teamwork. **3 credits**
Examines how to build successful teams, various methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem solving process, and obtaining team

buy-in through immediate feedback. Students apply, practice, and experience leadership principles. Must be taken concurrently with MSL 2010L.

MSL 2020: Individual Leadership Studies. **3 credits**
Examines how to build successful teams, various methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem solving process, and obtaining team buy-in through immediate feedback. Must be taken concurrently with MSL 2020L.

MSL 3010: Leadership and Problem Solving. **3 credits**
Introduction to the U.S. Army's organization and small unit operations and decision-making. The course is designed to enable a student with no prior military or cadet experience to quickly learn the essential cadet knowledge and skills necessary for successful performance as an MSL III cadet. Emphasis will be on developing leadership skills through operations orders, troop leading procedures, small-unit operations and basic soldier skills. Must be taken concurrently with MSL 3010L.

MSL 3020. Leadership and Ethics. **3 credits**
Expounds upon concepts and lessons learned during MSL 3010. The purpose is to reinforce knowledge gained and continue to prepare students for roles as small-unit leaders in a mentally and physically challenging environment. Emphasis is on developing leadership skills through extensive exposure to operations orders and troop leading procedures, application of small-unit skills, rehearsal of battle-drills, and small-unit tactics, and an introduction to military small-group dynamics. Must be taken concurrently with MSL 3020L.

MSL 4010. Military Science and Leadership. **3 credits**
Designed to enable cadets to make informed decisions to prepare for Army careers. Lessons concentrate on Army operations, training management, communications, leadership skills, and support the beginning of the final transition from cadet to lieutenant. Must be taken concurrently with MSL 4010L.

MSL 4020. Officership. **3 credits**
Students will complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze, and demonstrate their leadership skills. The primary focus of instruction is to provide a foundation from which a cadet transitions to his/her commission as a second lieutenant in America's Army and officer corps. This course enables students to attain knowledge and proficiency in Ethics, Military Law, Personnel Administration, and Supply Management. Must be taken concurrently with MSL 4020L.

NAVY ROTC COURSE DESCRIPTIONS

MNAS 101: Naval Orientation. **3 credits**
Provides an introduction to the United States Navy and Marine Corps including organization, traditions and regulations, career opportunities and shipboard safety and emergency procedures. Also covers study and test-taking skills and develops writing ability throughout the semester.

MNAS 102: Seapower and Maritime Affairs. **3 credits**
Provides an understanding of broad principles, concepts, and elements of seapower and maritime affairs. Examines the history and modern political applications of seapower as it relates to the United States and other nations.

MNAS 201: Naval Weapons Systems. **3 credits**
Introductory study of engineering principles using Naval Weapon Systems as examples for study. Students develop a fundamental working knowledge of weapon system components and subsystems and their contribution to the overall system. Topics covered include radar and underwater sound propagation theory, weapon capabilities and the role that they play in the Navy's mission.

MNAS 202: Naval Engineering. **3 credits**
Provides an introduction to engineering using naval propulsion plants as examples for study. Subjects covered include thermodynamics, the steam cycle (both conventional and nuclear), internal combustion and gas turbine engines, electrical distribution systems, hydraulics, refrigeration cycles and basic naval architecture including stability and buoyancy.

MNAS 301: Navigation I. **3 credits**
Provides theory and techniques of navigation at sea. Areas of emphasis include: dead reckoning, piloting, rules governing waterborne traffic and utilization of nautical charts, tables and navigational instruments such as the sextant. Advanced electronic navigation systems are also introduced.

MNAS 302: Navigation II. **3 credits**
Provides an understanding of the elements and principles of naval operations. Introduced are command responsibility, tactical doctrine, communication procedures, and relative movement problems. Practical applications include a review of navigation techniques.

MNAS 310: Evolution of Warfare. **3 credits**
Studies forms of warfare practiced by past and present military strategists on economical, psychological, moral, political, and technological factors. Selected campaigns are studied, with emphasis on the leadership, evolution of tactics, weaponry, and principles of war. Warfare strategies, policies and doctrines are studied from prehistoric periods to the dawn of the modern era.

MNAS 401: Naval Leadership and Management. **3 credits**
Theme is "junior officer as a manager, organizational decision maker and leader." Provides a comprehensive advanced level study of organizational behavior and management. Major behavioral theories and their practical applications are explored in detail. Other topics developed include values, ethics, decision-making, communication, responsibility, authority, accountability, and total quality leadership (TQL).

MNAS 402: Naval Leadership and Ethics. **3 credits**
As the capstone course of the naval science curriculum, it discusses and develops an overview of the duties, responsibilities, and expectations of a junior naval officer. Includes the study of significant features of military law, values, ethics, leadership, divisional maintenance administration and training. Also covers elements of personal affairs such as finance, orders, benefits, travel and related topics.

MNAS 420: Amphibious Warfare. **3 credits**
Provides an understanding of the importance of projecting sea power ashore with emphasis placed on the Battle of Marathon in Athens in 410 B.C., the Gallipoli campaign and the Battle of Inchon in 1950. The student will gain an appreciation for the application for Amphibious Warfare from the pre-modern age to contemporary times. Strategic concepts and tactical considerations will be studied in planning specific operations and amphibious landings.

**MNAS 110L/111L, 210L/211L, 310L/311L,
and 410L/411L: Naval Science Drill.** **0 credit**
Leadership laboratory taken by all midshipmen. Students receive a grade of "P" for satisfactory completion. Satisfies core curriculum requirement for physical education.

AEROSPACE STUDIES (AFROTC) COURSE OF INSTRUCTION

AS 1110: Introduction to the Air Force Today I. 1 credit

Description: Examines the role of the US Air Force in the contemporary world by studying national security objectives and the uses of national power to achieve objectives. Includes background, mission, and organization of the Air Force, through a study of the total force structure, strategic offensive and defensive forces, and aerospace support forces. Promotes an understanding of the concepts of professionalism and officership as they apply to the military. Emphasis is on the development of oral and written communication skills.

AS 1111: Leadership Laboratory. 1 credit

Introduction to the customs, traditions, and courtesies of the Air Force through drill and ceremonies, guest speakers, physical fitness activities, sports, and base visits. Grading is pass/fail only. *Corequisite AS1110.*

AS 1120: Introduction to the Air Force Today II. 1 credit

Continues the study of the US Air Force mission, opportunities and benefits, and military history. Course also emphasizes the progression from cadet to Air Force officer, and the preparation for and application of written and oral interpersonal communication skills.

AS 1121: Leadership Laboratory. 1 credit

Continuation of CAS 1111. Emphasis on role and responsibilities of an Air Force junior officer. Air Force customs and courtesies, drill and ceremonies, and introduction to the military environment. Grading is pass/fail only. *Corequisite: AS 1120.*

AS 2210: US Air Power: Ascension to Prominence. 1 credit

An introduction to the study of air power and how technology has affected the growth of air power. The course is developed from a historical perspective, starting from before the Wright Brothers and continuing through the interwar years of 1919-1937. A section on communication will also be taught so one can better appreciate the importance of communication in the Air Force. This course will also initiate one's preparation for field training.

AS 2211: Leadership Laboratory. 1 credit

Emphasizes development of techniques used to direct and inform. Students are assigned leadership and management positions in the CAS 1111 program described above. Grading is pass/fail only. *Corequisite: AS 2210*

AS 2220: US Air Power: Key to Deterrence. **1 credit**
Continues the history of air power since the Korean War, with emphasis on the US Air Force. Includes the role of air forces in conflicts, and the effect of space-age technology on air power. Also examines the peaceful employment of US air power. *Prerequisite: None.*

AS 2221: Leadership Laboratory. **1 credit**
Continuation of AS 2211. Adds a special program in preparation for Field Training. Grading is pass/fail only. *Corequisite: AS 221.1.*

AS 3310: Air Force Leadership Management. **3 credits**
Principles, styles, and perspectives of leadership and management with emphasis placed on their application to today's Air Force. Case studies are used to examine Air Force management situations. *Prerequisite: None.*

AS 3311: Leadership Laboratory. **1 credit**
Supervisory practice and exercise of leadership functions in controlling and directing activities of the cadet corps. Practical development of leadership potential. Grading is pass/fail only. *Corequisite: AS 3310.*

AS 3320: Management and Leadership. **3 credits**
Continuation of AS 3321 with emphasis now on leadership. Leadership concepts and professional ethics explored through the use of case studies and interactive class exercises. Communications skills are also emphasized.

AS 3321: Leadership Laboratory. **1 credit**
Continues AS 3311 emphasis on supervisory and leadership skills. Emphasis on advantages of an Air Force career. Grading is pass/fail only. *Corequisite: AS 3310.*

AS 4410: Civil-Military Relations. **3 credits**
A study of the environment of current and historical civil military relations and the relations of the branches of government in shaping national security policy. Emphasis is on integration of current events into course topics. Students are asked to challenge current ideas on National Security Policy. Introduces the student to the problems and issues confronting American national security and the process by which American national security policy is formulated.

AS 4411: Advanced Leadership Development Laboratory. **1 credit**
Exercise of management functions in planning, supervising, and directing cadet corps activities. Students acquire proficiency in military leadership skills. Grading is pass/fail only. *Corequisite AS 4410.*

AS 4420: United States Defense Policy and Preparation for Commissioning. **3 credits**
Study of selected issues that affect the military today. Topics include the laws of armed conflict, the military legal system, aerospace doctrine, military as a profession, officership, and the transition from civilian to military life. Communications skills are emphasized.

AS 4421: Leadership Laboratory. **1 credit**
Continues AS 4411. Emphasis on developing top-level management skills. To include the planning, organizing, and implementation of Aerospace Studies military training. Grading is pass/fail. *Corequisite: AS 4420.*

COURSE DESCRIPTIONS

COMPUTER LITERACY

3 credits

CCIS 100: Information Technology and Computer Applications.

This introductory core curriculum course deals with fundamentals, current trends, and issues of information technology; emphasizes computer concepts, computer applications, online interaction/World Wide navigation; and library research.

ENGLISH COMPOSITION

6 credits

CENG 105 and 106: English Composition I and II.

A one-year course emphasizing development of college-level writing skills. In CENG 105, students write multiparagraph essays, learning the importance of thesis, topic sentence and paragraph development, along with how purpose and audience control the focus of the idea. During CENG 106, students continue to work on multiparagraph themes, including the persuasive essay and the research paper. A minimum grade of "C" is required for each course. *CENG 105 is prerequisite to CENG 106.* These courses may not be taken simultaneously. A writing proficiency examination is administered as a requirement for exiting CENG 106.

FOREIGN LANGUAGE/CULTURE.**6 credits**

Two courses in the same Foreign Language at the Intermediate (200) level. Courses emphasize communication proficiency using the multimedia approach (Language in Action) and history and culture of the societies in which the language is spoken. A one-hour per week laboratory is required.

HISTORY**CHIS 201 and 202: The United States, Africa and the World I and II. 6 credits**

A one-year course focusing on the historical foundations and the complex evolutions over time of our modern world. CHIS 201 begins with the African origins of humankind and then examines the development of selected civilizations up to 1815. CHIS 202 places strong emphasis on the United States and its emergence as a world power. Other topics include colonialism, independence movements, feminism, labor movements and world war. In some programs, CHIS 211 and 212 may be substituted.

HUMANITIES**3 credits****One of the following courses:****CART 150: Art Appreciation.****3 credits**

Designed to provide students understanding and appreciation of the art forms of the world as well as knowledge of the social and intellectual influences affecting artistic forms. Lectures, discussions and visual aids are utilized to survey painting, sculptures, architecture and other forms of art from different cultures.

CHUM 228: Interdisciplinary Humanities I.**3 credits**

This course focuses on the diversity of cultural experiences primarily in the United States. The class uses readings from a wide variety of disciplines, from anthropology and sociology to literature, philosophy, religion, and art. Students will learn to think critically in this class through writing short papers and classroom discussion. This section concentrates on the issues of myth and the making of history, the natural and unnatural, identity, individual and community and religion and belief systems.

CHUM 230: Interdisciplinary Humanities II.**3 credits**

This course focuses on the diversity of cultural experiences primarily in the United States. The class uses readings from a wide variety of disciplines, from anthropology and sociology to literature, philosophy, religion, and art. Students will learn to think critically in this class through writing short papers and classroom discussion. This section concentrates on the issues of education, work and economy, state and nationalism, social change, and pop culture.

CMUS 120: Music Appreciation.**3 credits**

The course provides experiences in critical listening skills and introduces musical elements, forms, and Western historical periods from a multicultural perspective. Introduces the major musical eras and composers with an emphasis on aural perception of works. Includes the multifaceted musical contributions of African-American and diverse ethnic cultures of the world. No musical background or training is assumed or required. Students may substitute CMUS World Music.

CSTA 252: Theater Appreciation.**3 credits**

The course examines how theater functions as an art form through the exploration of the interrelationships of the audience, performer and space. Designed to study the nature of the theater experience by analyzing principles and practices that govern contemporary theater. Attendance at several professional theatrical performances may be required. literature

LITERATURE**3 credits****One of the following courses:****CENG 201: World Literature I.****3 credits**

Selected world masterpieces, with emphasis on literary texts from various cultures around the world. Introduces concepts and vocabulary required for reading, analyzing and interpreting literature. CENG 201 explores literature from the beginnings to the Renaissance. *Prerequisite: "C" or above in CENG 105 and 106.*

CENG 202: World Literature II.**3 credits**

Explores literature from the Renaissance to the present. *Prerequisite: "C" or above in CENG 105 and 106.*

MATHEMATICS**6/8 credits****Two courses from the following sequences (Departments should specify required sequence):****CMAT 103: Algebra I.****3 credits**

Basic concepts of arithmetic and algebra, the real numbers, first degree equations of one variable, inequalities, exponents, polynomials, factoring, algebraic fractions, coordinate geometry and linear systems, rational exponents and radicals, quadratic equations.

CMAT 104: Algebra II. **3 credits**
Linear models, polynomial and rational models, exponential and logarithmic models, mathematics of finance, systems of linear equations and matrices, linear programming.

CMAT 105: Pre-Calculus I. **3 credits**
Fundamentals of algebra for study in analytic geometry and calculus. Concepts include the real numbers system, basic algebra, equations and inequalities of first and second degree, and functions and their graphs. *Prerequisites: Department approval and at least two (2) years of high school mathematics, including algebra, or departmental placement.*

CMAT 106: Pre-Calculus II. **3 credits**
Fundamentals of trigonometry for study in analytic geometry and calculus. Concepts include trigonometry, systems of equations and inequalities, conic sections, and sequences and series. *Prerequisite: CMAT 105, or departmental placement.*

CMAT 108: Combined Pre-Calculus **6 credits**
This course emphasizes problem solving in mathematics. It will focus on concepts necessary to solve a variety of problems in algebra and trigonometry and enable the student to undertake a successful study of calculus, statistics or other intermediate level courses in mathematics.

CMAT 111: Calculus I. **4 credits**
Real numbers, functions, limits, derivatives, definite integrals and the applications of these topics. *Prerequisite: Proper placement score or CMAT 106 or CMAT 108.*

CMAT 112: Calculus II. **4 credits**
Topics covered include techniques of integration with applications to volume and surface area of solids of revolution and centers of mass, parametric equations, polar coordinates, improper integrals, and infinite series. *Prerequisite: CMAT 111.*

CMAT 209: Calculus and Analytic Geometry I. **3 credits**
Integrated course in analytic geometry and calculus designed for students in economics, business administration, and biology. The course provides students with the skills needed to study limits, functions, and differentiation. This course meets five days per week. *Prerequisites: CMAT 105, or departmental approval. This course is intended for Business majors.*

CMAT 210: Calculus and Analytic Geometry II. **3 credits**
Differentiation and integration of transcendental functions, definite integral, indefinite integral, area under curves, area between two curves, and differentiation of multivariable functions. This course meets five (5) days per week. *Prerequisite: CMAT 209. This course is intended for Business majors.*

PHILOSOPHY/RELIGION **3 credits**
One course from the following Philosophy/Religion Options:

CPHI 105: Critical Thinking. **3 credits**
Course focuses on the development of intellectual skills for all areas of study and on organization of ideas, identification of common errors in reasoning, and critical analysis of speeches and articles.

CPHI 221: Introduction to Philosophy. **3 credits**
Course focuses on basic issues studied by philosophers. The topics covered include the nature of freedom, the rational foundations for atheism, human existence and meaning, the nature of knowledge and issues in aesthetics.

CPHI 231: Ethics and Human Values. **3 credits**
Course provides detailed analysis of selected moral philosophers. Various approaches to value theory in conjunction with specific contemporary ethical issues are examined.

CREL 101: The Biblical Heritage. **3 credits**
The study of the literature of the Bible and its influence on the shaping of Western culture. Modern biblical scholarship is used to examine selected readings from the Old and New Testaments for their contributions to the understanding of human existence.

CREL 103 or 104: African-American Religious Experiences. **3 credits each**
CREL 103 provides analysis of the origin, development and social significance of African-American religious beliefs and practices from a historical perspective. CREL 104 emphasizes the contemporary period, including the latest developments in black liberation theologies.

CREL 211: Introduction to Religious Studies. **3 credits**
Introduction to the study of religion in a variety of contexts: historical, social, psychological, scientific, philosophical, artistic, and literary. Readings include representative works from the past and present.

CREL 250: Comparative Religion. **3 credits**
Course offers a comparative survey of selected religious traditions from the East and West, including traditional African religions, Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity and Islam.

CREL 251: Religious Ethics. **3 credits**
Course examines major ethical issues confronting contemporary society and considers appropriate ethical responses to issues from a religious perspective. Topics include sexual ethics, abortion, racism, sexism, the ethics of war (especially nuclear war), capital punishment, genetic engineering, euthanasia, and professional ethics.

PHYSICAL EDUCATION**1 credit****One course from any CPED 101 or 102 offerings:****CPED 101 AND 102: Physical Education.****1 credit**

These courses develop recreational skills and abilities for current and future participation in leisure time activities and provide a rationale for a physically fit lifestyle. Activities include badminton, volleyball, basketball, beginning swimming, tennis, modern dance, jazz exercise, softball, individual fitness programs, and varsity athletics.

The following courses/activity may serve as a substitute for the physical education requirement:

MSC 110: Orientation: The Military Role in Perspective.**1 credit**

Introduction to the Army ROTC program. Examines the need for military forces in society, the national security organization, and the Army's role in American defense strategy as well as provides a rationale for a physically fit lifestyle and an opportunity to learn appropriate behavior for selected activities to promote fitness.

NS 110/111: Naval Science Drill.

Leadership laboratory taken by all Midshipmen. Students receive a grade of "P" for satisfactory completion. Naval lab is taken by all Naval ROTC Midshipmen. Students participate in close order drill, physical training, military ceremonies and leadership training. Students are placed in leadership positions and evaluated on their development as a leader.

PSYCHOLOGY**3 credits****One course from the following:****CPSY 211: General Psychology.****3 credits**

Course includes basic psychological concepts and methodology and surveys major research areas, including the nervous system, perception, learning, motivation, development and personality with emphasis on the influences of gender and culture.

CPSY 218: Human Growth and Development.**3 credits**

Course includes examination of the issues, theories, and research on the cognitive, social, personality, and physical development of humans throughout the life span, with emphasis on the influences of gender and culture.

CPSY 301: Educational Psychology.**3 credits**

For prospective teachers: a survey of the basic principles, theories, and techniques of applying psychological theory to the learning process. Students identify common problems teachers confront in the classroom and apply course material to typical classroom situations.

SCIENCE**6/8 credits****Two courses from the following sequences (Department should specify sequence):****CBIO 101: Biological Science.****3 lecture hours**

A basic course in the biological sciences for nonscience majors. Topics include basic concepts of life and living organisms, their organization from atoms to organisms directed specifically toward the human being. Functioning and some disorders of various systems in the human body are taught.

CPHY 102: Physical Science.**4 lecture hours**

A basic course in the physical sciences for nonscience majors that covers basic concepts and topics of physics such as motion, space sciences, chemical process, conservation of energy, properties of heat, electricity and light. Three (3) lecture hours and one (1) two-hour laboratory per week.

CBIO 111 and 112: General Biology I and II.**4 credits each**

CBIO 111 provides an introduction to the basic principles of biology covering cells, organisms, and genetics. Topics covered include the cell surface, the role of the nucleus in cell division and regulation. Cell chemistry concepts of molecular biology, mitosis and meiosis, and alteration of generations receive special attention. CBIO 112 examines fundamental principles, concepts and facts of specific areas of biology, such as development, behavior, population biology and ecology. Covers developmental biology (growth and differentiation) and organismal physiology (nervous, hormonal, muscular, circulatory, excretory), and emphasis on regulation at the level of the organism. *Prerequisite: CBIO 111. Both courses require three (3) lecture hours and one (1) three-hour laboratory per week.*

CCHE 111 and 112: General Chemistry I and II.**4 credits each**

CCHE 111 covers fundamental theories and laws, chemical calculations, equations, period classification of the elements, structure of matter and ionization. CCHE 112 involves the study of chemical and ionic equilibria, nuclear chemistry, the chemistry of the metallic elements, and elementary qualitative analysis of cations and anions. Both courses require three (3) lecture hours and six (6) laboratory hours per week.

CPHY 111 and 112: General and Modern Physics.**4 credits each**

CPHY 111 introduces basic physics concepts of mechanics, heat, and sound, with emphasis on applications in broad areas such as chemistry and biology. *Prerequisite: three (3) units of high school mathematics, including algebra and trigonometry.* CPHY 112 introduces students to basic principles in the physics of electricity, magnetism, optics, and atomic physics. *Prerequisite: CPHY 111. Both courses require three (3) lecture hours and one (1) three-hour lecture-laboratory per week.*

SOCIAL SCIENCE**3 credits****One course from the following approved Social Science Options:****CSOC 105: Culture and Society.****3 credits**

The course explores social forces that affect behavior and values. Students consider, among others, such issues as male/female relationships within institutions and society, racial and sexual inequality and the interaction between culture and institutions.

CPSC 106: Politics and Global Issues.**3 credits**

The course introduces students to the discipline of political science and surveys the various fields of political science—comparative politics, political theory and international relations. Emphasis also lies with training students to use technology and to enhance skills of critical thinking, writing, and speaking.

CECO 107: Introduction to Economics.**3 credits**

A one-semester survey course designed to introduce students to the fundamental theories and concepts of economics. Topics covered include demand and supply analysis, the function of markets in the allocation of resources, measuring economic activities in the private as well as the public sectors, problems such as unemployment, inflation, income distribution and poverty, and domestic and international financial institutions and the working of global market systems.

SPEECH**CSTA 101: Fundamentals of Speech.****3 credits**

Introduces students to fundamental principles of effective oral communication as it relates to the professional world, focusing on audience analysis, interpersonal skills, effective listening techniques, and the preparation and delivery of oral presentations.

FIRST-YEAR SEMINAR**CGED 100 and 101: First-Year Student Seminar I and II. 1 credit each**

A two-semester requirement for first-year students and for transfer students with twenty-eight (28) or fewer credit hours. The seminars are provided to assist students in making transition to successful postsecondary study and to obtain the necessary academic and personal reinforcements to meet the myriad demands of University life and to persist to graduation.

HONORS PROGRAM COURSES

Following are descriptions of Honors Program course offerings. An "H" after the course number indicates an Honors section of the course.

CHON 100H and 102H: Freshman Honors Seminar. 1 credit each
Exploration of topics regarding adjustment to the demands of University life. Special attention is devoted to problems peculiar to Honors Program students. Satisfies requirement for First-Year Student Seminar.

CBIO 111H and 112H: General Biology (Science Majors). 4 credits each
CBIO 111: Introduction to the basic principles of biology, covering cells, organisms and genetics. CBIO 112: Fundamental principles, concepts, and facts of specific areas in biology. Three (3) lecture hours and three (3) laboratory hours per week.

CCHE 111H and 112H: General Chemistry. 4 credits each
CCHE 111: Fundamental theories and laws, chemical calculations, equations, periodic classification of the elements, structure of matter, and ionization. CCHE 112: Study of chemical and ionic equilibria, nuclear chemistry, chemistry of the metallic elements, and elementary qualitative analysis of cations and anions. Three (3) lecture hours and six (6) laboratory hours per week.

CECO 304H: Contemporary Economic Problems. 3 credits
A survey and application of economic theories, principles, and concepts. Emphasis is on identification of major issues affecting the American political economy, particularly those having significance for the economic well-being of black and other Third-World people. Satisfies core requirement for social science.

CENG 105H and 106H: English Composition. 3 credits each
Both courses examine ideas and systems of traditional and contemporary writers. CENG 105 includes basic research techniques. CENG 106 focuses on the development of a critical research project. Includes class discussion, debate, and individual and group projects designed to develop critical faculties. Satisfies General Education core requirement for English Composition.

CENG 201H or 202H: Introduction to World Literature. 3 credits
Readings are drawn from the ancient, medieval, Renaissance, and modern worlds. Works from several cultures and periods suggest ways in which cultures and periods shape the self. Satisfies General Education core requirement for literature.

CHIS 201H and 202H: United States, World and African History. 3 credits each
A one-year thematic course which provides an opportunity to analyze historical methodology and theories from a global perspective in relationship to social, economic, political and geographic factors. The past is examined in regard to understanding the present and predicting future events. Focus is on interaction between the continental peoples of Africa, North and South America, Asia and Europe. Satisfies General Education core requirement in history.

CHUM 209H: Cross Cultural Humanities. 3 credits
Study of social, religious, and literary movements and the individuals who have contributed to the cultural development of modern day society. Satisfies General Education core requirement for humanities.

CHON 390H: Independent Study. 1-6 credits
Students identify a problem, issue or topic, outside the major, to be explored in depth under the supervision of a teacher with expertise in the selected area. Credit hours may not exceed three (3) hours per semester, and cannot exceed six (6) hours during undergraduate tenure.

CHON 490H: Senior Thesis. 2 credits
Application of research methods to students' major area of concentration. They identify a research topic from their major courses, develop a research design, and complete the senior thesis under the guidance of an instructor.

CMAT 111H and 112H: Calculus I and II. 4 credits each
CMAT 111H incorporates mathematical research in calculus principles. CMAT 112H extends the mathematical research component and introduces the concept of continuity of a function of one variable, differentiation and integration of an algebraic function, and applications of the calculus to elementary problems in natural sciences and engineering.

CMAT 211H: Calculus III. 4 credits
Continuation of CMAT112 and includes three dimensional analytic geometry, partial derivatives, multiple integral, vector calculus and their applications.
Prerequisite: CMAT 112.

CMAT 212H: Differential Equations. 3 credits
Definition and classification of differential equations. Techniques for first order nonlinear equation, linear equations with constant and variable coefficients, methods of undetermined coefficients, variation of parameters, Cauchy-Euler equations, and other methods for solving nonlinear equations, series solutions.
Prerequisites: CMAT 112 or CMAT 210.

CMAT 214H: Linear Algebra. 3 credits
Introduction to linear algebra. Topics include vectors, matrices, linear equations, determinants, vector spaces with an inner product. *Prerequisites: CMAT 105 and CMAT 106, or equivalent.*

CPHI 105H: Critical Thinking. 3 credits
Development of intellectual skills for all areas of study. Focuses on organization of ideas, identification of common errors in reasoning, and critical analysis of editorials, speeches and articles.

CPHI 262H: Science, Technology, and Human Values. 3 credits
Exploration of fundamental value questions and dilemmas associated with training and research in the sciences. Covers applications of science to technology and industry. Satisfies General Education core requirement for religion or philosophy.

CPHI 362H: Social and Political Philosophy. 3 credits
Examination of philosophical assumptions underlying different political systems. Satisfies General Education core requirement for religion or philosophy.

CSCJ 215H: Introduction to Sociology. 3 credits
Basic concepts and principles of human society. Satisfies General Education core requirement for social science.

CPSY 211H: General Psychology. 3 credits
Survey of the history, basic principles, and major areas of research in psychology, including contributions made by African-Americans. Satisfies General Education core requirement.

HONORS PROGRAM COLLOQUIA

CCOL 104H: The American Black Woman. 2 credits
Exploration of the multidimensional nature of life of black women in North America from 1619 to the present. This colloquium provides knowledge and understanding of how black women's lives have been shaped by American systems.

CCOL 106H: Themes in Fiction of the American Diaspora. 2 credits
Identification and analysis of significant themes in the literature of Africa and the African Diaspora (that is, for purposes of this colloquium, the Americas where the Atlantic slave trade dominated).

CCOL 112H: Moral Problems in Contemporary Society. 2 credits
Consideration of current issues in biology and medicine which require ethical decisions.

CCOL 200H: College Campus Culture. 2 credits
Exploration of the social, emotional and intellectual behaviors which are transmitted and formed throughout college matriculation.

CCOL 202H: Humanities: Contemporary Music. 2 credits
Music appreciation and analysis of contemporary music, with emphasis on classical, folk, and black forms.

CCOL 202H: Contemporary Existentialist Thinking. 2 credits
Current trends of atheistic and theistic existentialist philosophies.

CCOL 205H: Southern Writers. 2 credits
Study of fiction, form, folk, and fact in representative works by and about Southern writers, with concentration on nineteenth- and twentieth-century works.

CCOL 302H: Dynamics of Leadership. 2 credits
Opportunity to explore leadership qualities and styles.

CCOL 402H: Black Self-Concepts.

2 credits

The aspirations, accomplishments, and progress of African-Americans against the historical background of W.E.B. DuBois' *Souls of Black Folk*.

HUMANITIES COURSE DESCRIPTIONS

CHUM 228: Interdisciplinary Humanities I. 3 credits

This course focuses on the diversity of cultural experiences primarily in the United States. The class will use readings from a variety of disciplines, from anthropology and sociology to literature, philosophy, religion, and art. Students will learn to think critically in this class through writing short papers and classroom discussion. This section concentrates on the issues of myth and the making of history, the natural and the unnatural, identity, individual and community, and religion and belief systems.

CHUM 230: Interdisciplinary Humanities II. 3 credits

This course focuses on the diversity of cultural experiences primarily in the United States. The class will use readings from a wide variety of disciplines, from anthropology and sociology to literature, philosophy, religion, and art. Students will learn to think critically in this class through writing short papers and classroom discussion. This section concentrates on the issues of education, work

ART COURSE DESCRIPTIONS

CART 115: Two-Dimensional Design. 3 credits
Studio problems in basic design explore the elements and principles of applied design theory.

CART 119: Theory of Color. 3 credits
Studio problems that cover the properties and effects of light and color. Exploration of basic color organizations and principles.

CART 150: Art Appreciation. 3 credits
Designed to provide students understanding and appreciation of the art forms in the world. Lectures, discussions and visual aids are utilized to survey the painting, sculpture, architecture and other forms of art from different cultures.

CART 201: Drawing I. 3 credits
Introduction to perceptual drawing skills. Focus is on the translation of three-dimensional forms to a two-dimensional surface.

CART 202: Drawing II. 3 credits
Continuation of CART 201. Emphasizes perceptual drawing skills. Students are also introduced to a variety of materials. *Prerequisite: CART 201.*

CART 215: Typography and Layout. 3 credits
Introduction to the study of letterforms, including a study of type faces and letter-spacing composition and their application to the design of visual communication materials. *Prerequisites: CART 115 and CART 119 or permission of instructor.*

CART 217: Printmaking I. 3 credits
Introduction to hand printmaking. Stresses creativity, experimentation, and development of skill and craftsmanship in printing procedures. *Prerequisite: CART 115, 119, 201 or permission of instructor.*

CART 275: Photography I. 3 credits
Basic photography skills for students with little prior knowledge of photography. Students are introduced to the basics of camera handling and image composition. One requirement of the course is a camera with a manually adjustable shutter speed control and aperture dial.

CART 315: Illustration I. 3 credits
Basic illustration conceptualization. Develops students' professional illustration techniques and processes. *Prerequisites: CART 201 and CART 202 or permission of instructor.*

CART 317: Printmaking II. 3 credits
Continuation of CART 217. Students introduced to intermediate printmaking concepts. *Prerequisites: CART 115, 119, 201, and 217.*

CART 320: Typography and Layout II. 3 credits
Continuation of CART 215. Assignments incorporate the use of type in applied materials, such as magazine layouts, book jackets, and record covers. *Prerequisite: CART 215 or permission of instructor.*

CART 321: Graphic Design I. 3 credits
Investigation of applied problems in visual communication. Study of design principles, production methods, and presentation. *Prerequisite: CART 115, 119, 215 or permission of instructor.*

CART 351: Basic Rendering Techniques. 3 credits
Instruction in rendering medical illustrations through the use of a variety of media.

CART 375: Photography II. 3 credits
Continuation of CART 275. Students are required to form a personal vision through directed assignments. *Prerequisite: CART 275 or permission of instructor.*

CART 379: Computer Graphics. 3 credits
Covers basic computer graphics imaging utilizing graphics software for visual communication. *Prerequisite: CART 115, 119, 201, or permission of instructor.*

CART 381: Three-Dimensional Design. 3 credits
Materials, methodology, principles of design, and basic concepts applicable to the execution of projects dealing with three-dimensional form.

CART 413: African Fabric Design. 3 credits
Focuses on analysis of African fabric designs in terms of their patterns and social functions. Emphasis is on the appropriate use of African fabric design for fashion and commercial art design.

CART 444: Seminar In Twentieth-Century Art. 3 credits
Investigates topics pertinent to the studio artist. Focus is on the impact of recent art history on the work of contemporary artists.

CART 464: Desktop Publishing. 3 credits
Introduces the student to the use of desktop publishing software. *Prerequisite: CART 215 and CART 321 or permission of instructor.*

CART 448 through 479: Directed Studies. **variable credits**

Research and advanced production techniques in a field of the student's special interest. Directed studies taken after completion of the course sequence available in the field of interest. Students may register for directed studies under the following course titles and numbers:

CART 451	Illustration
CART 452	Typography and Layout
CART 453	Printmaking (Silkscreen)
CART 456	Photography
CART 457	Printmaking (Intaglio)
CART 460	Printmaking (Lithography)
CART 461	Three-Dimensional Design
CART 462	Graphic Design
CART 466	Rendering Techniques
CART 479	Computer Graphics

CART 488: Internship. **3 credits**

On-the-job training in the work world. Students can qualify for an internship after the freshman year. *Prerequisite: permission of department chairperson.*

CART 492: Portfolio. **3 credits**

Capstone course for senior art majors. Includes preparation for portfolio presentation, job searches, interview techniques, oral presentations and organizing exhibitions. *Prerequisite: permission of department chairperson.*

FASHION DESIGN/MERCHANDISING COURSE DESCRIPTIONS

CFAS-210: Principles of Fashion Apparel. **3 credits**

Principles of fashion design and fashion merchandising. *Prerequisites: CART 115 and 119.*

CFAS 220: History of Costume. **3 credits**

Chronological study of costumes from ancient Egyptian to 20th-century styles. Emphasis on culture, art form, and climates are related to the cause and effect of costumes in each period. *Prerequisites: CART 115 and 119.*

CFAS 230: Textiles. **3 credits**

Study of fibers, yarns, and weaves, fancy weaves, finishes and dyes. Students develop a familiarity with the application of fabrics in the apparel field. *Prerequisites: CART 115 and 119.*

CFAS 240: Basic Construction Techniques. **3 credits**

Fosters the development of professional skills and techniques required for apparel construction. *Prerequisites: CART 115 and 119.*

CFAS 250. Visual Merchandising. **3 credits**

Facets of visual merchandising including the make-up of a Visual Merchandising department and the associated aspects of visual identity. *Prerequisites: CART 115 and 119.*

CFAS 310: Flat Pattern. **3 credits**

Fundamentals of basic principles of flat patternmaking are covered, including slopers for collars, sleeves, bodices, skirts, and pants. *Prerequisite: CFAS 240 or permission of instructor.*

CFAS 313: Principles of Retailing. **3 credits**

Study of retail industry, emphasizing the interdependence of functional operations of stores, types of merchandising, and the interrelationship of the major facets of the industry and its markets. *Prerequisites: CFAS 210, 220 and 250.*

CFAS 314: Principles of Fashion Marketing. **3 credits**

Comprehensive study integrating all phases of fashion marketing channels. Emphasis on the scope and importance of each phase and the necessity of identifying target markets and developing appropriate strategies. *Prerequisites: CFAS 210.*

CFAS 320: Draping. **3 credits**

The execution of a design from working sketch to a finished garment using draping techniques of fabric on the dress form. *Prerequisite: CFAS 310 or permission of instructor.*

CFAS 350: Fashion Accessory Design. **3 credits**

A capsulated overview of the field that identifies the industry's major components, products and processors, manufacturers and designers, retailers and promoters. *Prerequisites: CFAS 210, 220 and 240.*

CFAS 401 and 402: Fashion Buying and Merchandising I and II. **3 credits each**

One-year study of the principles of fashion merchandising. Examines budgeting, marketing objectives, volume and profit, merchandise assortment planning, expenditure control, and inventory management. Case studies highlight problems of the fashion marketplace. *Prerequisites: CMAT 103 and 104, CFAS 313, and 314.*

CFAS 410: Fashion Design Studio. **3 credits**

A comprehensive course that allows students to apply skills in the development of a line of merchandise incorporating patternmaking, apparel construction and portfolio preparation. *Prerequisite: CART 115, 119, 201, CFAS 240, 310.*

CFAS 420: Fashion Show Production. **3 credits**

Involves the production of a full-scale fashion show featuring student designs and methods of promotion.

CFAS 480: Internship.

3 – 6 variable credits

Student participation in a supervised fashion industry work experience to increase professional skills. Open only to majors.

COURSE DESCRIPTIONS

CENG 231, 331 and 431: Seminar. **3 credits each**
Opportunities for majors to acquire career preparation and additional academic enrichment. Required of all majors each year except Freshman year.

CENG 201 and 202: Introduction to World Literature I and II
(Offered each semester for English Majors) **3 credits each**
Selected world masterpieces, with emphasis on Western civilization and historical, literary, and philosophical antecedents of twentieth-century United States culture. Introduces concepts and vocabulary required for reading, analyzing, and interpreting literature. CENG 201 explores literature from the beginnings to the Renaissance, and CENG 202, the Renaissance to the present. *Prerequisite: "C" or above in CENG 105 and CENG 106.*

CENG 210: Literary Forms. **3 credits**
Introduction to the techniques of reading literature and writing about literature. English 210 includes the study of genre, rhetorical and literary devices, literary research and documentation. *Prerequisite to other English major courses.*

CENG 311: Advanced Grammar and Composition. **3 credits**
An advanced course in expository, descriptive, persuasive, and narrative writing, with emphasis on grammar, punctuation, and mechanics.

CENG 313 and 314: Survey of Major British Writers I and II. **3 credits each**
A study of authors whose lives, writings, and philosophies represent major stages in the literature of Great Britain. CENG 313 covers early British literature through the Renaissance; CENG 314 covers the Restoration to the present. CENG 313 includes writers such as Chaucer, Shakespeare, and Milton; CENG 314 includes writers from Dryden to Eliot.

CENG 315 and 316: Survey of Major United States Writers I and II. **3 credits each**
A chronological study of major writers in the United States from the eighteenth century to the present. CENG 315 explores early American writers, including Wheatley, Emerson, Irving, Poe, and Hawthorne. CENG 316 covers the literature from 1865 to the present; Whitman, Frost, Wright, Faulkner, Brooks and Morrison are included.

CENG 318: Colloquium. **3 credits**
An exploration of selected authors and literary works depending on the interests of faculty and students in the department.

CENG 320: Renaissance Literature. **3 credits**
A survey of major genres, authors, and social and philosophical changes in sixteenth century England. Included are writers such as Wyatt, Spenser, Marlowe, Kyd, Bacon, Donne, and Johnson.

CENG 321: The Romantic Period. **3 credits**
A study of general characteristics of the period and its intellectual and cultural focus. Wordsworth, Coleridge, Byron, Shelley, and Keats are some of the authors included.

CENG 322: The Victorian Period. **3 credits**
A study of major essayists, novelists, playwrights, and poets from 1832 to 1901.

CENG 350: Technical Writing. **3 credits**
An emphasis on oral and written skills for technical communication. English 350 covers the basic forms of technical writing, including reports, abstracts, letters, and illustrations. *Prerequisite: grade of "C" or better in CENG 105, and CENG 106.*

CENG 357: Folk Literature. **3 credits**
An introduction to folklore, emphasizing folk literature and the comparison of various ethnic groups. Both oral and written literature are studied, including riddles, nursery rhymes, fairy tales, superstitions, legends, and popular sayings.

CENG 358: Southern Fiction and Folk Literature. 3 credits

A study of representative works of southern writers, with concentration on nineteenth- and twentieth-century works by and about southerners. Emphasis is on creative works published after the Civil War.

CENG 397: Independent Study and Research. 3 credits

An opportunity for all majors to conduct guided research on an author, era, or issue in literary studies. Depending on faculty availability, students may combine these aspects to reflect their particular interests.

CENG 409: Shakespeare. 3 credits

A study of representative plays, including histories, tragedies, romances and comedies.

CENG 412: Creative Writing. 3 credits

An opportunity for the novice and the experienced creative writer to develop imaginative expression in poetry, fiction, and drama. The course introduces students to the means of publication and competition.

CENG 413: Autobiography and Biography. 3 credits

An interdisciplinary complement to previous or simultaneous study in literature, history, and culture. Focus is on the development of autobiography and biography as genres in the United States.

CENG 417: Methods of Teaching English in Secondary Schools. 3 credits

A study of recent trends in methodology and materials used in the teaching of composition and literature. CENG 417 is designed especially for prospective English teachers.

CENG 418: History of the English Language. 3 credits

An introduction to the study of language; the nature and function of language; and the historical changes in English phonology, morphology, grammar, and vocabulary from the beginnings of the language to the modern period.

CENG 419: Linguistics. 3 credits

A survey of the matter and methods of modern linguistics, with units on the nature of language, linguistics, phonology, morphology and grammar.

CENG 459 and 460: African-American Literature I and II. 3 credits each

A survey of African and African-American literature, with emphasis on the historical evolution and treatment of representative poetry, tales, short stories, and novels. CENG 459 covers colonial African-American literature to the Harlem Renaissance; CENG 460 covers the period from the Harlem Renaissance to the present.

CENG 461: Modern Literature. 3 credits

An examination of selected twentieth-century writers. CENG 461 emphasizes readings and discussions of significant works from Africa, Britain, Canada, India, Russia, the United States, and the Caribbean.

CENG 463: Medieval English Literature. 3 credits

A study of representative works from the Old and Middle English periods with special emphasis on Beowulf and Chaucer.

CENG 466: Restoration and Eighteenth-Century Literature. 3 credits

A study of English literature during the Restoration Period and the Augustan Age, with concentration on drama, poetry, the novel, and the essay. Works by Swift, Pope, Johnson, Fielding, Dryden, and selected minor writers are included.

CENG 467: Baldwin. 3 credits

An examination of the major essays, selected novels, and short stories of James Baldwin. The course explores significant influences and Baldwin's own understanding of himself as artist, black man, and United States citizen.

CENG 468: Internship. 3 credits

An opportunity for junior and senior English majors to do supervised career-related internships on or off campus. Students must discuss plans for internships with the chair of the Department of English prior to enrollment.

FRENCH COURSE DESCRIPTIONS

CFLF 101/102: Elementary French.

3 credits each

Allows the student to acquire a basic level of communication in French and a familiarity with a variety of Francophone cultures through the utilization of the language in context. A variety of media, including audio, video and the Internet will be employed to complement the textbook. Classes meet three (3) hours per week and an additional hour per week of laboratory work is required. *Prerequisites: None for Elementary French 101; CFLF 101 for Elementary French 102.*

CFLF 201/202: Intermediate French.

3 credits each

Allows the student to build on the knowledge and skills acquired in elementary French, with emphasis placed on communication proficiency and the forging of a strong linguistic base. In addition to the variety of media utilized in elementary French, a significant number of more authentic cultural artifacts (literary texts, newspaper articles, films) will be introduced throughout the semester. Classes meet three (3) hours per week and an additional hour per week of laboratory work is required. *Prerequisites: CFLF 102 or equivalent for Intermediate French 201; CFLF 201 or equivalent for Intermediate French 202.*

CFLF 307/308: Business French.

3 credits each

This course is an introduction to business in France and in Francophone countries. It covers business vocabulary, government requirements for business, letter writing, transportation, insurance, accounting, and labor relations. It also seeks to expand on students' communicative and productive skills acquired in the Intermediate French language sequence. Conducted entirely in French. *Prerequisite: CFLF 202 or Instructor's approval.*

CFLF 311/312: Survey of French Literature. 3 credits

This course will be a cursory treatment of the essential works of French literature in prose, poetry, theatre and philosophical thought. Particular emphasis will be placed upon the literary movements from the Middle Ages to the present, which had a social as well as political impact on France and the rest of the world. *Prerequisite: CFLF 202.*

CFLF 331: French Pronunciation and Phonetics. 3 credits

This course treats the proper pronunciation of French and the perfecting of a near-native French diction through the aid of phonetic transcription and authentic French videos and audio texts. *Prerequisite: CFLF 202.*

CFLF 332: French Conversation. 3 credits

This course deals with improving listening comprehension and oral expression by forcing the student to enhance his/her vocabulary through copious readings, viewing videos and discussing cultural topics. Emphasis will also be placed on writing. *Prerequisite: CFLF 202.*

CFLF 341/342: Advanced French Grammar. 3 credits

This is a third-year course designed to enhance students' proficiency in spoken and written French and to examine the most difficult idiomatic and literary expressions of the language. Frequent written and oral exercises will include themes, translations, reports on assigned subjects and compositions. *Prerequisite: CFLF 202.*

CFLF 355/356: Intensive Reading in French Literature. 3 credits each

This course teaches techniques in literary analysis of various genres of French literature. Works of the twentieth century will be of primary concern. Student is required to have a general mastery of the French language and culture. This course is recommended for students who plan to do graduate work in French. *Prerequisite: CFLF 341/342 or approval of instructor.*

CFLF 419: Introduction to Linguistics. 3 credits

This is an introduction to the scientific study of language with focus on analysis and description of language. Topics include language acquisition, writing systems, sound systems, meaning, and language change in society.

CFLF 431: Civilization of Francophone Africa. 3 credits

This course treats the history of the French-speaking peoples of Africa from the colonial period until the present. It will explore the geographical, political and social issues facing black Africa, even through the transitory post-colonial period, in preparation for in-depth study of the literature and cultures. *Prerequisite: CFLF 332 or 341.* (Recommended for majors and those students interested in studying abroad in Africa)

CFLF 434: Afro-French Novel. 3 credits

This course will trace the evolution of the African and Caribbean novel of French expression from its inception to the present. It will also treat other outside literary influences, such as the Harlem Renaissance, surrealism and the negritude movement, which significantly impacted the development of this dynamic literary genre. *Prerequisite: CFLF 431 or approval of instructor.* (Recommended for students interested in studying abroad in Francophone Africa)

CFLF 440/441: Directed Study. 3 credits

This course is designed to allow majors to do more in-depth study and investigation of special areas of interest or to improve their language proficiency. The student works under the close supervision of a professor who will prescribe a plan-of-action (which must be approved by the department chair in advance) to be followed. Student must be able to work independently on the Internet.

CFLF 447/448: French Civilization. 3 credits each

This course treats the history of France from its origin to the present. It will delve into the social and political institutions and explore their impact on contemporary French society. It will also provide a cursory view of artistic—architectural, musical and literary—as well as philosophical movements throughout the Ages.

CFLF 451: Methods of Teaching Foreign Languages: K-12. 3 credits

Introduction to the theories of child language acquisition; background of foreign language instruction, K-12; rationale for proficiency-oriented instruction in elementary, middle, and secondary grades; development of materials; assessment of second language proficiency in listening, speaking, writing, and reading; techniques for promoting cultural/global awareness; integration of language study into the curriculum; observation in foreign language classes.

CFLF 453: French Literature: 1800-1850. 3 credits

Study of the origins, development, and triumph of the Romantic Movement in France via the analysis of literary, historical, and critical texts. We will look in particular at the literary theories and manifestos, which contributed to and influenced the literary production of this period, and the manner in which such texts reveal the interaction between artistic expression and socio-political reality. By looking at more contemporary versions of these revolutionary modes of expression – in popular as well as “high” art – we will try to assess the legacy of this important movement.

CFLF 454: French Prose: 1850-1900. 3 credits

Study of the progressive dominance of the novel as a literary genre in the modern period. Special attention will be given to the influence of science – which begins to acquire unprecedented authority at this point in history – on literary production–, in key works of the so-called “Realist” and “Naturalist” movements. Perhaps even more important, we will observe how the objectives and discourse of science come to define literary criticism—writing on writing. Students will be required to analyze not only a number of literary texts of the period, but the analyses of such texts: is there such a thing as objective value in art?

CFLF 480: Senior Conference in French.

3 credits

This is a final-year directed independent study designed to explore and remedy specific areas of weakness of prospective graduates. Different assessment tools will be used to enhance the students' content knowledge and productive skills in the target language to meet the University and ACTFL standards.

CFLF 484/485: Travel-Study Seminar.

3 credits each

Travel and independent study in a foreign country under the guidance of responsible faculty members. Strongly recommended for majors and minors.

SPANISH COURSE DESCRIPTIONS

CFLS 101/102: Elementary Spanish.

3 credits each

Allows the student to acquire a basic level of communication in Spanish and a familiarity with a variety of Spanish-speaking cultures through the utilization of the language in context. A variety of media, including audio, video and the Internet will be employed to complement the textbook. Classes meet three (3) hours per week and an additional hour per week of laboratory work is required. *Prerequisites: None for Elementary Spanish 101; CFLS 101 for Elementary Spanish 102.*

CFLS 201/202: Intermediate Spanish.

3 credits each

Allows the student to build on the knowledge and skills acquired in elementary Spanish, with emphasis placed on communication proficiency and the forging of a strong linguistic base. In addition to the variety of media utilized in elementary Spanish, a significant number of more authentic cultural artifacts (literary texts, newspaper articles, films) will be introduced throughout the semester. Classes meet three (3) hours per week and an additional hour per week of laboratory work is required. *Prerequisites: CFLS 102 or equivalent for Intermediate Spanish 201; CFLS 201 or equivalent for Intermediate Spanish 202.*

CFLS 303: Spanish Pronunciation and Phonetics. 3 credits

This course treats the proper pronunciation of Spanish and the perfecting of a near-native Spanish diction through the aid of phonetic transcription and authentic Spanish videos and audio texts. *Prerequisite: CFLS 202.*

CFLS 304: Spanish Conversation. 3 credits

This course deals with improving listening comprehension and oral expression by forcing the student to enhance his/her vocabulary through copious readings, viewing videos and discussing cultural topics. Emphasis will also be placed on writing. *Prerequisite: CFLS 202.*

CFLS 307: Business Spanish. 3 credits

The course is designed to introduce students to basic business concepts while providing fundamental terminology and usage in Spanish. Students will acquire the rudiments of some functional areas of business, examine the protocol of business environments, read and analyze commercial texts. Sensitivity to and appreciation of cultural content and differences in the Hispanic business world are also integral parts of instruction. Conducted entirely in Spanish. *Prerequisite: CFLS 202.*

CFLS 308: Business Spanish. 3 credits

This course is a continuation of CFLS 307. It emphasizes the practical application of the concepts taught previously, practice in carrying out typical business transactions in Spanish, and writing business documents in Spanish. Translations and case analysis of the experiences of actual business entities in the Hispanic world are also integral parts of instruction. Conducted entirely in Spanish. *Prerequisites: CFLS 202 and/or CFLS 307.*

CFLS 315: Latin American Civilization. 3 credits

This course treats the geography, history, institutions, and cultural development of the Latin-American world. *Prerequisite: CFLS 304 or equivalent.*

CFLS 325/326: Survey of Peninsular Literature. 3 credits each

Study of the outstanding works of major authors and the major literary movements. The first half of these two-part series covers the Middle Ages to the Golden Age. The second half covers the seventeenth century to the present. *Prerequisite: CFLS 304 or equivalent.*

CFLS 327/328: Survey of Latin American Literature. 3 credits each

Study of the representative works of Latin American literature, including Afro-Hispanic literature. The first half of these two-part series covers the pre-Hispanic, colonial and independence eras. The second half covers post independence period to the present. *Prerequisite: CFLS 304 or equivalent.*

CFLS 335: Intensive Readings. 3 credits

Survey of grammar with emphasis on improving and reinforcing reading skills. *Prerequisite: CFLS 304 or approval of instructor.*

CFLS 336: Intensive Readings. 3 credits

Continuation of CFLS 335, involving reading and analysis of increasingly difficult texts from different fields. *Prerequisite: CFLS 335 or approval of instructor.*

CFLS 351/352: Composition and Translation. 3 credits each

Advanced problems in grammar and syntax, written exercises, and free composition. Features instruction in writing different genres and modifying writing style to accommodate specific audiences. Includes instruction in stylistic features of writing that distinguish Spanish from English. Conducted in Spanish. *Prerequisite: CFLS 304 or 335.*

CFLS 353: Spanish Literature of the Middle Ages. 3 credits

Introduction to the Spanish people through their literature of the twelfth, thirteenth, and fourteenth centuries. The selections studied illustrate national traits, or major facets of the Spanish people. Through reading these works, students become better acquainted with the evolution of Spanish literature and the people.

CFLS 354: Literature of the Golden Age. 3 credits

Analysis of conditions, which produced the Golden Age, with emphasis on the life and thought of Cervantes. Readings from the *Quixote* and *Novelas Ejemplares*.

CFLS 391/392: Advanced Spanish Grammar and Composition. 3 credits each

Instruction in advanced grammatical problems and stylistics, emphasizing the mastery of the use of nouns, pronouns, adjectives, adverbs, prepositions, and conjunctions. Also includes instruction in the formation of simple and complex sentence structures. Conducted in Spanish. *Prerequisite: CFLS 202 or equivalent.*

CFLS 411: Latin American Literature. 3 credits

Main trends of Spanish-American literature from the colonial to the contemporary period. Includes lectures, commentaries, and class discussion. *Prerequisite: CFLS 315.*

CFLS 415: Survey of Peninsular Civilization. 3 credits

This course treats the history of Spain from its origin to the present. It will delve into the social and political institutions and explore their impact on contemporary Spanish society. It will also provide a cursory view of artistic—architectural, musical and literary—as well as philosophical movements throughout the Ages. Conducted in Spanish. *Prerequisite: CFLS 304 or equivalent.*

CFLS 416: Survey of Latin American Civilization. 3 credits

Study of the political, economic, and cultural history of Latin America from pre-Columbian times to the present. Special emphasis is on the role of black Latin America in the development of Latin American civilization. *Prerequisite: CFLS 304 or equivalent.*

CFLS 419: Introduction to Linguistics. **3 credits**

This is an introduction to the scientific study of language with focus on the analysis and description of language. Topics include language acquisition, writing systems, sound systems, meaning, and language change in society.

CFLS 422: Romanticism. **3 credits**

Literary investigation of the Romantic Movements in Spain. Topics include the theories regarding foreign influences on the development of Spanish Romanticism, versus indigenous Spanish Romanticism. Important precursors and major authors are studied.

CFLS 425: Modernism. **3 credits**

Intensive study of the major modernist writers of Latin America and selected modernist authors of Spain. Special focus on a comparative study of the parallel and divergent developments of modernism in Spain and Latin America, paying special attention to the contributions of Ruben Dario.

CFLS 440/441: Directed Study. **3 credits**

This course is designed to allow majors to do more in-depth study and investigation of special areas of interest or to improve their language proficiency. The student works under the close supervision of a professor who will prescribe a plan-of-action (which must be approved by the department chair in advance) to be followed. Student must be able to work independently on the Internet.

CFLS 447/448: Afro-Hispanic Literature. **3 credits**

This is an historical and cultural overview of the African Diaspora in Latin America, with special emphasis on the development of the Afro-Hispanic literary canon. A variety of literary forms will be treated and will include poetry, the novel, short stories, critical essays and other narrative materials. There will also be an articulation around three components: slavery, negrista and neo-negrista movements, and will allow students to discuss the question of the Black Diaspora and the literary treatment of race and identity and other key concepts. *Prerequisite: CFLS 304 or approval of instructor.* (Recommended for students interested in studying abroad in Latin America)

CFLS 451: Methods of Teaching Foreign Languages: K-12. **3 credits**

Introduction to the theories of foreign language acquisition; background of foreign language instruction, K-12; rationale for proficiency-oriented instruction in elementary, middle, and secondary grades; development of materials; assessment of second language proficiency in listening, speaking writing, and reading; techniques for promoting cultural/global awareness; integration of language study into the curriculum; observation in foreign language classes.

CFLS 461: Explicacion de Textos. **3 credits**

This is an in-depth course in literary analysis that aims to prepare students for close textual reading and writing. It treats detailed critical analysis of selected passages with references to biographical elements, sources of origins, literary meaning, authenticity, and aesthetic qualities. Students produce oral and written reports in Spanish. Conducted in Spanish. *Prerequisite: CFLS 351 or 391.*

CFLS 480: Senior Conference in Spanish. **3 credits**

This is a final-year directed independent study designed to explore and remedy specific areas of weakness of prospective graduates. Different assessment tools will be used to enhance the students' content knowledge and productive skills in the target language to meet both the University and ACTFL standards.

CFLS 484/485: Travel Study Seminar. **3 credits each**

Travel and independent study in a foreign country under the guidance of responsible faculty members. Strongly recommended for majors and minors.

CHINESE MINOR

The Chinese Minor consists of eighteen (18) semester hours. The following courses are required: CFLC 201: Intermediate Chinese and CFLC 202: Intermediate Chinese. Students must also complete four three-credit courses from the following list, with the Department's advisement.

CFLC 301/302	Advanced Chinese (Level III)
SHIS 241	Survey of Traditional China and Japan (offered at Spelman College)
SHIS 343	Modern Chinese History (offered at Spelman College)
CFLC 441	Chinese Culture and Civilization
CFLC 440	Directed Study
CFLC 480	Modern China Through Film and Literature

CHINESE COURSE DESCRIPTIONS

CFLC 101/102: Beginning Chinese (Level I). **3 credits each**

Introduces students to Chinese (Mandarin) phonetic and writing system and basic conversational skills through a multimedia approach, emphasizing communication proficiency. Classes meet three (3) hours per week, and an additional hour of laboratory per week is required.

CFLC 201/202: Intermediate Chinese (Level II). **3 credits each**

Continued emphasis on the four language skills—listening, speaking, reading, and writing through the multimedia approach. Classes meet three (3) hours per week, and an additional hour of laboratory per week is required.

CFLC 301/302: Advanced Chinese (Level III). **3 credits each**

Emphasis on topic-oriented conversation, listening comprehension, short compositions and reading comprehension through the multimedia approach.

CFLC 440: Directed Study.

3 credits

Special interest areas for in-depth study under the supervision of an instructor. The supervising instructor in consultation with the department chair must approve all special study projects in advance.

CFLC 441: Chinese Culture and Civilization.

3 credits

Study of various aspects of Chinese culture (including history, philosophy and religion) as reflected in family life, language, literature, art, etc. Conducted in English.

CFLC 480: Modern China Through Film and Literature.

3 credits

Introduces students to modern China, including its social, economical, and political changes, through film and literature. Conducted in English.

SAMPLE PLANS OF STUDY

The following outlines illustrate ways in which courses may be arranged for degrees in modern foreign languages. These are suggested study plans, not mandatory ones.

HISTORY COURSE DESCRIPTIONS

CHIS 201/202: United States, Africa and the World. 3 credits each These courses focus on the historical foundations and the complex evolutions over time of our modern world. CHIS 201 begins with the African origins of humankind and then examines the development of selected civilizations up to 1815. CHIS 202 places strong emphasis on the United States and its emergence as a world power. Other topics include colonialism, independence movements, feminism, labor movements and world war.

CHIS 211 and 212: History of the United States. 3 credits each Covers the social, political, and economic development of American life and institutions with special emphasis on the development of American nationality. The first semester covers the period from 1492 to 1865; the second, the period from 1865 to the present.

CHIS 317: Civil War and Reconstruction. 3 credits Critical examination of economic, social, and political causes of the Civil War. Relates the social changes growing out of the war and the Reconstruction period to the present.

CHIS 319: African-American History to 1865. 3 credits Examination and analysis of the experience of African-Americans from the African beginnings to 1865, including the development of North American racism, the experience of slavery, sectionalism, the Civil War, and Reconstruction.

CHIS 320: African-American History Since 1865. 3 credits

Examination and analysis of the experiences of African-Americans from the Post-Reconstruction period to the present. Major topics include segregation, urban life, the civil rights movement, and black contributions to American culture and society.

CHIS 350: History of Africa to 1800. 3 credits

Historical survey of Africa before colonialism, especially geography, culture, and politics.

CHIS 351: History of Africa Since 1800. 3 credits

Historical survey of Africa from colonialism to the present. Special emphasis on independence movements.

CHIS 355: United States in the Twentieth Century. 3 credits

Historical analysis of the United States as a world power. Emphasizes aspects of the American experience in economics, politics, social arrangements, and ideals.

CHIS 360: American Social and Intellectual History. 3 credits

Study of the effect which ideas and intellectual currents have on social life in modern America. Evaluation of thinkers of America's recent past and their impact on the daily life of the country.

CHIS 403: Historical Methods. 3 credits

Study of the sources utilized by historians in their attempts to re-create the past. Research papers are required.

CHIS 404: Early Modern Europe: 1500-1815. 3 credits

Analysis of factors which produced modern European civilization. Topics include the Renaissance, the Reformation, the scientific revolution, the Enlightenment, and the rise of nationalism.

CHIS 405: Modern Europe Since 1815. 3 credits

Study of the social and political upheavals of the nineteenth century. Covers industrialization, nationalism, democracy, and the mass movements represented by socialism and fascism.

CHIS 422: History of Georgia. 3 credits

Survey of the history of Georgia from colonial times to the present. Of particular significance to prospective teachers in elementary and secondary education.

CHIS 433: History of Urban America. 3 credits

Development of modern urban institutions in chronological and comparative contexts. Focuses on themes such as community structure and organization, patterns of delivery of urban goods and services, and formal and informal government structure. Overreaching the institutional framework is a study of the ways in which urban growth and political, economic, and institutional change affect public policy.

CHIS 450: The Jim Crow South. 3 credits

An examination of racial segregation as practiced in the southern region of the United States from Reconstruction through the 1950s. Students analyze historical readings and document oral accounts of African-Americans who experienced segregation.

CHIS 480/483: Independent Study. 3 credits each

A program of reading, research, and writing in which students engage in a critical examination of one or more selected topics under the guidance of the instructor.

CHIS 490: Senior Seminar. 3 credits

A required research and writing course for seniors where students utilize primary sources and complete a major paper integrating the various historical themes and interpretations introduced in earlier courses.

CHIS 491: Special Topics in Contemporary History. 3 credits

A study of the major forces and ideas as well as social, political and economic developments in contemporary history. Special thematic emphasis may vary from one semester to the next.

THE MUSIC MINOR

The minor in music is designed primarily for students who have interest and proficiency in music but choose to major in other disciplines. Students who delay the decision to begin a minor beyond the freshman year may be admitted only with departmental approval. The minor requires the following courses:

CMUS 105 and 106	Elementary Sight Singing and Ear Training (4)
CMUS 107 – 208/114-214	Applied Music and Performance Seminar (piano, voice) (8)
CMUS 115A – 415B	Music Seminar
CMUS 117A – 117B	Piano Class (2)
CMUS 201 and 202	Music Theory I (6)

Note: Music Theory and Sight Singing and Ear Training are one-year courses. Sight Singing and Ear Training is the lab component of the Music Theory course and should always be taken in conjunction with it. The minor consists of one course in Music Theory with Sight Singing and Ear Training lab; two semesters of piano; and two years of Applied Music. Music minors should also participate in the appropriate music ensemble and are encouraged to take World Music CMUS 119 for the Humanities core requirement.

MUSIC COURSE DESCRIPTIONS

CMUS 101: Fundamentals of Music. 2 credits

Preparatory course in the rudiments of music theory, open to nonmajors, but required of music majors and minors who fail to pass the diagnostic examination in Theory. The course familiarizes students with scale patterns, key signatures, the staff, clef reading, notation symbols, rhythm, meter, intervals and music terminology. Music technology is used throughout the course. This course does not count toward music degree credit.

CMUS 105 and 106: Elementary Sight Singing and Ear Training. 2 credits each

Tools for aural recognition, music reading, and melodic, harmonic and rhythmic dictation. This course must be taken at the same time as Music Theory I (CMUS 201/202). *Prerequisite:* Passing score on the Music Theory diagnostic exam or completion of Fundamentals of Music course (CMUS 101) with a grade of “C” or better.

CMUS 107 and 108 – 407 and 408: Applied Music. 1 credit each

Weekly private instruction for music majors and minors. Instruction in flute, oboe, English horn, clarinet, bassoon, saxophone, trumpet, cornet, trombone, French horn, baritone horn or euphonium, tuba, violin, viola, cello, double bass, percussion instruments, piano, organ, and voice. Voice majors or minors with limited previous voice study may be required to begin with Voice Class (CMUS 118).

Nonmajors must obtain permission from the music department before registering for Applied Music. *Nonmajors will be considered on the basis of specific University ensemble needs and/or space availability.*

CMUS 109: Instrumental Class (Method classes that train the instrumental music education major to perform functionally on string, woodwind, brass and percussion instruments. They also include methodologies for teaching these instruments to students.)

Section 1: String Class. 1 credit

Study of a string instrument to the extent that the student can demonstrate knowledge of fundamentals on the instrument. Includes the study of a limited repertoire for the instrument and pedagogical principles for teaching the instruments to students.

Section 2: Woodwind Class. 1 credit

Study of the flute, oboe, clarinet, saxophone, and bassoon to the extent that students can demonstrate knowledge of fundamentals through performance. Includes the study of a limited repertoire for these instruments and pedagogical principles for teaching the instruments to students.

Section 3: Brass Class. 1 credit

Study of the trumpet, trombone, French horn and tuba to the extent that students can demonstrate knowledge of fundamentals through performance. Includes the study of a limited repertoire for these instruments and pedagogical principles for teaching the instruments to students.

Section 4: Percussion Class. 1 credit

Study of rhythm drills, rhythmic dictation and technical proficiency in the use of all percussion instruments of the band and orchestra. Includes the study of a limited repertoire for principal percussion instruments and pedagogical principles for teaching the instruments to students.

CMUS 110 – 410: University Orchestra. 1 credit

A consortium orchestra of students from the Atlanta University Center. Major orchestral works performed. The orchestra performs several times during the school year. Open to all CAU students by audition and permission of the director. Required each semester for string majors; music education string majors must enroll for seven semesters.

CMUS 111 – 411: University Choir/Philharmonic Society. 1 credit

Choral ensembles that perform a wide range of various musical styles and major choral works. Open to all CAU students by audition and permission of the director. Performs music throughout the school year: seasonal concerts, convocations, baccalaureate, commencement and other on- and off-campus functions. Required each semester for all vocal majors (7 semesters for music education vocal majors).

CMUS 112 – 412: University Bands. **1 credit**
Marching and concert bands that perform wind ensemble music from a broad range of standard band repertoire. Open to all CAU students by audition and permission of the director. The bands provide music throughout the school year at football games, basketball games, seasonal concerts, convocations, approved parades, commencement and other on- and off-campus functions. Required 7 semesters for music education majors (instrumental track). Instrumental majors (not in music education) must enroll in an instrumental ensemble for eight semesters) and are required to enroll in University Band for a minimum of 4 semesters.

CMUS 113 – 413: Jazz Orchestra. **1 credit**
Performing jazz ensemble that performs a wide range of jazz repertoire from the 1930s to the present. Emphasizes instruction and performance in improvisational style. Open to all CAU students by audition and permission of the director.

CMUS 114A and 114B – 414A and 414B: **1 credit each**
Performance Seminar.
Section 1: Piano.
Focuses on the development of complete musicianship for the pianist. Topics include but are not limited to public performance, technique, piano repertoire, keyboard performers and discographies, accompanying, and pedagogy. Required each semester for music majors and minors with an applied concentration in piano. Music education majors must enroll for 4 semesters. Must be taken in conjunction with Applied Piano.

Section 2: Voice.
Provides opportunities for performance before peers and focuses on familiarity with vocal literature, technique, diction, stage decorum and pedagogy. Required each semester for music majors and minors with an applied concentration in voice performance. Music education majors must enroll for 4 semesters. Must be taken in conjunction with Applied Voice.

CMUS 115A and 115B – 415A and 415B: Music Seminar. **0 credit**
Provides opportunities for formal and informal discussions on topics and problems in theory, musicology - including world music, music education, music literature, and music careers. Faculty, guest artists/consultants, and students make presentations. Enrollment, attendance and performance required of all music majors and minors during each semester of residence. Music education majors are not required to enroll during the semester of preservice teaching.

CMUS 116-416: Handbell Ensemble. **1 credit**
A small ensemble that performs a broad repertoire of handbell literature. Open by audition to students (music majors/minors or nonmajors) who have had previous handbell experience in elementary, middle, high school, church or those who can read music and are willing to learn handbell techniques. Meets twice weekly for one hour. Opportunities for concert performance throughout the year.

CMUS 117A and 117B, 217A and 217B: Piano Class. **1 credit**
A four-semester course sequence that provides functional keyboard skills for the nonpiano music major/minor for satisfying the Piano Proficiency Exam. The examination may be taken in any semester during which the student feels prepared to pass the proficiency requirements. Open to nonmajors by approval of the instructor. Prerequisite: Passing score on the Music Theory Diagnostic Exam or completion of Fundamentals of Music course (CMUS 101) with a grade of “C” or better.

CMUS 118: Voice Class. **1 credit**
Basic principles and methods of vocal performance focusing on tone production, diction, breathing and vocal repertoire. May be required in the first semester of entry into the music program for voice performance majors or minors who have limited vocal study and/or vocal skills. Open to nonmajors by approval of the instructor.

CMUS 119: World Music. **3 credits**
Focuses on music of representative world cultures and develops an understanding of musical style, aesthetic viewpoints, and the function that music fulfills in diverse societies. Students will encounter not only new musical expressions, but also the philosophies and world views that accompany the music. No previous musical experience or prerequisites are required. Satisfies the Humanities Core Requirement for all students. Required for all music majors.

CMUS 120: Music Appreciation. **3 credits**
Provides experiences in critical listening skills and introduces musical elements, forms, and Western historical periods from a multicultural perspective. Introduces the major musical eras and composers with an emphasis on aural perception of works. Includes the multifaceted musical contributions of African-American and diverse ethnic cultures of the world. No musical background or training is assumed or required. Enables the nonmusic major to satisfy the Humanities Core Curriculum requirement.

CMUS 201 and 202: Music Theory I. **3 credits each**
Initial two of a four-semester course sequence that involves theoretical study in the harmonic, melodic and rhythmic materials of the common practice period. Music technology is infused throughout the course. Prerequisite: Passing score on the Music Theory Diagnostic Exam or completion of Fundamentals of Music course (CMUS 101) with a grade of “C” or better.

CMUS 204: Basic Conducting. **2 credits**
Fundamentals of conducting, baton techniques, musical interpretation, and score preparation for instrumental and choral ensembles. Techniques are studied in a practical laboratory setting.

CMUS 205 and 206: Advanced Sight Singing and Ear Training.1 credit each

Practical study in melodic, harmonic, rhythmic dictation and a continuation of functional application in reading music at sight. Should be taken concurrently with Music Theory II (CMUS 301/302). *Prerequisite: MUS 106 with a grade of "C" or better.*

CMUS 208: Music Technology. 1 credit

An introduction to computers, electronic keyboards and their uses in classroom music programs. Basic categories of music software and their role in music education will be explored in a hands-on approach.

CMUS 216: Introduction to Music Literature. 3 credits

Introduction to composers and their works from the Baroque era to the present. Features significant musical compositions and their influences on Western civilization. Required for music majors and minors with the exception of music education majors.

CMUS 221: Elementary Music Methods and Practicum. 3 credits

Elementary methods and teaching techniques for music education majors. The course focuses on classroom management, appropriate literature for elementary students, current research in teaching/learning, national and state standards for music education, the use of technology in the classroom, and multicultural materials for all learners. Weekly field experience represents an integral part of the course.

CMUS 232: Survey of Music Industry. 3 credits

An overview of the business and technical side of the music entertainment industry. Features guest lecturers from the music industry world. Open to nonmusic majors with the consent of the instructor.

CMUS 301 and 302: Music Theory II. 3 credits each

The third and fourth courses of a two-year Music Theory sequence. Focuses on advanced theoretical concepts, continuing developments of the common practice era, chromatic harmony, 20th century practices, and style analysis. Music technology is infused throughout the course. *Prerequisite: CMUS 202 or permission of the instructor based on previous cognate studies.*

CMUS 303: Counterpoint. 3 credits

Study of contrapuntal works from the 17th and 18th centuries, primarily in the style of J.S. Bach. Contrapuntal devices after Bach's era are also included. *Prerequisite: grade of "C" or better in CMUS 301 and 302.* Not required for music education majors.

CMUS 304: Form and Analysis. 2 credits

Analysis of small and large musical forms of the Baroque, Classical, Romantic and Twentieth-century periods. Students are expected to utilize their creative abilities in composing short pieces using the various musical forms. Music technology is infused throughout the course. *Prerequisite: grade of "C" or better in CMUS 301 and 302.*

CMUS 305: Jazz Theory. 3 credits

Theoretical aspects of jazz including its harmonic and formal characteristics. Focusing on analysis, aural recognition, transpositions, articulations, chord substitutions, altered chords, scales and modes.

CMUS 306: Vocal Diction I. 1 credit

Must be taken concurrently with applied voice instruction. Familiarization with and application of the phonetic structures of the English and Italian languages and the use of the International Phonetic Alphabet as a basic tool for pronunciation in singing. *Prerequisite: music major status or permission of instructor.*

CMUS 307: Vocal Diction II. 1 credit

Must be taken concurrently with applied voice instruction. Familiarization with and application of the phonetic structures of the German and the French languages and the use of the International Phonetic Alphabet as a basic tool for pronunciation in singing. *Prerequisite: music major status or permission of instructor.*

CMUS 308: Vocal Pedagogy. 1 credit

This course presents an overview of how the voice works. Areas of study include the care of the voice, group teaching techniques and corrective strategies for vocal problems commonly encountered in the classroom or choral ensemble. This course will provide instrumentalists with the knowledge and skills needed to work with singers at all levels. For the instrumental track music education major.

CMUS 316 and 317: Music History and Literature I & II. 3 credits each

Survey of Western art music from the Middle Ages to the present. Emphasis on major style periods, composers, significant music literature, and multiple listening experiences with analytical approaches. Music technology is infused throughout the courses. *Prerequisites: CMUS 203, 204, 205, and 206.*

CMUS 318: Jazz History. 3 credits

Exploration of jazz idioms from African antecedents through African-American contributions, past and present. Stylistic contributions of many jazz musicians are studied. Open to nonmajors with the consent of the instructor.

CMUS 320: Afro-American Music. 3 credits

Survey of the musical contributions of African-Americans from their African roots to modern day America. Includes the sociological and historical factors that impact the music and the musicians. Open to nonmajors with the consent of the instructor.

CMUS 321: Secondary Music Methods and Practicum. 3 credits
Principles, philosophies, national and state standards of music education for the middle and high school learner, including special needs and exceptional students. Emphasis on classroom management, effective teaching techniques, current methodologies, and appropriate literature and materials for secondary general music. Includes the use of technology in the classroom and multicultural materials. Weekly field experience represents an integral part of the course. For music education majors.

CMUS 322: Methods and Materials of Teaching Music. 3 credits
Designed to develop musicianship skills and teaching techniques needed by classroom teachers to direct music activities effectively in the elementary classroom. Music fundamentals, classroom instruments, and teaching materials are introduced through active participation in music activities. Intended for education majors. *Prerequisite: junior standing.*

CMUS 323: Band Organization, Methods and Practicum. 3 credits
Practical approaches for the prospective band director to develop, organize and manage the total school instrumental program at all levels. Emphasis on rehearsal methods, marching and concert band techniques, classroom management, appropriate band literature for all levels, and festival preparation and repertoire. Designed for instrumental music education majors. Field experience represents an integral part of this course.

CMUS 324: Choral Organization, Methods and Practicum. 3 credits
Techniques for developing, organizing and managing the school choral program at all levels. Emphasis on choral pedagogy and style, small and large ensembles, tone production, appropriate choral repertoire for all levels, classroom management, rehearsal methods and choral festival preparation. Designed for vocal music education majors. Field experiences represent an integral part of this course. For music education majors. *Prerequisite: CMUS 221.*

CMUS 325: Jazz Orchestra Organization and Methods. 2 credits
Practical approaches for developing and managing a school jazz orchestra program. Includes rehearsal techniques, jazz styles, appropriate repertoire, and programming. Intended for the instrumental music education major. Field experiences represent an integral part of this course

CMUS 326: Organ Improvisation and Service Playing. 3 credits
Techniques for improvisation, transposition, and accompanying in the church service setting. Includes hymn introductions, modulatory interludes, free hymn accompaniments, the organ voluntary, and the organ combined with other instruments. Designed for those interested in church music as a career.

CMUS 327: Music Business Seminar. 1 credit
Includes discussions on the legal, practical and procedural problems encountered in the music business. Focuses on contracts, unions, videos, films, and management with frequent contribution by guest lecturers.

CMUS 328: Jazz Ensemble Workshop. 1 credit
Faculty supervised “jam sessions” designed to help performers find their own style in an improvisatory small group jazz setting.

CMUS 402: Introduction to Composition. 1 credit
Study of beginning level compositional techniques and an emphasis on original writing and improvisation by students.

CMUS 403: Orchestration and Arranging. 2 credits
Focuses on the unique performance capabilities of the instruments of the orchestra including instrument ranges, transpositions and timbres. Study of practical scoring and arranging techniques for the orchestra, band, and choral ensembles. Required for teacher certification in Georgia.

CMUS 404/01: Choral Conducting and Literature. 2 credits
Rehearsal, interpretative, conducting techniques, methods and literature for choral organizations at all levels: elementary through high school. Designed for vocal music education majors. Some field experience included as part of the course. *Prerequisite: CMUS 204.*

CMUS 404/02: Instrumental Conducting and Literature. 2 credits
Rehearsal, interpretative, conducting techniques, methods and literature for instrumental organizations at all levels: elementary through high school. Designed for instrumental music education majors. Some field experience included as part of the course. *Prerequisite: CMUS 204.*

CMUS 405: Jazz Composition and Arranging. 3 credits
Methods of composing and arranging in a jazz medium with attention to the differing styles in instrumental and vocal combinations.

CMUS 406: Composition. 3 credits
An analytical approach to the music of major composers. Class projects will include original compositions and improvisations by students utilizing techniques discovered in the compositional techniques of past and contemporary composers. Music technology is infused throughout the course.

CMUS 417: Senior Project. 1 credit
A specialized project or research paper required in lieu of a Senior Recital. *Prerequisite: recommendation by applied teacher with approval by department chair.*

CMUS 425: Senior Recital.**1 credit**

The capstone public recital for the senior music major in voice or instrument. Required for all majors as a partial fulfillment of degree requirements. Recital must include repertoire from 45 to 60 minutes in length and be approved by the department faculty in a prerecital hearing.

CMUS 448: Pre-service Teaching.**12 credits**

Supervised student teaching at an approved site. Music majors pursue in-depth ten to twelve weeks of working with students under the supervision of a state certified music teacher and a college supervisor with music education experience. Prior to the in-depth practica, the student spends two-four weeks in observing and working with children at various grade levels in general music and band/choral/handbell ensemble classes. Student teachers are required to attend campus-based seminars once per week and other teaching-related workshops and activities. *Prerequisite: completion of all required major and professional education courses and successful pass on the PRAXIS examinations (general and music).*

CMUS 480: Independent Study.**0-6 credits**

Directed reading in specific subject area, a research project or a combination of the two. Designed to meet the specific and individual course needs of students in the senior year. Must be implemented in conjunction with a faculty member who oversees the agreed upon study. *Prerequisite: approval of department chair.*

PHILOSOPHY COURSE DESCRIPTIONS

CPHI 105: Critical Thinking. **3 credits**
Development of intellectual skills for all areas of study. Focuses on organization of ideas, identification of common errors in reasoning, and critical analysis of editorials, speeches and articles.

CPHI 221: Introduction to Philosophy. **3 credits**
Basic issues studied by philosophers. Topics include the nature of freedom, the rational foundations for atheism, human existence and meaning, the nature of knowledge, and issues in aesthetics.

CPHI 231: Ethics and Human Values. **3 credits**
Detailed analysis of selected moral philosophers. Various approaches to value theory in conjunction with specific contemporary ethical issues are examined.

CPHI 241: Philosophy of Religion. **3 credits**
Critical examination of selected contemporary and classical issues of religion. Typical topics include proofs for the existence of God, the problem of evil, the nature of religious experience, and the reliability of religious truth claims.

CPHI 251: Business Ethics. **3 credits**
Consideration of ethical questions in business practices including corporate responsibility, conflict of interest, employee rights, colonialism and imperialism, truth in advertising, environmental protection, preferential hiring, affirmative action, and Marxist versus capitalist views on economic justice.

CPHI 254: Media Ethics. **3 credits**
Value questions arising in conjunction with mass media. Discussions of the pervasive influence of the media, together with the aims and restrictions that are, or ought to be, imposed on the media. Topics include the nature of various media, value assumptions in news selection and programming, minorities and the media, the influence of television on children, the rights and responsibilities of journalists, and violence and the media.

CPHI 262: Science, Technology, and Human Values. **3 credits**
Exploration of fundamental value questions and dilemmas associated with training and research in the sciences. Covers applications of science to technology and industry.

**CPHI 331 and 332: History of Western Philosophy:
Africa to Present.** **3 credits each**
Two-semester survey of the major figures in Western philosophy, beginning with the antecedents to Greek philosophy in Africa. CPHI 331 covers the period of origin through Greek and Medieval thought. CPHI 332 includes modern and contemporary philosophers. Students may take either course independently or both in sequence.

CPHI 353: Representative Problems of Philosophy. **3 credits**
Classic philosophical problems explored in more depth than is possible at the introductory level. Students are encouraged to engage in out-of-class research and independent thought.

CPHI 362: Social and Political Philosophy. **3 credits**
Examination of philosophical assumptions underlying different political systems. Topics include the nature of social existence, freedom, rights, and the individual and society.

CPHI 401 and 402: Off-campus Study. **3 credits each**
For students who wish to take courses at institutions outside the Atlanta University Center or to study abroad as part of their major program.

CPHI 411: Islamic Philosophy. **3 credits**
Chief ideas, arguments, and general philosophical concerns of selected thinkers and schools of thought in the Islamic philosophical tradition. Centers on specific historical figures and philosophic and religious traditions, including Islamic mysticism.

CPHI 421: Philosophies of the African Continent. **3 credits**
Examination of the diversity of African philosophical thought. Intellectual traditions from both north and sub-Saharan Africa are studied.

CPHI 431: African-American Philosophy. **3 credits**
Introduction of personalities representative of the African-American philosophical tradition. Insight into the general character of this tradition and its distinctive style of philosophizing. Also emphasizes issues in social philosophy, ethics, and religion.

CPHI 451 through 454: Special Topics in Philosophy. **3 credits each**
Upper-division students explore issues with present-day philosophical significance. Open to majors and nonmajors.

CPHI 482/483: Independent Study. **1-3 credits**
Development of analytical and interpretive skills. In consultation with an instructor, upper-division students may select an appropriate subject to explore. Independent study requires extensive reading and written work.

CPHI 484 through 487: Para-Curricular Study in Philosophy. **1-3 credits**
On-the-job training. Students, with approval from their advisor, may select internships in line with their prospective career choices.

RELIGION COURSE DESCRIPTIONS

CREL 101: The Biblical Heritage. 3 credits

The literature of the Bible and its influence on the shaping of Western culture. Modern biblical scholarship used to examine selected readings from the Old and New Testaments for their contributions to the understanding of human existence.

CREL 103 and 104: African-American Religious Experiences. 3 credits each

Analysis of the origin, development, and social significance of African-American religious beliefs and practices from an historical perspective. CREL 104 emphasizes the contemporary period, including the latest developments in black liberation theologies. Students may take either course independently or both in sequence.

CREL 211: Introduction to Religious Studies. 3 credits

Introduction to the study of religion in a variety of contexts: historical, social, psychological, scientific, philosophical, artistic, and literary. Readings include representative works from the past and the present.

CREL 241 and 242: American Religious Tradition. 3 credits each

Historical approach to the American religious tradition as inclusive of cultural and ethnic diversity. CREL 241 extends into the late nineteenth century and includes topics such as American Indian tribal religions, the Great Awakening, Wesleyan evangelicalism, religious freedom, slavery and Christianity, and the rise of black churches and movements. CREL 242 focuses on the twentieth century, examining media evangelism, the rise of cults, the church and human rights issues, ecumenism and the burgeoning of Eastern religions, such as African traditional religions in America. Students may take either course independently or both in sequence.

CREL 250: Comparative Religion. 3 credits

Comparative survey of selected religious traditions from the East and West, including traditional African religions, Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam.

CREL 251: Religious Ethics. 3 credits

Examination of major ethical issues confronting contemporary society. Also considers appropriate ethical responses to issues from a religious perspective. Topics include sexual ethics, abortion, racism, sexism, the ethics of war (especially nuclear war), capital punishment, genetic engineering, euthanasia, and professional ethics.

CREL 351 and 352: History of Christian Thought. 3 credits each

Development of Christian thought from the early church to the present. CREL 351 covers early and Medieval thinkers in Africa and Europe, including late Medieval male and female mystics, and concludes with the Protestant Reformers. CREL 352 examines major Christian thinkers of the modern period, including the latest developments in black and feminist theology. Students may take either course independently or both in sequence.

CREL 361: Culture and Religion. 3 credits

Study of structure, function, and influence of religion from a cultural perspective. Drawing from recent sociological and anthropological literature, explores the origin, significance, and relation of religion to culture.

CREL 362: Psychology of Religion. 3 credits

Examination of the major aspects of religious experience by means of psychological study. Entails critical discussions and analyses of traditional and contemporary psychological theories as these apply to evaluating the impact of religious experiences.

CREL 375 and 376: Religion and the Media. 3 credits each

Historical and philosophical interpretation of religion in the media, including religious drama, evangelism, and other art forms. CREL 375 focuses on theory, CREL 376 on media techniques. Students may take either course independently or both in sequence.

CREL 383: Religions of Africa. 3 credits

Study of representative religious traditions of Africa, including African tribal religions and adaptations of non-indigenous ones.

CREL 401/402: Off-Campus Study. 3 credits each

For students who wish to take courses at institutions outside of the Atlanta University Center or to study abroad as part of their major program.

CREL 435: Contemporary Religious Thought. 3 credits

New developments in Western religious thought, with emphasis on critical examination of representative religious thinkers and movements of the present century. Topics include rethinking of the concept of God; the rise of ethical relativism, pluralism, and secularism; and new forms of theology, such as process, black theology, feminist, and metaphorical theologies.

CREL 451 through 454: Special Topics in Religion. 3 credits

Upper-division students explore current issues and thinkers in religion and ethics in the context of professional concerns and life situations. Topics such as religion and sexuality, world missions, religious motifs in the arts, liberation theology, and religion and politics are treated. May be repeated for credit under a different topic. Open to majors and nonmajors.

CREL 482/483: Independent Study. 1-3 credits

Development of analytical and interpretive skills. Upper-division students, in consultation with an instructor, select an appropriate subject. Independent Study requires extensive reading and written work.

CREL 484 through 487: Internship. 1-3 credits

Credit for experience gained through on-the-job training. Students, in consultation with their advisors, may select an internship in line with prospective career choices.

MASS MEDIA COURSE DESCRIPTIONS

CMMA 200: Basic News Writing and Reporting. **3 credits**
A lecture and laboratory course which emphasizes writing various types of news stories for print and broadcast media. *Prerequisites: English Composition I and English Composition II with a grade of "C" or better.* Either semester.

CMMA 201: Survey of Media and Society. **3 credits**
A comprehensive examination of the historic foundations and current status of the mass media. Emphasis will be placed on social and economic controls as well as the impact and influence of the mass media in today's society. *Prerequisites: English Composition I and English Composition II with grades of "C" or better.* Either semester.

CMMA 315: Mass Communication Research Methods. **3 credits**
An introduction to quantitative and qualitative research methods and procedures used to study issues and problems in mass communication. This course covers sampling, research design, observation and measurement, statistics, data analysis, documentation/reporting formats, and execution strategies/tools. *Prerequisites: Survey of Media and Society; Basic News Writing and Reporting; Permission of Instructor.* Either semester.

CMMA 425: Communication Law. **3 credits**
Study of various laws affecting American media. Concepts of freedom of speech and press, specific laws and alternative interpretations of those laws, federal regulatory agencies' rights in news and advertising, libel, slander, copyrights, and invasion of privacy. *Prerequisites: Survey of Media and Society; Advanced News Writing and Reporting or Writing for Radio-Television-Film.* Either semester.

CMMA 490: Media Seminar. **3 credits**
This course for graduating seniors provides students with an opportunity to apply theories and techniques to practical experiences in their areas of concentration. It is a research seminar. Seniors must successfully complete an approved final project that will be presented both orally and in writing to be judged by a jury of faculty in the department. In consultation with their advisers, students may select a topic for their research during the first semester. Research projects should reflect the career of academic interests of the students. *Prerequisite: Graduating senior.* Either semester.

JOURNALISM COURSE DESCRIPTIONS

CMMA 202: Advanced News Writing and Reporting. **3 credits**
A lecture and laboratory course with emphasis on writing various types of news stories. The course is designed for students concentrating in journalism or public relations. Students will be required to publish articles in an approved periodical. *Prerequisite: Basic News Writing and Reporting; Survey of Media and Society.* Second semester.

CMMA 301: News Editing I. **3 credits**
A practical course that uses simulated news copy and wire service stories to give students training in theory and practice of copy editing, headline writing, page design, and picture sizing and cropping. *Prerequisite: Advanced News Writing and Reporting.* First semester.

CMMA 302: News Editing II. **3 credits**
An advanced practical course that uses simulated news copy and wire service stories to give students training in the theory and practice of copy editing, headline writing, page design, and picture sizing and cropping. *Prerequisite: News Editing I.* Second semester.

CMMA 313: Photojournalism. 3 credits

This course emphasizes communicative effects of pictures and proper selection and display of photographs. Students must supply their own 35mm cameras. *Prerequisites: Advanced News Writing and Reporting; Survey of Media and Society.* Either semester.

CMMA 320: History of Journalism. 3 credits

A concentrated lecture-discussion course in an historical context. The growth of American journalism is traced, including the contributions of African-Americans, Hispanics, Native Americans and Asians. Students identify major personalities and examine socioeconomic factors affecting journalism in the United States. *Prerequisites: Survey of Media and Society; Advanced News Writing and Reporting or Writing for Radio-Television-Film.* Either semester.

CMMA 325: Editorial and Critical Writing. 3 credits

A lecture-discussion and writing course which concentrates on the writing of editorials, book and film reviews, and columns. The critical and analytical approaches of selected major national and international newspapers are examined. *Prerequisites: News Editing I; Survey of Media and Society.* Either semester

CMMA 331: International Journalism. 3 credits

This course studies the foreign media and provides instruction in techniques and skills needed to write for foreign and/or international organizations. *Prerequisites: Survey of Media and Society; Advanced News Writing and Reporting or Writing for Radio-Television-Film.* Either semester

CMMA 350: Interpretative Reporting. 3 credits

An advanced writing course which focuses on developing the student's analytical skills and news writing skills for coverage of such governmental bodies as the schools, courts, and city, county, and state agencies. Students will be assigned to cover actual news events and be given instruction in how to analyze the cause of news events through interviewing and the persistent searching of records. Students will be required to publish articles in an approved periodical. *Prerequisites: Survey of Media and Society; News Editing I.* Second semester.

CMMA 352: Feature Writing. 3 credits

A lecture and laboratory course which focuses on developing skills in researching, organizing, and writing all types of feature stories for newspapers and magazines. Students are required to publish articles in an approved periodical. *Prerequisites: News Editing I; Survey of Media and Society.* First semester.

CMMA 361: Newspaper Production. 3 credits

This course offers a thorough understanding of principles and skills involved in producing a newspaper or magazine. It combines theory with production activities. Students will be taught the organization of a newspaper and its functions as well as headline writing, copy editing, and layout and design. *Prerequisites: Survey of Media and Society; News Editing I.* First semester.

CMMA 422: Philosophy and Ethics of Mass Communications. 3 credits

This course is based on the philosophical assumptions embodied in mass communications systems around the world. A lecture-discussion method is used. *Prerequisites: Advanced News Writing and Reporting or Writing for Radio-TV-Film; Survey of Media and Society.* Either semester

CMMA 486: Mass Media Arts Co-operative. 3 credits

Juniors and seniors are allowed to work full time off-campus (with University supervision) in journalism, public relations, radio, television, or film for credit. *Prerequisite: Permission of Department Chairperson.* Either semester.

CMMA 487: Media Arts Studies. 3 credits

Special course which allows students to focus and study current media themes, applications, trends, etc. Course content varies. *Prerequisite: permission of Department Chairperson.* Either semester.

CMMA-J 488: Directed Study. 3 credits

A project designed by the student and a journalism faculty member who works with the student to meet specific and individual needs. Directed study requires extensive reading and written work from the student. *Prerequisites: Junior or senior status and permission of Instructor.* Either semester.

CMMA-J 489: Internship.

Part-time placement in professional media facilities in Atlanta and other cities. Emphasis on learning overall business structure and developing skills for entry-level decision-making positions. *Prerequisites: Senior status in major and permission of Instructor.* Either semester.

PUBLIC RELATIONS COURSE DESCRIPTIONS

CMMA 307: PR Principles, Practices and Theory. 3 credits

An introductory concept course that surveys the principles, theories, strategies, techniques and practices of the public relations profession. *Prerequisites: Advanced News Writing and Reporting or Writing for Radio-TV-Film; Survey of Media and Society.* Either semester.

CMMA 310: Public Opinion and Propaganda. 3 credits

This course is an introduction to the nature of public opinion and propaganda from an historical perspective that spans cultures and contemporary world societies. Emphasis is placed on the use and abuse of persuasive communication techniques and the economic, political, social, and cultural interrelationships which determine the role of mass media in human affairs. *Prerequisite: Advanced News Writing and Reporting or Writing for Radio-TV-Film; Survey of Media and Society; Permission of Instructor.* First semester.

CMMA 318: PR Media Development and Copy Editing. 3 credits

Covers public relations techniques for the dissemination of messages to multiple groups across internal and external organizational print, electronic, and audiovisual media. This course focuses on practical skills for editing copy and implementing media strategies. *Prerequisite: PR Principles, Practices and Theory; Advanced News Writing and Reporting.* Second semester.

CMMA 338: Media Advertising and Sales. 3 credits

This introductory course surveys the basic processes, strategies, and techniques for producing, selling, and evaluating advertising. Emphasis is placed on consumer and marketing research, media advertising, campaigns, marketing plans, media ratings, audience analysis, and media buying plans. *Prerequisite: Advanced News Writing and Reporting or Writing for Radio-TV-Film; Survey of Media and Society; Permission of Instructor.* First semester.

CMMA 418: PR Research and Evaluation. 3 credits

This course is designed to help students develop the essential research and analytical skills for the planning, execution and evaluation of action programs that address communication problems and issues faced by organizations and institutions. *Prerequisites: Advanced News Writing, PR Principles, Practices and Theory; Mass Communication Research.* Second semester.

CMMA 462: Media Arts and Design. 3 credits

This course offers students an opportunity to develop basic desk-top publishing skills in page design, layout, and other graphic elements necessary for public relations and advertising campaigns. *Prerequisite: PR Media Development and Copy Editing.* Second semester.

CMMA 485: Public Relations Campaigns. 3 credits

In this seminar, students analyze contemporary issues and problems faced by public relations professionals. Students develop special public relations campaigns for social "cause" organizations, and acquire entry-level professional skills in public relations through practical experience. *Prerequisites: PR Media Development and Copy Editing; PR Research and Evaluation.* Either semester.

CMMA 488: Directed Study. 3 credits

A project designed by the student and a public relations faculty member who agrees to work with the student to meet specific and individual needs. Directed study requires extensive reading and written work from the student. *Prerequisites: Senior status in major and permission of instructor.* Either semester.

CMMA 489: Internship. 3 credits

Part-time placement in professional media facilities in Atlanta and other cities. Emphasis is on learning overall business structure and developing skills for entry-level decision-making positions. *Prerequisites: Senior status in major and permission of instructor.* Either semester.

RADIO-TELEVISION-FILM COURSE DESCRIPTIONS

CMMA 203: Writing for Radio-Television-Film. 3 credits

A lecture and laboratory course which examines the basic characteristics of radio, television and film and their effect on the writer. Students examine format requirements for various kinds of scripts. To demonstrate their understanding of the subject, students write scripts for commercials, features, talk shows, game shows, children's programs, documentaries, and comedies. *Prerequisite: Basic News Writing and Reporting; Survey of Media and Society.* Second semester.

CMMA 305: African-American Images in the Media. 3 credits

This course will explore the characterization and interpretation of the image of African-Americans in film and television and attempts to qualify their value as a catalyst for social, political, and cultural change. This course will also assess the dynamics of basic thought propagated through negative imagery in films, television, and other media. *Prerequisite: Writing for Radio-Television-Film.* First semester.

CMMA 306: History and Criticism of Film. 3 credits

Historic and aesthetic contributions of famous films, filmmakers and film critics examined. Particular subjects include the psychological effects of editing techniques and Russian and French cinema. There is a special emphasis on African-American and Third-World films. *Prerequisite: Writing for Radio-Television-Film.* First semester.

CMMA 308: Introduction to Radio-Television-Film. 3 credits

This course will familiarize students with the organizations, equipment and terminologies typically utilized in radio, television, and film. Operational procedures, FCC regulations, and styles of writing applicable to broadcasting and film are introduced. *Prerequisites: Writing for Radio-TV-Film.* Either semester.

CMMA 327: History and Development of Radio and Television. 3 credits

This course traces the growth and early development of radio and television from the earliest technological innovations to modern day. Lectures and discussions review how programming, social trends, and technology interplay to impact society. *Prerequisite: Introduction to Radio-Television-Film.* Either semester.

CMMA 334: Broadcast Journalism and Editing. 3 credits

This lecture-laboratory course is oriented to radio and television broadcasting. Emphasis is on gathering, analyzing, writing, editing and presenting news. Studio and on-location tapings are required. *Prerequisite: Introduction to Radio-Television-Film.* Second semester.

CMMA 348: Fundamentals of Television Production. 3 credits

Designed to introduce students to basic principles of effective studio and location television production. The student will be taught operation of selected production equipment and how to make creative and aesthetic decisions regarding programming. *Prerequisite: Introduction to Radio-Television-Film.* Second semester.

CMMA 475 & 476: Radio Programming and Production I & II. 3 credits each

Organization and operation of commercial and noncommercial radio stations inclusive of staffing, formats, promotion, and programming. The student receives training as a producer, performer and writer. *Prerequisites: Survey of Media and Society; Broadcast Journalism and Editing.* First and second semesters, senior year.

CMMA 477 & 478: Adv. Television Production and Directing I & II. 3 credits each

Hands-on experience in producing, directing, and editing will be emphasized. The student will be required to utilize production skills by working on various class projects and cable productions. *Prerequisites: Survey of Media and Society; Fundamentals of Television.* First and second semesters, senior year.

CMMA 479 and 480: Cinematography I & II. 3 credits each

Beginning filmmaking courses with emphasis on use of basic motion picture cameras, editing techniques and script preparation. Cinematography II students utilize knowledge gained in Cinematography I. Special emphasis is placed on 16mm-film production with the completion of a short film as a course requirement. *Prerequisites: History and Criticism of Film; Survey of Media and Society.* First and second semesters, senior year.

CMMA-R 488: Directed Study. 3 credits

A project designed by the student and a radio-television-film faculty member who agrees to work with the student to meet specific and individual needs. Directed study requires extensive reading and written work from the student. *Prerequisites: Senior status in major and permission from the Instructor.* Either semester.

CMMA-R 489: Internship. 3 credits

Part-time placement in professional media facilities in Atlanta and other cities. Emphasis is on learning overall business structure and developing skills for entry-level decision-making positions. *Prerequisites: Senior status in major and permission of Instructor.* Either semester.

SPEECH COMMUNICATION COURSE DESCRIPTIONS

CSTA 101. Fundamentals of Speech. **3 credits**
Introduces students to fundamental principles of effective oral communication as it relates to the professional world, focusing on audience analysis, interpersonal skills, effective listening techniques, and the preparation and delivery of oral presentations. All semesters.

CSTA 200: Oral and Written Presentation Skills. **3 credits**
Designed to integrate oral and written communication skills. Emphasis is on principles of logic, organization of data, establishment of personal style, principles of research and investigation of purposes of various techniques of expression. *Prerequisites: CSTA 101; CENG 105 and 106.* First Semester.

CSTA 201: Voice and Diction. **3 credits**
Emphasis is on speech and vocal analysis by using the International Phonetic Alphabet (IPA). Introduces the student to techniques for speech improvement. *Prerequisite: None.* All semesters.

CSTA 211: Communication Theory and Rhetoric. **3 credits**
Establishes theoretical frameworks to examine communication in interpersonal, small group, mass communication, and organizational communication contexts. Students will apply knowledge of theoretical concepts to facilitate understanding of the communication process and communication phenomenon. *Prerequisite: CSTA 201.* Second semester.

CSTA 213: Public Address. **3 credits**
Advanced course; offers experience in the composition, delivery, and criticism of public speeches. *Prerequisite: CSTA 101; Permission.* Second Semester.

CSTA-H 218: Concepts in Human Communication. **3 credits**
Explores communication theory and the group learning process. Incorporates theories from nonverbal communication, small group communication, persuasion, attitude study, and public speaking. Satisfies General Education core requirement for speech for honors program. *Prerequisite: Instructor's permission.* Either semester.

CSTA 301: The Rhetoric of Persuasion. **3 credits**
Concentrates on analysis and understanding of the art of persuasion with applications of various theories of persuasion to the interpersonal communication process. *Prerequisite: CSTA 101; Permission.* First semester.

CSTA 302: Speech for the Classroom Teacher. **3 credits**
Advanced course in the principles of oral communication with emphasis on the development of skills for effective organization and oral presentation of instructional materials. *Permission.* First semester.

CSTA 303: Argumentation and Debate. **3 credits**
Introduction to theories and practices of formal public debate. *Prerequisites: CSTA 213, CSTA 200 and 201.* First semester.

CSTA 304: Business and Professional Speech. 3 credits
Examination of theories and techniques of effective speaking and listening, interviewing, group discussions, reporting in conferences and meetings; and business speeches to inform and persuade. *Prerequisites:* CSTA 101, CSTA 200; CSTA 201 and CSTA 213 for majors in speech communication; CSTA-C 101 and permission of the instructor for other concentration areas. All semesters.

CSTA 305: Interpersonal Communication. 3 credits
Study of the psychology of the communication process. Students become familiar with ways of intentionally communicating ideas to others; processes for interpreting motives of speakers; environmental or cultural conditions influencing communication; and ways of functioning in a group, as either group leader or member. First semester.

CSTA 306: Speech for Radio/Stage/TV/Film. 3 credits
Study of speaking techniques for the broadcast media and the performing arts, with emphasis on voice quality, flexibility, projection, articulation, and standards of good diction. *Prerequisites:* CSTA101, CSTA C200 & CSTA C201. Either semester.

CSTA 307: Special Topics. 3 credits
Designed to investigate issues and topics in speech communication and theater arts, and or related fields. May be repeated up to six hours. *Prerequisite:* Junior or Senior Status; Permission. Either semester.

CSTA 311: African-American Communication. 3 credits
Interdisciplinary approach to the study of communication systems used by African-Americans. Course examines the relationships that exist among language, culture, politics and economics. *Prerequisites:* CSTA 101; CSTA 200 & CSTA 201. First semester.

CSTA 402: Intercultural Communication. 3 credits
Designed to examine the role of communication in the creation and transmission of cultural consciousness, knowledge, tradition, and practice. First semester

CSTA 404: Organizational Communication. 3 credits
Introduces students to the field of organizational communication and theories that have influenced its development as an approach to studying communication concepts. Course explores topics such as organizational culture and climate, superior-subordinate communication, leadership, conflict management, and group decision-making processes. Either semester.

CSTA 482: Directed Study. 3 credits
Speech communication majors, in consultation with an instructor, develop specialized research projects on topics of interest to critically examine communication issues. *Prerequisites:* Junior or senior status and permission of the instructor. Either semester.

CSTA 489: Internship. 3 credits
Offers students an opportunity to work part-time in professional facilities, with emphasis on learning overall business structure and development toward entry-level, decision-making positions. *Prerequisites:* junior or senior status and permission of the instructor. Either semester.

CSTA 490: Speech Communication and Theater Arts Seminar. 3 credits
Provides students with opportunity to apply theories and techniques to practical experiences in their areas of concentration. It is a skill seminar for graduating seniors. Research projects should reflect the career or academic interests of the students. *Prerequisite:* Senior status. Either semester.

THEATER ARTS COURSE DESCRIPTIONS

CSTA 103: Fundamentals of Theater and Dance Movement. 1 credit
Study of the basic principles and forms of movement for dance and theater. Second semester.

CSTA 251: Oral Interpretation. 3 credits
Study and presentation of poetry, prose, drama and various literary forms with emphasis on voice and diction, imagery, phrasing, and characterization necessary to interpret text. *Prerequisite:* CSTA 201. First semester.

CSTA 252: Theater Appreciation. 3 credits
Course examines how theater functions as an art form through the exploration of the interrelationships of the audience, performer and space. Designed to study the nature of the theater experience by analyzing principles and practices that govern contemporary theater. Attendance at several professional theatrical performances may be required. Either semester.

CSTA 254: Acting I. 3 credits
Provides fundamentals of techniques of acting, character analysis, creative pantomime, mime, voice and diction. Students participate in lecture/laboratory sessions and rehearsals when in performance. *Prerequisite* CSTA 201. First semester.

CSTA 255: Stagecraft. 3 credits
Survey of the working knowledge of the basic materials, processes, and equipment for the fabrication, assembly, painting, rigging, and installation of contemporary stage scenery and properties. First semester.

CSTA 316: Dramaturgy and Criticism. 3 credits
Designed to offer students an in-depth study of selected works and performances around which analytical approaches to dramatic literature and performances evolve. First semester.

CSTA 321: Lighting and Design. 3 credits
Introduction to theories, techniques and art of the stage electrician and lighting designer. *Prerequisite: CSTA 255.* Either semester.

CSTA 351: Development of Drama I. 3 credits
Study of the origins and development of drama through the survey of principal plays, playwrights, and theater arts through the ages. Encourages and aids students in developing appreciation for drama and theater as art forms and as factors in the changing civilizations of the world. *Prerequisite: CSTA 251.* First semester.

CSTA 352: Development of Drama II. 3 credits
Continuation of CSTA 351. *Prerequisite: CSTA 351.* Second semester.

CSTA 353: Play Production Methods. 3 credits
Approach to understanding the fundamental principles of preparing a play for public presentation. First semester.

CSTA 354: Acting II. 3 credits
Advanced study of acting techniques required to perform plays written in verse, traditional and nontraditional prose. Students will examine acting as a craft, through selected materials and a critical study of styles and techniques. *Prerequisite: CSTA 254.* Second semester.

CSTA 410: Costume Design. 3 credits
Study of the costume designer's role in the design process that is involved in creating effective costumes for the contemporary stage. *Prerequisite: Junior/Senior status.* Either semester.

CSTA 452: Theater Arts Management. 3 credits
Study of the theatrical producing and managing in contemporary American theater. Providing historical background and current practice, methods used in professional managerial systems. *Prerequisites: Senior standing and permission of instructor.* Second semester

CSTA 453: Directing: Play and Script Analysis. 3 credits
Advanced analysis and directing of plays and scripts, including various directing techniques and theories. Students must select an approved, one-act play or short script, prepare a prompt book, and direct for public performance. *Prerequisites, CSTA 352, CSTA 353, and CSTA 354.* Second semester.

CSTA 454: Children's Theater. 3 credits
History of the development and function of children's theater. Also explores the approaches to and mounting of a performance for youth. Course meets the general education and community service requirement. Second semester.

CSTA 455: Entertainment Law. 3 credits
Course assists students in recognizing and examining issues and pitfalls, which affect the client. Explores business management issues and legal principles of agencies, partnerships, contract law, labor law, and libel. *Prerequisite: Senior status.* Both semesters.

CSTA 456: African-American Theater. 3 credits
Study of plays, playwrights and contributions of African-Americans to the theater. First semester.

CSTA 482: Directed Study. 3 credits
Theater arts majors, in consultation with an instructor, develop specialized research projects on topics of interest, and critically examine theater-and communication-related issues. *Prerequisites: Junior or senior status and permission of the instructor.* Either semester.

CSTA 489: Internship. 3 credits
Offers students an opportunity to work part-time in professional facilities. Emphasis is on learning overall business structure and development toward entry-level, decision-making positions. *Prerequisites: junior or senior status and permission of the instructor.* Either semester.

CSTA 490: Speech Communication and Theater Arts Seminar. 3 credits
Application of theories and techniques to practical experiences in the student's area of concentration. Research projects should reflect the academic and career interest of the student. *Prerequisites: Senior standing.* Either semester

CAHP 110: Drug Abuse. **3 credits**
Examination of social and psychological factors of abuse. Students examine the nature of drugs and their effects to fill gaps in their knowledge and to consider improvements of society's approach to the problem.

CAHP 113: Nutrition and Metabolism. **3 credits**
Essentials of an adequate diet throughout the life cycle are discussed as well as the metabolic occurrences of the vitamins and minerals in normal and abnormal states in the body. *Prerequisites: CBIO 111 and 112.*

CAHP 221: Introduction to Allied Health Professions. **1 credit**
Orientation to the allied health professions through discussion groups, observations, and field trips. University programs and career options are discussed. Students also explore the health team concept and the relationship of community agencies to health maintenance.

CAHP 230: Anatomy and Physiology. **4 credits**
The human body and its functions. Includes integration of cellular and anatomic structures with functioning of various body systems. This course requires clinical applications; it is specifically designed for students majoring in the allied health professions. Two (2) lecture hours and four (4) laboratory hours per week.

CAHP 301: Maternal and Child Health. **3 credits**
Explores the practice of fertility-control methodology and selective technology. Emphasizes the importance of recognition and understanding of maternal, adolescent and child health services, and the individuality of the recipients of family planning services. Issues and controversies in fertility control, with an overview of the sexually active population. Analyzes changes in sexual behavior, precipitating causes, and societal reaction to these as they affect all ages. Other areas covered are the legal rights of the child and the unborn child, and the study of laws related to fertility control, particularly as they affect the delivery of family planning services.

CAHP 305: Health Law. **3 credits**
Study of health law for allied health professionals and health care professionals, with emphasis on principles of law and release of information.

CAHP 308/CUSW 416: Social Work Practices with the Aged. **3 credits**
Application of sociological theory and methods of the study of aging in society. Students explore the impact of urbanization on the aged and the experiences of the aged in social institutions. *Prerequisite: CAHP 241.*

CAHP 309: Medical Terminology. **3 credits**
Definitive study of word elements, word construction, derivations, and meanings of medical terms.

CAHP 313: Health Care Delivery Systems. **3 credits**
Analysis of traditional and nontraditional health care facilities, their organization patterns, accreditation standards, legal requirements and special documentation needs. Site visits/report required.

CAHP 341: Intro. to Health Education. **3 credits**
Introduces students to the practice and profession of Health Education. The historical philosophies and early theoretical frameworks of the profession will be presented in order to prepare students for the second course in the series of health education. Work settings and areas of specialization will be discussed.

CAHP 349: Introduction to Health Information Administration I. **3 credits**
Introduction to Health Information Administration; includes origin, use, contents, format, management of content and forms design and control, filing methods, indexes and registers, microfilming and records management. *Prerequisite: CBUS 340.*

CAHP 350: Health Information Management II. **3 credits**
Study and practice of the medical record sciences, accreditation, registration and certification of various facilities, such as acute care, ambulatory care, long-term care, HMOs, hospice programs and mental health facilities. An overview of an organization's computer applications, quality assurance. *Prerequisite: CAHP 349.*

CAHP 352: Health Data Management. **3 credits**
Analysis of data collection, retrieval, and use. Computation of health care statistical data. *Prerequisites: CAHP 221, 313, 350, 309; Corequisites: AHP 354 and CPSY/CBUS 313.*

CAHP 353: Directed Practice I. **2 credits**
Introduction to medical record practices in health care facilities. Students provided opportunities to relate to and apply medical record procedure and knowledge. Practice sites included in on-campus laboratory and health care facilities. *Corequisites: CAHP 303, 305, 309, 349, and 349L*

AHP 354: Pathophysiology. **3 credits**
Acquaints the student with the changes that occur in the diseased state. Lectures and laboratory specimens are utilized to explain the general concepts of disease, terminology, etiology, diagnostic procedures, prognosis, treatment and prevention. Also the type of diseases and the way they affect the specific body systems. *Prerequisite or corequisites: CAHP 309 and 230.*

CAHP 356: Directed Practice II. **2 credits**
Continuation of Directed Practice I. Students are provided opportunities to relate and apply additional classroom knowledge and practices in a clinical setting. *Corequisites: CAHP 350, 350L, 352, 354 and 356.* Eight (8) hours a week for fourteen (14) weeks.

CAHP 358: Nosology. **3 credits**
Study of standardized systems for the identification and classification of disease processes and specialized medical nomenclature. *Prerequisites: CAHP 221, CAHP 313, CAHP 309, and CAHP 349; Corequisite: CAHP 350 and 354.*

CAHP 400: Health Care Administration. **3 credits**
A study of the macro level of health care organization and the micro level of administrative office management in the context of present and future health information technology. *Prerequisite: Principles of Management (CBUS 340).*

CAHP 402: Health Care Management. **3 credits**
Application of management techniques to the administration of health care facilities. Discussions cover various administrative management elements of the health care systems, approaches to decision making, establishment of management objectives and techniques, and management of complex and normative organizations.

CAHP 404: Approaches to Planning in Health Care. **3 credits**
Principal theories and methodologies of the planning process. Students analyze the impact of regionalism on health care and examine specific interpretations and applications of comprehensive health planning legislation.

CAHP 420: Interdisciplinary Health Sciences Seminar. **1 credit**
Team health care delivery and the role of each team member. Mandatory for all students in the health professions.

CAHP 426: Epidemiology. **4 credits**
Description and analysis of theoretical concepts, approaches, and structures germane to epidemiology in particular and to science in general. Also includes application of basic measurements and the study of design and methodologies appropriate to populations. *Prerequisite: Statistics.*

CAHP 437: Health Finance. **3 credits**
Study of accounting practices as they relate to the health care business, with emphasis on analysis of financial statements and budgets. *Prerequisite: CBUS 340.*

CAHP 439: Quality Assurance and Risk Management. **2 credits**
Study of Quality Assurance and Risk Management in relation to the present health care systems, with emphasis on joint commission standards. *Prerequisites: CAHP 351 and 352.*

CAHP 440: Health Information Systems Project. **3 credits**
Study and application of computer systems to health information. Medical records applications on microcomputers, hospital visits for systems analysis and online computers. *Prerequisites: CAHP 350, 439, CCIS 100 or equivalent.*

CAHP 442: Health Education Methods. **3 credits**
Effective teaching techniques to communicate health information to groups of various ages, socioeconomic levels, and cultures. Also provides experience in oral presentation and the use of resource materials for education. Community health and social service agency personnel conduct classes throughout the semester.

CAHP 443: Directed Practice III. **2 credits**
Continuation of Directed Practice II. Application of additional health record technical functions; reinforcement of experiences gained in nonhospital settings utilized. *Prerequisite: CAHP 442; corequisites: CAHP 402 and 440.* Eight (8) hours a week for fourteen (14) weeks.

CAHP 450: Administrative Internship. **3 credits**
Administrative assignments in health record departments of hospitals accredited by the Joint Commission on the Accreditation of Hospitals, under the direction of a registered record administrator. Includes pre- and postseminars. *Prerequisites: completion of all General Education courses, support course work, and health record courses with a minimum grade of "C."* Forty (40) hours a week for four (4) consecutive weeks.

CAHP 480: Directed Study **3 credits**
On-site clinical work matched to degree requirements. Uses research projects to illustrate the methods of planning, implementation and evaluation of clinical studies. *Prerequisite: CAHP 426.*

CAHP 488: Internship. **4 credits**
Designed to integrate classroom knowledge with practical experiences at a health care-related agency.

BIOLOGY COURSE DESCRIPTIONS

CBIO 101: Biological Science.

3 credits

A basic course in biological science for nonscience majors. Topics include basic concepts of life and living organisms, their organization from atoms to organisms directed specifically toward the human being. Functioning and some disorders of various systems in the human body are taught. Three (3) lecture hours.

CBIO 111: General Biology I.

4 credits

Introduction of the basic principles of biology, covering cells, cell organelles, and genetics. The cell surface, the role of plastid and mitochondria in energetics, and the role of the nucleus in cell division and regulation are given special emphasis. Also included are cell chemistry, concepts of molecular biology, mitosis and meiosis. Three (3) lecture hours and a three-hour laboratory per week.

CBIO 112: General Biology II.

4 credits

Fundamental principles, concepts, and facts of specific areas in biology, such as development, behavior, population biology, and ecology. Covers organismal physiology (nervous, hormonal, muscular, circulatory, excretory), with emphasis on regulation at the level of the organism. Three (3) lecture hours and a three-hour laboratory per week. *Prerequisite: CBIO 111.*

CBIO 233: Microbiology.

4 credits

The study of microorganisms with emphasis on bacteria and viruses, physiology and metabolism of bacteria, bacterial growth, metabolic regulation, genetics of bacteria, genetic resistance to antibiotics, survey of the major groups of bacteria and viruses, and diseases of bacteria and viruses. Three (3) lecture hours and a three-hour laboratory required per week. *Prerequisite: CBIO 111 and 112 and CCHE 111.*

CBIO 251: Vertebrate Anatomy and Embryology.

4 credits

Comparative study of the structures, functions and the ontogenesis of the vertebrates. Structural origin and mechanisms of development are stressed. Three (3) lecture hours and a three-hour laboratory required per week. *Prerequisites: CBIO 111 and 112.*

CBIO 255: Invertebrate Zoology.

4 credits

Consideration of the morphology, physiology, phylogeny, and ecology of major invertebrate phyla. Laboratory work includes practical anatomy and physiology of indigenous and exotic species. Three (3) lecture hours and a three-hour laboratory required per week. *Prerequisites: CBIO 111 and 112.*

CBIO 261: Environmental Biology.

4 credits

Study of current problems of society as related to the environment. Addresses selected problems related to water pollution, conservation, and populations. Students explore basic principles of ecology and their application to ecological problems. The impact of problems and their solutions is stressed. Three (3) lecture hours and a three-hour laboratory required per week. *Prerequisites: CBIO 111 and 112.*

CBIO 300: Histology. **4 credits**
Laboratory course dealing with the microscopic and ultramicroscopic anatomy of mammalian tissues and organs with emphasis on relating structure to function. Two (2) lecture hours and a four-hour laboratory required per week. *Prerequisites:* CBIO 111, and 112 and CCHE 111 and 112.

CBIO 312: Genetics I. **4 credits**
The science of genetics, including the chromosomal basis of inheritance, meiosis, Mendelian genetics, linkage, human genetics, cytogenetics, DNA replication, chromosome structure, quantitative genetics, molecular genetics, gene function, gene regulation and bacterial genetics. Three (3) lecture hours and a two-hour recitation period required per week. *Prerequisites:* CBIO 111, and 112 and CCHE 111 and 112.

CBIO 331: Plant Morphology. **4 credits**
Lecture/laboratory course emphasizing the structure and diversity of vascular and nonvascular plants. The laboratory emphasizes microscopy and plant microtechniques. Three (3) lecture hours and three laboratory hours required per week. *Prerequisites:* CBIO 111, and 112 and CCHE 111 and 112.

CBIO 375: Cell and Molecular Biology. **3 credits**
Study of the origin and structure of cell organelles and comparative and integrated presentation of the fundamental physiochemical mechanisms associated with the living cell. Three (3) lecture hours per week. *Prerequisites:* CBIO 111 and 112; CCHE 111 and 112.

CBIO 390: Introduction to Biochemistry. **3 credits**
Survey of basic principles of biochemistry and molecular biology, emphasizing broad understanding of chemical and biological events in living systems. The course emphasizes the major biologically important topics including sugars, amino acids, peptides, nucleic acids, lipids, enzymes, cofactors, vitamins, hormones and the operation of metabolic pathways. *Prerequisites:* CBIO 111 and 112, CCHE 111, 112, 231 and 232.

CBIO 471: Plant Physiology. **4 credits**
Lecture/laboratory course emphasizing the water relations, photosynthesis, nitrogen metabolism, and hormones of vascular plants. Three (3) lecture hours and four (4) laboratory hours required per week. *Prerequisites:* CBIO 111, and 112 and CCHE 111 and 112. *Recommended:* CBIO 331.

CBIO 476: Human Physiology. **4 credits**
Study of functions of the various tissues, organs, and organ systems of humans, with emphasis on the mechanisms, the cause and effect of hormonal actions, neurotransmission, cardiovascular control and muscle contraction. Three (3) lecture hours and one hour of recitation required per week. *Prerequisites:* CBIO 111 and 112; CCHE 111 and 112.

CBIO 478: Cell Biology Laboratory. **3 credits**
Introduction to experimental design, laboratory procedures, and instrumentation. Cell culture, cell growth kinetics, enzyme purification and kinetics, bacterial genetics studies, virus isolation and replication, column chromatography, protein synthesis and isolation of cell organelles. Two (2) 2.5-hour laboratories required per week. *Prerequisites:* CBIO 111, 112, and 312 and CCHE 111, 112, 231, 232, corequisite CBIO 375.

CBIO 480: Research in Biology. **Variable credit (1-4)**
Independent, faculty-supervised laboratory investigation on topics of special interest. Students present periodic reports. Course may be repeated. *Prerequisite:* Permission of department chair and faculty supervisor.

CBIO 482: Seminar in Biology. **1 credit**
Students present scientific seminars on a subtopic of a specific theme. Students are required to make an oral presentation on the selected topic and submit a written paper. One (1) lecture hour per week.

CBIO 491: Biochemistry. **4 credits**
Structure and function of proteins, nucleic acids, carbohydrates, and lipids. Three (3) lecture hours and one hour of recitation required per week. *Prerequisites:* CBIO 111, and 112 and CCHE 231, and 232.

CBIO 492: Biochemistry. **4 credits**
Intermediary metabolism and the control mechanisms involved. DNA replication and introductory recombination. Three (3) lecture hours and one recitation hour required per week. *Prerequisites:* CBIO 111, 112, 491 and CCHE 231, and 232.

COURSE DESCRIPTIONS

CCHE 111 and 112: General Chemistry I and II. 4 credits each

CCHE 111: This is the introductory course in college chemistry. The topics covered in this course include: stoichiometry, atomic structure, molecular structure and bonding and gas laws. Three hours of lecture, three hours of laboratory and three hours of recitation are required. (4 credit hours) CCHE 112: This is the continuation of Chemistry 111. The topics covered in this course include: kinetics, equilibria, thermodynamics, and electrochemistry. Three hours of lecture, three hours of laboratory and three hours of recitation are required. (4 credit hours) *Prerequisite: General Chemistry I.*

CCHE 211 and 212: Analytical Chemistry I and II. 4 credits each

CCHE 211: Study of homogeneous and heterogeneous equilibria to include principles related to ionization, solubility, complex ions and molecules, oxidation and reduction in solution, redox potentials, electrochemical cells, and quantitative volumetric and gravimetric analysis. (Three [3] lecture hours and six [6] laboratory hours per week are required.) *Prerequisites: CCHE 111 and 112.* CCHE 212: Second half of the analytical chemistry sequence. Focuses on principles and stoichiometry relating to acidimetry, alkalimetry, redox methods, and iodometry. Gravimetric, electrometric, optical, chromatographic, and other modern instrumental methods of analysis and the basic chemical theory related to these procedures are studied. (Three [3] lecture hours and six [6] laboratory hours per week are required.) *Prerequisite: CCHE 211.*

CCHE 231 and 232: Organic Chemistry I and II. 4 credits each

CCHE 231: This is an introduction of the chemistry of carbon. The topics covered include: bonding, molecular structure, reaction mechanisms and spectroscopy. Studies are the properties of aliphatic and aromatic compounds. (Three [3] lecture hours, three [3] laboratory hours and one and one-half [1.5] recitation hours per week are required.) *Prerequisites: CCHE 111 and 112.* CCHE 232: *This is a continuation of CCHE 231.* The topics covered include: bonding, molecular structure, reaction mechanisms and spectroscopy. Studies are the properties of aliphatic and aromatic compounds which include proteins, carbohydrates, drugs and biomolecules. Three [3] lecture hours, three [3] laboratory hours, and one and one-half (1.5) recitation hours per week are required. *Prerequisites: CCHE 231.*

CCHE 341 AND 342: Physical Chemistry I and II. 4 credits each

CCHE 341: Study of the laws and theories of chemical phenomena, including elementary thermodynamics, the gaseous, liquid, and solid state, equilibria, and chemical kinetics (rates of chemical reactions, and kinetics of complex reactions, and some molecular reaction dynamics). (Three [3] lecture hours per week.) *Prerequisites: CCHE 211; CPHY 111 and 112; CMAT 111, 112, 211, and 212.* CCHE 342: Elementary quantum mechanics, molecular reaction dynamics (activated complex theory and dynamics of molecular collisions) and the application of elementary quantum mechanics to atomic and molecular structure and spectroscopy. (Three [3] lecture hours per week) *Prerequisites: CCHE 211; CPHY 111 and 112; CMAT 111, 112, 211, and 212.*

CCHE 341L/342L: Physical Chemistry I & II Laboratory/Recitation. 2 credits

Laboratory investigations in physical chemistry. Experiments carried out include coverage of five major areas of physical chemistry: thermodynamics, spectroscopy, kinetics, quantum mechanics, and statistical mechanics. (One [1] laboratory credit each, four [4] laboratory/recitation hours per week are required.)

CCHE 381 AND 382: Junior-level Chemistry Seminar I & II. 1 credit total

This is a one-hour lecture/seminar course. One year of the course generates one hour of credit.

CCHE 412: Instrumental Methods. 4 credits

A lecture and laboratory course covering the theory, design, practical uses and applications of typical spectroscopic and chromatographic instrumentation. Particular focus is on the application of the instrumentation for chemical analysis. (Three [3] lecture hours and six [6] laboratory hours per week are required.) (This course is numbered 512 for graduate students.) *Prerequisites: CCHE 211, 341, and 342.*

CCHE 421: Inorganic Chemistry. 3 credits

This is an introduction to the descriptive chemistry of the elements. The topics covered in this course include: Brønsted and Lewis acids and bases, electronic and molecular structure and coordination chemistry. (Three [3] lecture hours with laboratory each week are required.) *Prerequisites: CCHE 341 and 342.*

CCHE 431 AND 432: Advanced Organic Chemistry I & II. 4 credits each

CCHE 431: Advanced Organic Chemistry I. This course is a study of the advanced topics in carbon chemistry. The topics covered include: Critical evaluation of modern organic theory mechanisms and rearrangements. It also includes a detailed study of important organic reactions and their application to selected laboratory experiments. (Three [3] lecture hours and one [1] laboratory hour per week are required.) *Prerequisites: CCHE 231 and 232.*

CCHE 432: Methods of Structure Determination. 4 credits

This course covers the theory and techniques used in the determination of the structure of organic compounds. The topics covered include separation techniques as well as the use of UV/VIS, IR, NMR, ESR, Raman and mass spectroscopy to elucidate structures of organic compounds. (Three [3] lecture hours and one [1] laboratory hour per week are required.) *Prerequisite: CCHE 431.*

CHE 441: Mathematical Methods in Chemistry. 3 credits

A study of the mathematical methods used in physical chemistry, including applications of linear algebra and differential equations. (Three [3] lecture hours per week) *Prerequisites: CCHE 341 and 342.*

CCHE 451 and 452: Biochemistry. 3 credits each

CCHE 451 (dual numbering with CBIO 491): Introduction to the structure and function of biological molecules, proteins, carbohydrates, lipids and nucleic acids. (Three [3] lecture hours per week) *Prerequisites: CCHE 231 and 232; CBIO 111 and 112.* CCHE 452 (dual numbering with CBIO 492): Basic metabolic pathways governing the function of cells and tissues (intermediary metabolism). Fundamentals of enzymatic catalysis, including kinetics and mechanism. (Three [3] lecture hours per week.) *Prerequisites: CCHE 231 and 232; CBIO 111 and 112.*

CCHE 480: Special Topics in Chemistry. 4 credits

Detailed study of a series of advanced topics in any area of chemistry. Students undertake independent projects. (Three [3] lecture hours per week with required laboratory)

CCHE 481 AND 482: Senior-level Chemistry Seminar I & II. 1 credit total

This is a one-hour lecture/seminar course. One year of the course generates one hour of credit.

COURSE DESCRIPTIONS

CCIS 100: Information Technology and Computer Application. 3 credits
A hands-on introduction to personal computer concepts and productivity applications. Computer concepts include basic architecture, the Internet, and windows. Productivity applications include word processing, spreadsheets, presentation graphics, and relational database usage.

CCIS 101: Computer Science: An Overview. 4 credits
An introductory course providing a theoretical overview of the primary topics in Computer Science including hardware concepts, operating systems, programming, data structures, database systems, artificial intelligence, complexity theory, and a discussion of ethics.

CCIS 103: Scientific Programming. 3 credits
An introduction to programming concepts for biology, chemistry, engineering, mathematics, and physics majors. The classroom utilizes a procedural pseudocode, while the associated recitations require hands-on programming in FORTRAN and Visual BASIC. *Corequisite 103R.*

CCIS 103R: Scientific Programming Recitation. **0 credits**
A hands-on guided programming experience in developing FORTRAN and Visual BASIC programs. (Must be taken while completing CCIS 103) *Corequisite: CCIS 103.*

CCIS 104: Business Programming. **3 credits**
An introduction to programming concepts for business majors. The classroom utilizes a procedural pseudocode, while the associated recitations require hands-on programming in COBOL and Visual BASIC. *Corequisite: CCIS 104R.*

CCIS 104R: Business Programming Recitation. **0 credits**
A hands-on guided programming experience in developing COBOL and Visual BASIC programs. (Must be taken while completing CCIS 104.) *Corequisite: CCIS 104.*

CCIS 105: Programming Problem Solving. **3 credits**
An introduction to the fundamental concepts of problem solving focusing on programming oriented solutions in a language independent environment. Students are encouraged to be enrolled in or to have already completed Mat 111, Calculus I. Guided Laboratory is required. *Corequisites: CCIS 101, CCIS 105L*

CCIS 105L: Problem Solving Laboratory. **0 credits**
A hands-on guided problem-solving experience that supplements CCIS 105. *Corequisite: CCIS 105.*

CCIS 106: Java Programming. **3 credits**
A continuation of CIS 105 utilizing the Java programming language. Guided Laboratory is required. *Prerequisite: CCIS 105, Corequisite: CCIS 106L.*

CCIS 106L: Java Programming Laboratory. **0 credits**
A hands-on guided programming experience in developing Java programs. *Corequisite: CCIS 106*

CCIS 121: Introduction to Computer Systems. **3 credits**
Introductory study of logical organization of computer systems. Topics include input-output processing, memory and processor structures and basic logic circuit design. Assembly language programming will be emphasized. *Prerequisite: CCIS 101.*

CCIS 123: Data Structures. **3 credits**
Introductory study of data structures, including record, file, linked structures, lists, stacks, queues, graphs and trees. Guided laboratory is required. *Prerequisite: CIS 106, Corequisite: CCIS 123L.*

CCIS 123L: Data Structures Laboratory. **0 credits**
A hands-on guided development programming experience using Java to implement aspects of the study of data structures. *Corequisite: CCIS 123.*

CCIS 200: Advanced Programming. **3 credits**
A continuation of CCIS 106 emphasizing advanced Java programming concepts and an introduction to procedural concepts utilizing the C language. Guided laboratory. *Prerequisite: CCIS 106, Corequisite: CCIS 200L.*

CCIS 200L: Advanced Programming Laboratory. **0 credits**
A hands-on guided development programming experience using Java and C. *Corequisite: CCIS 200.*

CCIS 227: Deductive Systems. **3 credits**
An introductory study of prepositional and predicate systems, including topics such as standard forms, resolution principle and refutation algorithms, with specific reference to applications in Computer Science. *Prerequisite: CMAT 311.*

CCIS 301: Computer Systems Software. **3 credits**
Study of basic concepts of computer software systems, including operating systems, language translators, utilities, linkers and loaders. Concepts will be reinforced via programming projects using Assembler Code. *Prerequisite: CCIS 476.*

CCIS 321: Introduction to Software Engineering. **3 credits**
Introductory study of large software development issues, including requirements analysis, specification, design, testing and maintenance. *Prerequisites: CCIS 123 and CCIS 200, Corequisite: CCIS 474.*

CCIS 471: Introduction to Computer Algorithms. **3 credits**
Introductory study of algorithm design, using appropriate data structures. Topics include algorithms for sorting, searching and graph traversals and complexity issues. *Prerequisites: CCIS 123, CCIS 200.*

CCIS 472: Introduction to Computer Architecture. **3 credits**
Study of logical organization of computer hardware and functional components. *Prerequisites: CCIS 121, CCIS 123, CCIS 200.*

CCIS 473: Introduction to Operating Systems. **3 credits**
Study of basic operating systems concepts, including multiprogramming, resource management and implementation. *Prerequisites: CCIS 123, CCIS 200.*

CCIS 474: Introduction to Database Systems. **3 credits**
Study of basic concepts of databases, including various models, query processing and other topics of interest. *Prerequisites: CCIS 123, CCIS 200.*

CCIS 475: Introduction to Artificial Intelligence. **3 credits**
Introductory study of intelligent problem solving and search algorithms, inference systems, machine intelligence and knowledge organization. *Prerequisites: CCIS 123, CCIS 200.*

CCIS 476: Programming Languages and Compilers. 3 credits

An overview of syntactic and semantic aspects of programming languages, including basic concepts of parsing, translation, and execution of procedural languages.

Prerequisites: CCIS 123, CCIS 200.

CCIS 482: Introduction to Computer Information Systems. 3 credits

Study of methodologies for designing and implementing management information systems with emphasis on system development, implementation and evaluation.

Prerequisite: CCIS 123, CCIS 200.

CCIS 490: Practical Training. 3 credits

Training with industry and government laboratories via internship and cooperative education programs. To receive credit for this course, a student must complete at the equivalent of 6 months of full-time employment with the same employer, receive a satisfactory performance rating from the employer, and write a paper describing in reasonable detail the work environment, activities, responsibilities involved, and knowledge and experience gained from the employment.

Prerequisite: Consent of the department.

CCIS 491: Information Systems Research/Design Project. 3 credits

Prerequisite: Consent of department.

CCIS 492: Database Research/Design Project. 3 credits

Prerequisite: Consent of department

CCIS 493: Systems Software/Hardware Research/Design Project. 3 credits

Prerequisite: Consent of department.

CCIS 494: Software Engineering Research/Design Project. 3 credits

Prerequisite: Consent of department.

CCIS 495: Artificial Intelligence Research/Design Project. 3 credits

Prerequisite: Consent of department.

CCIS 499: Senior Design Project. 3 credits

A one-semester course culminating in a design project acceptable to the department. This course will be managed by a collection of faculty members offering a variety of project environments for the students. *Prerequisites: Consent of Advising Professor.*

ENGINEERING B.S. DEGREE COURSE DESCRIPTIONS

Courses Common to all Concentrations (Chemical, Civil, Electrical and Mechanical)

CEGR 101: Introduction to Engineering. **3 credits**

Introduction to the engineering profession and various branches of engineering utilizing audio-visual material, lectures by visiting professionals and trips to plants and factories, emphasis on professionalism and ethics, engineering solutions, representation of technical information, engineering estimations and approximations, dimensions, units and conversions with introduction to statistics, mechanics, electrical theory and engineering economics. *Prerequisite: CMAT 105.*

CEGR 102: Introduction to Engineering Design. **2 credits**

Introduction to engineering design process and design concepts; applications to design problems in the various branches of engineering; practical design assignments. *Prerequisite: CMAT 105.*

CEGR 110: Engineering Graphics. **3 credits**

Introduction to engineering graphics and visual communication including freehand sketching, engineering design processes, 2D/3D and solid CAD models, development and interpretation of drawings, projection standards and specifications for product realization. *Prerequisite: CMAT 105.*

CEGR 201: Electrical Circuit Analysis. **3 credits**

This course is designed to enable students to analyze basic circuits and to understand more advanced circuits that have circuit elements such as resistors, capacitors, inductors, voltage and current sources (using Kirchhoff's laws, mesh and nodal analysis, network theorems to DC and AC circuits and also by computer simulation using PSPICE software). *Prerequisites: CMAT 112, CPHY 122.*

CEGR 211: Engineering Statics. **3 credits**

Study of the elements of statics in two and three dimensions using vector algebra, laws of equilibrium applied to particles, rigid bodies and structures, friction, centroids. *Prerequisites: CMAT 112, CPHY 121*

CEGR 314: Mathematics for Engineers. **3 credits**

Application of mathematical techniques to various engineering problems including numerical methods for solving nonlinear problems. *Prerequisites: CMAT 112, 212.*

CEGR 320: Engineering Thermodynamics. **3 credits**

Fundamentals of engineering thermodynamics, phases of matter (especially water) and their thermodynamic properties, equilibrium, entropy, reversibility and irreversibility, conservation of energy, the second law of thermodynamics, introduction to thermodynamic cycles. *Prerequisites: CMAT 112, CPHY 121.*

CEGR 490: Engineering Project. **3 credits**

Capstone engineering projects where students utilize their engineering knowledge to independently solve a design problem under faculty supervision. Written and oral reports are required. *Prerequisite: CEGR 476.*

CEGR 499: Engineering Seminar. **1 credit**

A series of seminars in chemical, civil, electrical and mechanical engineering for effective presentations; discussions involve analytical, experimental and industrial problems.

COURSE DESCRIPTIONS FOR CHEMICAL ENGINEERING OPTION

CEGR 315: Instrumental Methods. **3 credits**

Exposure to the principles and laboratory applications of instrumentation for physical, chemical and surface characterization of materials. Topics covered include gas chromatography/mass spectrometry (GC/MS), inductively coupled plasma spectrometry (ICP), Fourier transform infrared (FTIR) spectroscopy, thermoanalysis techniques (TGA, DTA, SCA, TMA, etc.), x-ray diffraction (XRD), scanning electron microscopy (SEM), surface area, pore volume and pore size distribution measurements. *Prerequisite: CCHE 231.*

CEGR 330: Introduction to Materials. **4 credits**
Introduction to the fundamentals of materials. Topics include material structure (atomic bonding, crystalline structures, imperfections); diffusion, phase diagrams, mechanical behavior (stress versus strain, elastic and plastic deformations, hardness and creep), failure analysis and prevention (impact energy, fracture toughness and fatigue); and the selection of materials and appropriate performance indices. *Prerequisites: CCHE 111, CPHY 121.*

CEGR 362: Chemical Process Principles. **3 credits**
Study of material and energy balances with emphasis on steady- and unsteady-state physical and chemical processes. Engineering problem analysis, material balances for single and multiphase systems, energy balances for nonreactive and reactive processes, gas behavior, thermodynamic properties, thermophysical and thermochemical concepts are covered. *Prerequisites: CCHE 112, CMAT 112.*

CEGR 363: Kinetics and Reactor Design. **3 credits**
Fundamentals of chemical reaction engineering, stoichiometry, rate laws, kinetics, and mechanisms of homogeneous and heterogeneous reactions, analysis of rate data, diffusion limitations, design of industrial reactors are emphasized. *Prerequisites: CEGR 320, 362, CCHE 341.*

CEGR 366: Fluid Mechanics. **3 credits**
Fundamentals of fluid mechanics including fluid properties, statics and dynamics of ideal and real fluids (equations of fluid motion), dimensional analysis and similitude, laminar and turbulent flows, boundary layers, turbomachinery, flow visualization and measurements are covered. *Prerequisites: CEGR 314, 320.*

CEGR 462: Unit Operations Lab. **3 credits**
Laboratory experiments on unit operations used in chemical and biochemical processes are conducted. Stagewise operations, reactions, diffusion processes, momentum flow, and heat and mass transfer for typical chemical engineering operations are emphasized. Experiments include chemical rate reactions, continuous distillation, solid-liquid extraction, filtration, heat transfer and process control. *Prerequisites: CEGR 363, 482.*

CEGR 475CH: Process Design and Control. **3 credits**
Study of the operation of large-scale computer systems for steady-state simulation of chemical processes, dynamics of chemical processes and theory of control techniques. *Prerequisites: CEGR 314, 363.*

CEGR 476CH: Plant Design and Economics. **3 credits**
Application of concepts of unit operations, reactor design, economics and process control and the recognition of the economic, environmental, and ethical implications involved in the design of chemical processes and plants are covered. Process design development, flowsheeting, software use in process design, cost estimation, profitability analysis, optimum design strategies, material selection, and report writing and presentation are emphasized. *Prerequisites: CEGR 363, 475CH.*

CEGR 482: Heat and Mass Transfer. **3 credits**
Fundamental principles and applications of energy and mass transfer, analysis of chemical engineering processes and operations involving heat and mass transfer are covered. *Prerequisites: CEGR 320, 366.*

CEGR 483: Separation Process. **3 credits**
Principles of stagewise operations such as distillation, extraction, drying, absorption, adsorption, filtration, membrane separation, crystallization and other chemical engineering separation processes are covered. *Prerequisites: CEGR 320, 362.*

COURSE DESCRIPTIONS FOR CIVIL ENGINEERING OPTION

CEGR 251: Mechanics of Materials. **3 credits**
Definition and analysis of stress, strain and deformation; mechanical behavior of engineering materials; applications to axially loaded members, torsion of circular shafts and bending of beams; introduction to simple plasticity and buckling of columns. *Prerequisite: CEGR 211.*

CEGR 311: Engineering Dynamics. **3 credits**
Kinematics of rectilinear and curvilinear motion of particles, kinematics of rigid bodies in plane motion, kinetics (work and energy relations, impulse and momentum principles) of particles, systems of particles, and rigid bodies in plane motion. *Prerequisite: CEGR 211.*

CEGR 330: Introduction to Materials. **4 credits**
Introduction to the fundamentals of materials. Topics include material structure (atomic bonding, crystalline structures, imperfections); diffusion, phase diagrams, mechanical behavior (stress versus strain, elastic and plastic deformations, hardness and creep), failure analysis and prevention (impact energy, fracture toughness and fatigue); and the selection of materials and appropriate performance indices. *Prerequisites: CCHE 111, CPHY 121.*

CEGR 361: Engineering Geology/Survey. **3 credits**
Study of the geologic environment of man and human aspects of geologic hazards (flooding, earthquake, volcanic eruption), waste disposal and environmental health, geological resources, elementary plane surveying (leveling, distance measurements and angle measurement). Introduction to advanced spatial data collection and analysis methods such as GIS, GPS, photogrammetry and satellite remote sensing. *Prerequisite: CMAT 111.*

CEGR 366: Fluid Mechanics. **3 credits**
Fundamentals of fluid mechanics including fluid properties, statics and dynamics of ideal and real fluids (equations of fluid motion), dimensional analysis and similitude, laminar and turbulent flows, boundary layers, flow measurement, turbomachinery, experiments on flow visualization and measurement. *Prerequisites: CEGR 314, 320.*

CEGR 371: Structural Analysis. **3 credits**
Introduction to the analysis of basic structural forms such as beams, trusses, and frames, which are found in bridges and buildings. Classical deflection techniques such as direct integration, virtual work and moment-area; and indeterminate analysis techniques such as the force; slope deflection and moment distribution methods are used to determine forces and deflections in elastic structures. Influence lines for determinate beams and trusses. Matrix methods of structural analysis and computer programs are introduced and directly applied in the solution of analysis and design problems. Approximate analysis techniques are used to check the general accuracy of computer-based results. *Prerequisite: CEGR 251.*

CEGR 461: Geotechnical Engineering. **3 credits**
Study of soil formation, classification, physical and mechanical properties, compaction, bearing capacity, earth pressures, consolidation and shear strength. Emphasis on design methods for foundations and earth structures. Activities include site investigations to determine soil properties for design. *Prerequisites: CEGR 251, 361.*

CEGR 475CE: Steel Design. **3 credits**
Introduction to structural design, loads on structures, basic philosophy of planning and concepts in structural steel design, principles of behavior of tension and compression members, beams, beam-columns, and connections with application to the design of elementary structures using load and resistance factor design specifications. *Prerequisite: CEGR 371.*

CEGR 476CE: Concrete Design. **3 credits**
Design of beams, columns, and slabs in reinforced concrete structures. Topics include properties of reinforced concrete materials; design of beams and slabs for flexure and shear; anchorage of reinforcement and deflection; design of columns for axial force, bending and shear; and use of ultimate strength design methods. *Prerequisite: CEGR 371.*

CEGR 481: Environmental Engineering. **3 credits**
Introduction to environmental engineering, with emphasis on water supply and treatment, sewer design, wastewater treatment, air pollution control, and solid waste management. Students will also be exposed to pertinent environmental laws and policies, and environmental impact assessments. *Prerequisite: CEGR 366.*

CEGR 485: Transportation Engineering. **3 credits**
Planning, design and operation of transportation systems with emphasis on multimodal transportation techniques and unified system engineering theories to analyze large-scale transportation problems. Topics include Intelligent Vehicle Highway systems (IVHS). Activities include hands-on experiments with computer models in transportation operations and planning, and analyzing interactions between transportation infrastructure and environmental engineering planning. *Prerequisite: CEGR 361.*

COURSE DESCRIPTIONS FOR ELECTRICAL ENGINEERING OPTION

CEGR 252: Digital Computer Logic Design. **3 credits**
Introduction to the design of basic digital electronic (computer) systems by applying the fundamental principles in digital logic design including definition of computer functions, switches, combinational logic circuits, Boolean function, K-maps, multiplexer, decoders, sequential logic circuits, flip flops, counters, memory. *Prerequisites: CCIS 100, 103, CEGR 201.*

CEGR 311: Engineering Dynamics. **3 credits**
Kinematics of rectilinear and curvilinear motion of particles, kinematics of rigid bodies in plane motion, kinetics (work and energy relations, impulse and momentum principles) of particles, systems of particles, and rigid bodies in plane motion. *Prerequisite: CEGR 211.*

CEGR 332: Materials and Devices. **4 credits**
Basic processes and technologies that govern the use of semiconductor devices, material properties and their relation to device designs and applications. *Prerequisites: CPHY 121, 122, 123, CEGR 201, 354.*

CEGR 354: Electronics. **4 credits**
Introduction to design of integrated circuits, including characteristics of diodes and transistors, and their application in amplifiers and switching circuits; developing techniques for the analysis of active linear electronic circuits: analysis and design of linear and nonlinear circuits. *Prerequisites: CMAT 112, CPHY 122, CEGR 201.*

CEGR 364: Signals and Systems. **3 credits**
Discrete-time and continuous-time systems; difference and differential equations, LTI systems, convolution, Fourier analysis. *Prerequisites: CEGR 201, CMAT 212, CEGR 314.*

CEGR 365: Electromagnetism. **3 credits**
Electromagnetic field theory as summarized in Maxwell's equations in integral and differential forms for simple media and its application to electrostatics, magnetostatics and electromagnetostatics, introduction to plane waves and its interaction with smooth surfaces, transmission lines and antenna. *Prerequisites: CMAT 112, CPHY 122, CEGR 201.*

CEGR 474: Digital Signal Processing. **3 credits**
Discrete-time Fourier Transform, z-Transform, sampling theory, Zero-pole analysis of systems, signal flow graphs, FIR and IIR filter design. *Prerequisite: CEGR 364.*

CEGR 475E 1: Wireless Communications. **3 credits**
To study the concept of "wireless communications" with emphasis on frequency reuse techniques, path loss model, modulation techniques, CDMA, and FDMA techniques. *Prerequisites: CEGR 314, 364.*

CEGR 475E 2: VLSI Design. **3 credits**
Basic design techniques necessary to assess and verify CMOS designs; application of contemporary CMOS logic, circuit, design and processing technology. *Prerequisites: CEGR 252, 332, 354.*

CEGR 476E: Antenna Design. **3 credits**
Introduction to fundamental principles of antenna theory and applications to design and measurement of antenna systems. *Prerequisites: CEGR 314, 354, 365.*

CEGR 477: Power Systems and Controls. **3 credits**
Study of the basic concepts of power generation, control theory, transformation, transmission and use; transient analysis, network reduction techniques; and load flow problems. Both the transfer and state-variable approach will be introduced. *Prerequisites: CEGR 314, 364.*

CEGR 478: Communications. **3 credits**
Study of the fundamentals of modern digital communication systems and evaluation of their performance on realistic channel models. *Prerequisites: CEGR 314, 364.*

COURSE DESCRIPTIONS FOR MECHANICAL ENGINEERING OPTION

CEGR 251: Mechanics of Materials. **3 credits**
Definition and analysis of stress, strain and deformation; mechanical behavior of engineering materials; applications to axially loaded members, torsion of circular shafts and bending of beams; introduction to simple plasticity and buckling of columns. *Prerequisite: CEGR 211.*

CEGR 311: Engineering Dynamics. **3 credits**
Kinematics of rectilinear and curvilinear motion of particles, kinematics of rigid bodies in plane motion, kinetics (work and energy relations, impulse and momentum principles) of particles, systems of particles, and rigid bodies in plane motion. *Prerequisite: CEGR 211.*

CEGR 330: Introduction to Materials. **4 credits**
Introduction to the fundamentals of materials. Topics include material structure (atomic bonding, crystalline structures, imperfections); diffusion, phase diagrams, mechanical behavior (stress versus strain, elastic and plastic deformations, hardness and creep), failure analysis and prevention (impact energy, fracture toughness and fatigue); and the selection of materials and appropriate performance indices. *Prerequisites: C CHE 111, CPHY 121.*

CEGR 366: Fluid Mechanics. **3 credits**
Fundamentals of fluid mechanics including fluid properties, statics and dynamics of ideal and real fluids (equations of fluid motion), dimensional analysis and similitude, laminar and turbulent flows, boundary layers, flow measurement, turbomachinery, experiments on flow visualization and measurement. *Prerequisites: CEGR 314, 320.*

CEGR 381: Manufacturing Engineering and Technology. **3 credits**
Fundamentals of modern manufacturing techniques and their implications for product design and industrial applications; dimensional accuracy and tolerancing, bulk and sheet deformation processes, solidification processes, mechanical removal processes, design and planning of manufacturing systems and processes. *Prerequisite: CEGR 211.*

CEGR 382: Kinematics of Machines. **3 credits**
Introduction to different types of mechanism, application of kinematic principles to mechanisms, position, velocity and acceleration analyses of linkages using complex algebra and graphical methods, fundamentals of gears and gear trains, introduction to cam design. *Prerequisite: CEGR 311.*

CEGR 475M: Mechanical Components Design. **3 credits**
Application of the design process in the creation and selection of mechanical components including fasteners, springs, bearings, gears and shafts subjected to static and fatigue loading. Emphasis on material selection aspects based on failure theory and deformation. *Prerequisite: CEGR 251.*

CEGR 476M: Mechanical Systems Design. **3 credits**
Assembly of components into systems design, application of design process to fasteners, springs, belts, bearings, clutches, brakes, shafts, gears, and other elements common to mechanical engineering systems. *Prerequisites: CEGR 382, CEGR 475M.*

CEGR 486: Heat Transfer and Lab.

3 credits

Theories of thermal conduction, convection and radiation and their application to engineering systems using analytical and computational methods, experimental verification of theories of heat transfer (instrumentation, measurement and interpretation of results). *Prerequisites: CEGR 320, 366.*

CEGR 487: Thermodynamics II.

3 credits

Review of thermodynamic concepts and principles, vapor cycles for power generation and refrigeration, thermodynamic relations, thermodynamic behavior of real gases, application of psychrometry to air-conditioning, thermodynamics of chemical reactions, chemical equilibrium, introduction to one-dimensional compressible flow. *Prerequisite: CEGR 320.*

CEGR 488: Vibrations and Controls.

3 credits

Free vibration of undamped and damped, single-degree-of-freedom systems, forced vibration of damped, single-degree-of-freedom systems (rotating unbalance, transmissibility, vibration measurement), vibration of undamped, two degree-of-freedom systems (dynamic vibration absorber), introduction to automatic control of dynamic systems (basic feed forward and feedback techniques, simple hydraulic servo and its modifications, electric position servo, Laplace transformation, transfer functions, stability study). *Prerequisites: CEGR 311, 314.*

MATHEMATICS COURSE DESCRIPTIONS

CMAT 103: Algebra I.

3 credits

Basic concepts of arithmetic and algebra, the real numbers, first degree equations of one variable, inequalities, exponents, polynomials, factoring, algebraic fractions, coordinate geometry and linear systems, rational exponents and radicals, quadratic equations.

CMAT 104: Algebra II.

3 credits

Linear models, polynomial and rational models, exponential and logarithmic models, mathematics of finance, systems of linear equations and matrices, linear programming.

CMAT 105: Pre-Calculus I.

3 credits

Fundamentals of algebra for study in analytic geometry and calculus. Concepts include the real numbers system, basic algebra, equations and inequalities of first and second degree, and functions and their graphs. *Prerequisites: Department approval and at least two (2) years of high school mathematics, including algebra, placement based on entrance exams, or CMAT 103.*

CMAT 106: Pre-Calculus II.

3 credits

Fundamentals of trigonometry for study in analytic geometry and calculus. Concepts include trigonometry, systems of equations and inequalities, conic sections, and sequences and series. *Prerequisite: CMAT 105, or placement based on entrance exams.*

CMAT 108: Combined Pre-Calculus

6 credits

This course emphasizes problem solving in mathematics. It will focus on concepts necessary to solve a variety of problems in algebra and trigonometry and enable the student to undertake a successful study of calculus, statistics or other intermediate level courses in mathematics.

CMAT 111: Calculus I. **4 credits**
Real numbers, functions, limits, derivatives, definite integrals and the applications of these topics. *Prerequisite: Proper placement score or CMAT 106 or CMAT 108.*

CMAT 112: Calculus II. **4 credits**
Topics covered include techniques of integration with applications to volume and surface area of solids of revolution and centers of mass, parametric equations, polar coordinates, improper integrals, and infinite series. *Prerequisite: CMAT 111.*

CMAT 209: Calculus and Analytical Geometry I. **3 credits**
Integrated course in analytic geometry and calculus designed for students in economics, business administration, and biology. The course provides students with the skills needed to study limits, functions, and differentiation. This course meets five days per week. *Prerequisites: CMAT 105, or departmental approval. This course is intended for Business majors.*

CMAT 210: Calculus and Analytical Geometry II. **3 credits**
Differentiation and integration of transcendental functions, definite integral, indefinite integral, area under curves, area between two curves, and differentiation of multivariable functions. This course meets five (5) days per week. *Prerequisite: CMAT 209.*

CMAT 211: Calculus III. **4 credits**
Topics include multidimensional calculus, namely partial geometry, multiple integrals, vector calculus and their applications. *Prerequisite: CMAT 112.*

CMAT 212: Differential Equations. **3 credits**
Definition and classification of differential equations. Techniques for first order nonlinear equations, linear equations with constant and variable coefficients, methods of undetermined coefficients, variation of parameters, Cauchy-Euler equations, and other methods for solving nonlinear equations, series solutions. *Prerequisite: CMAT 112.*

CMAT 214: Linear Algebra. **3 credits**
Introduction to linear algebra. Topics include vectors, matrices, linear equations, determinants, vector spaces, linear transformations, and vector spaces with an inner product. *Prerequisites: CMAT 112, or equivalent.*

CMAT 307: Structure of Elementary Mathematics I. **3 credits**
An introduction to problem solving, whole number computation, elementary set theory, numeration systems, algebraic thinking and functions, proof techniques, and number theory. *Prerequisite: CMAT 105.*

CMAT 308: Geometry for Pre-Secondary Teachers. **3 credits**
Cultural aspects of geometry, basic Euclidean Theorems, congruence and similarity, constructions, mensuration, symmetry, tiling, graph theory, proof techniques, and elements of Cartesian Geometry. *Prerequisites: CMAT 105 or CMAT 307.*

CMAT 309: Structure of Elementary Mathematics II. **3 credits**
The study of the real number system and its basic properties, elementary probability and statistics; emphasis will be placed on application, analysis, and evaluative aspects of teaching mathematics to Elementary and middle grade students. *Prerequisites: CMAT 105 and 106 or CMAT 111 or CMAT 307.*

CMAT 310: Geometry for Secondary School Teachers. **3 credits**
Study of the field of secondary school mathematics from both quantitative and qualitative viewpoints. Students learn mathematical concepts and teaching strategies. *Prerequisites: CMAT 105 and 106 or CMAT 111 and 112.*

CMAT 311: Mathematical Logic. **3 credits**
Study of sets and equivalence classes, Boolean algebra, the role of axiomatic in the structure of mathematics, basic principles of logic involving rules of modus ponens, reductio ad absurdum, propositional calculus, first order logic, and the nature of mathematical proof. *Prerequisite: MAT 112 or equivalent.*

CMAT 321 and 322: Mathematical Probability and Statistics I & II. **6 credits**
Introductory course in probability; distribution functions and moment generating functions; correlation and regression; development and applications of the binomial, normal, Student's t, chi square and F distributions; Poisson's and Cauchy's distributions. *Prerequisite: CMAT 112, or permission of the instructor.*

CMAT 325 and 326: Modern Algebra I and II. **3 credits each**
Study of the number system, groups, rings, fields, matrices and linear transformations, linear algebra, and other algebraic systems, vector spaces, systems of equations, reducible polynomials, and algebraic and transcendental numbers. *Prerequisites: MAT 111 and 112.*

CMAT 421 and 422: Advanced Calculus I and II. **3 credits each**
Sets, relations and functions, mathematical induction, equivalent and countable sets, real numbers, order and completeness, sequences, series, limits of functions, and community, the Riemann integral, improper integral. Metric spaces, completeness, compactness, sequences and series of functions, uniform continuity and convergence, integral of sequences and series of functions. *Prerequisites: CMAT 211 and 214.*

CMAT 423 and 424: Introduction to Complex Variables I and II. **3 credits each**
Introductory course in complex variables, including the complex numbers, analytic functions, elementary functions, complex integrals, series, residues, poles, and mapping by elementary functions. *Prerequisites: CMAT 211 and CMAT 214.*

CMAT 427 and 428: Introduction to Topology I and II. 3 credits each
Limits and metric spaces, continuous functions on metric spaces and general topological spaces, completeness, product spaces. *Prerequisites: CMAT 211 and CMAT 214.*

CMAT 440: Numerical Analysis. 3 credits
Introductory study of numerical algorithms for the solution of algebraic, differential and partial differential equations, error analysis. *Prerequisites: CMAT 211, CMAT 212 and CMAT 214.*

CMAT 443: Introduction to Operation Research. 3 credits
Linear programming, duality, sensitivity analysis, integer programming and applications to various decision and management problems. *Prerequisites: CMAT 211, CMAT 212 and CMAT 214.*

CMAT 461: Introduction to the Theory of Numbers. 3 credits
Diophantine equations, congruences, theory of residues and indices, polynomials and partitions. The course also includes study of some classical problems in number theory. *Prerequisite: CMAT 212.*

CMAT 471: Discrete Mathematical Structures. 3 credits
Introduction to finite mathematical structures and their application to computational and computer sciences. *Prerequisite: CMAT 112.*

CMAT 475 and 476: Seminar I and II. 3 credits
One-year course of selected topics, papers, projects, and research in mathematics. *Prerequisite: Approval of the department Chair.*

CMAT 480: Independent Study. 1 – 3 credits
Prerequisite: Consent of instructor.

CMAT 483: Mathematics in Community Service. 3 credits
This course is an expansion of the Departmental tutorial program offered especially to those students of Clark Atlanta University studying mathematics in the services courses CMAT 103, 104, 105 and 106. This expansion is a community course in service to local school students.

CMAT 497: Internship. 3 credits
Career-related work experiences. Although Internship does not carry credit toward the degree, majors are encouraged to take it. *Prerequisite: Approval of the department chair.*

PHYSICS COURSE DESCRIPTIONS

CPHY 102/102L: Physical Science and Laboratory. 3 credits

Basic course in physical science which satisfies the core science requirement for all nonscience majors. Topics include concepts of motion, space sciences, chemical process, conservation of energy, properties of heat, electricity and light. Students are also required to attend one (1) two-hour laboratory each week.

**CPHY 104/104L:
Introduction to Earth System Science and Lab. 4 credits**

Class provides a scientific understanding of the physical earth system – lithosphere, hydrosphere, atmosphere, and solar system. Topics include: common landforms, identification of mineral and rock specimens, major types of earth movements, dating of rock strata, fundamentals of the hydrologic cycle, introduction to oceanography, properties and processes in the earth's atmosphere, and elementary concepts of astronomy. Students are also required to attend one (1) two-hour laboratory each week. This course can be used to satisfy the core science requirements for all nonscience majors.

CPHY 105: Orientation to Earth System Science. 1 credit

An introduction to the opportunities, career choices, problems and curricula in the Earth System Science Program.

CPHY 106/106L: Introduction to Earth System Science II and Lab. 4 credits

A more quantitative discussion of topics covered in CPHY 104. Topics include: isostasy, origin of magma, plate tectonics, aerial photographs, map projections, geologic maps, water balance, and observational astronomy. Environmental hazards will be studied: volcanic, flood, dryland, coastal, earthquake, and groundwater risks. This course fulfills the requirement for middle school education majors who have a concentration in science. *Prerequisite: CPHY 104.*

CPHY 111/111L: General and Modern Physics and Lab. 4 credits

Lecture and laboratory course for students who desire a basic background in physics. Required for science majors, except those in engineering. Topics include: introduction to basic physics concepts of mechanics, heat, and sound, with emphasis on applications in broad areas such as chemistry and biology. Three (3) lecture hours and one (1) three-hour laboratory per week. *Prerequisites: three (3) units of high school mathematics, including algebra and trigonometry.*

CPHY 112/112L: General and Modern Physics and Lab. 4 credits

Continuation of CPHY 111. Introduces students to basic principles in the physics of electricity, magnetism, optics, and atomic physics. Three (3) lecture hours and one (1) three-hour lecture-laboratory per week. *Prerequisite: CPHY 111.*

CPHY 121/121L: Physics I: Mechanics and Lab. 4 credits

An introductory physics course for students with a background in basic calculus. Topics include kinematics, dynamics, laws of conservation of momentum and energy, rational motion, oscillatory motion. Three (3) lecture hours and one (1) three-hour laboratory per week. *Pre- or Corequisite: CMAT 111.*

CPHY 122/122L: Physics II: Electricity and Magnetism and Lab. 4 credits

Continuation of CPHY 121. Students explore electromagnetic forces, induction, static and time-dependent electromagnetic fields, electric circuits, fields and potentials, and electromagnetic waves. Three (3) lecture hours and one (1) three-hour laboratory per week. *Prerequisite: CPHY 121. Pre- or Corequisite: CMAT 112.*

CPHY 123/123L: Physics III: Optics and Modern Physics and Lab. 4 credits

A continuation of PHY 121 and CPHY 122. Topics include: wave propagation, sound, heat, and principles of thermodynamics, geometric optics, physical optics, atomic physics and nuclear physics. Three (3) lecture hours and one (1) three-hour laboratory per week. *Prerequisite: PHY 122.*

CPHY 211: Modern Physics. 3 credits

Basic study of atomic and nuclear physics, with emphasis on the experimental foundation of these subjects. Topics include: introduction to the theory of relativity, atomic theory of matter, Rutherford scattering, photoelectric effect, production and characteristics of x-rays, lasers, introductory quantum physics, atomic spectra, radio activity, elementary particles, and particle accelerators. Three (3) one-hour lectures per week. *Prerequisites: CPHY 123 or CPHY 112.*

CPHY 301: Co-Op Program. 3 credits

Academic credit for physics majors working during the academic year in approved industry positions. To receive credit for cooperative experiences, students must secure approval from the Department Chair, who will arrange internships with project monitors at specific work sites. Students who do not follow this procedure will not receive cooperative academic credit.

CPHY 312: Optics. 4 credits

Study of the electromagnetic theory of light and the interactions of light and matter. Topics include: geometrical optics and optical instrumentation, physical optics (diffraction and interference effects), spectroscopy and interferometry. Certain topics in modern optics, such as holography and lasers, also are discussed. Three (3) one-hour lectures and one (1) four-hour laboratory per week. *Prerequisite: CPHY 123.*

CPHY 321: Mathematical Physics I. 3 credits

Application of mathematical techniques to physical systems. Students review basic concepts of differential and integral calculus. Topics include infinite sequences and series, systems of linear determinants and matrices, and special functions. The course emphasizes numerical methods and application to physics and chemistry. Three (3) one-hour discussion and problem sessions per week. *Prerequisites: CPHY 123, or CPHY 112.*

CPHY 322: Mathematical Physics II. 3 credits

Continuation of CPHY 321. Topics include: partial differentiation, multiple integral, first- and second-order ordinary differential equations, numerical methods of solving differential equations, vector algebra, vector analysis, probability, and statistics. *Prerequisite: CPHY 321.*

CPHY 331: Classical Mechanics. 3 credits

A rigorous development of the concepts of classical physics and the mathematical techniques used therein. Students examine the common mathematical formalism in vector analysis, hydrodynamics, and electromagnetism. Other topics include Galilean relativity, kinematics and dynamics of particle systems, rigid bodies, oscillations, wave motion, and Lagrangian mechanics. Three (3) one-hour lectures per week. *Prerequisites: CPHY 123.*

CPHY 332: Electromagnetic Theory. 4 credits

Physical and mathematical foundations of electromagnetism. Students explore electrostatic fields and potentials, electric fields around conductors, electric current, field of moving charges, magnetic fields, and electromagnetic induction. Maxwell's equations, alternating current circuits, electric fields in matter, free oscillations in systems with many degrees of freedom, forced oscillations, traveling waves, modulations, pulse and wave packets, reflection, polarization, and interference and diffraction. Four (4) one-hour lectures per week. *Prerequisite: CPHY 123.*

CPHY 341: Advanced Lab. 1 credit

Consists of introduction to classical experiments of physics such as the measurement of the charge to mass ratio of the electron, Planck's constant, Milliken oil drop experiment, and others. Advanced laboratory techniques and data analysis are also covered. *Prerequisite: CPHY 123.*

CPHY 350: Physics of Earth Systems. 3 credits

Fundamental principles of radiation, absorption and emission of radiation, solar and terrestrial radiation, radiative transfer and heating rates, surface and global energy balances, role of greenhouse gases, aerosols and clouds in climate change.

CPHY 353: Weather Analysis and Prediction. 4 credits

Provides an introduction to atmospheric structure and synoptic meteorology. Laboratory exercises include weather analysis and forecasting.

CPHY 355: Atmospheric Thermodynamics. 3 credits

Atmospheric composition, equation of state, first and second laws of thermodynamics, thermodynamics of dry and moist atmospheres, thermodynamic diagrams, static and dynamic atmospheric stability. *Prerequisites: CMAT 211 and CPHY 121.*

CPHY 357: Atmospheric Aerosols. 4 credits

Physical and chemical properties of aerosol particles, natural and anthropogenic sources, techniques for detecting and measuring aerosols, spatial distribution of aerosol particles, the role of particles in atmospheric chemistry, air pollution and cloud formation, as well as optical properties and their effects on atmospheric visibility. Topics also include radiative effects and implications for the earth's climate. *Prerequisites: CMAT 211 and CPHY 121.*

CPHY 360: Numerical Methods in Earth System Science. 3 credits

Most of today's geoscience problems can be represented in form as ordinary and partial differential equations. Course provides an opportunity for students to understand the physical aspects of geoscientific phenomena using mathematical methods as tools. *Prerequisites: CMAT 212, CMAT 214, and CPHY 121.*

CPHY 365: Dynamics of the Earth System. 3 credits

Description and theory of atmospheric and oceanic motion: analysis of forces; accelerated reference frames; conservation equations of mass, momentum and energy; scaling; pressure coordinates; geostrophic and gradient flow; thermal wind; trajectories; circulation and vorticity. *Prerequisite: CPHY 355.*

CPHY 370: Earth System Measurements. 3 credits

Physical principles of seismic, hydrological and atmospheric instruments, static and dynamic performance characteristics, use of data loggers in instrumentation and in measurement systems. *Prerequisites: CIS 103, CMAT 211, and CPHY 121.*

CPHY 375: Instrumentation Electronics. 4 credits

Physical concepts of electronics, basic test instruments, electronics mathematics, DC and AC circuit analysis, measurement errors, linear circuits, digital electronics, systems, solid state electronics, components and transducers. *Prerequisites: CPHY 112 and CPHY 123.*

CPHY 411: Thermodynamics and Statistical Mechanics. 3 credits

The concepts and methods of classical thermodynamics and its relation to statistical mechanics. Topics include thermodynamic laws, kinetic theory, and thermodynamic functions and their application to simple systems. Three (3) one-hour lectures per week. *Prerequisite: CPHY 321.*

CPHY 412: Introduction to Quantum Mechanics. 3 credits

Concepts of wave particle duality, Heisenberg's Uncertainty Principle, and Schrodinger's Wave Equation, with applications to potential problems of the hydrogen atom and atomic spectra, first-order perturbation theory, spin orbit interaction, and particle theory. Three (3) one-hour lectures per week. *Prerequisite: CPHY 332.*

CPHY 421 and 422: Undergraduate Research I and II. 3 credits

Individual exposure to the methodology of experimental research in physics. Experiments emphasize modern physical techniques and require considerable independent reading and investigation. Students select from various available experiments. Individual schedules are arranged at the beginning of the term, depending on the student's interest and experience. *Prerequisite: permission of Department Chair.*

CPHY 441/442: Internship. 3 credits

Professional work experience for students during the summer months. Interns may work in Atlanta or in other locations. To receive academic credit for internship, students must secure approval from the Department Chair, who will arrange internships with project monitors at specific work sites. Students who do not follow this procedure will not receive internship academic credit.

CPHY 445: Introduction to Micrometeorology. 4 credits

Energy budget and radiation balance near the surface; air temperature, humidity and wind distribution in the atmospheric boundary layer; viscous flows and turbulence; neutral boundary layers, momentum and heat exchanges with homogeneous surfaces; nonhomogeneous boundary layers, agricultural and forest meteorology. *Prerequisite: CPHY 375.*

CPHY 450: Radiative Transfer and Passive Remote Sensing. 4 credits

Fundamentals of electromagnetic radiation. Emphasis on solar radiation at the top of the atmosphere, scattering and absorption of solar radiation in the atmosphere, infrared transfer in the atmosphere. Measurement of scattered sunlight or radiation emitted by the atmosphere using ultraviolet, visible, infrared or microwave sensors. *Prerequisite: CPHY 123.*

CPHY 452: Active Remote Sensing.

4 credits

Principles of meteorology sensors; radar principles; radar equation; radar application; radar accuracy; sodar and lidar equations, applications and accuracy; interpretation of data from active and passive remote sensing systems.
Prerequisite: CPHY 375.

CPHY 460: Atmospheric Chemistry.

4 credits

Basic structure of the planet; detailed structure of the atmosphere; how the present atmosphere evolved from the primordial atmosphere; what happens to solar radiation as it passes through the atmosphere; the presence of oxygen and its relation to ozone and living systems; chemical equilibrium and rates of reactions; differences between reactions with rates that depend primarily upon temperature versus sunlight; Chapman's theory of ozone formation in the stratosphere; improvements to the simple model; the role of aerosols on chemical change; the role of chlorofluorocarbons on the "ozone hole"; chemical cycles in the lower atmosphere; urban photochemical smog and acid-rain; chemistry on other planets.
Prerequisite: CMAT 111 and CCHE 112.

CPHY 470: Earth System Modeling.

4 credits

Application of numerical modeling techniques to the earth system; use of computer modules representative of earth system components presented as hands-on laboratory exercises, including impact of basic energy exchanges processes on temperature and evolution of horizontal motions in the atmosphere; satellite data. *Prerequisite: CPHY 360.*

SOCIOLOGY AND CRIMINAL JUSTICE COURSE DESCRIPTIONS

CSCJ 201: Introduction to Criminal Justice. **3 credits**
A study of the historical development and progress of criminal justice systems in the United States, including an overview of the functions and responsibilities of various agencies of the Criminal Justice Systems.

CSCJ 205 Law Enforcement. **3 credits**
A comprehensive survey of the history and functions of the law enforcement agency, including discussions of selected topic dealing with contemporary problems affecting law enforcement. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 215: Introduction to Sociology. **3 credits**
Basic concepts and principles of human society. Students examine the social structure, group interaction, and processes of social arrangements.

CSCJ 216: Introduction to Anthropology. **3 credits**
Basic concepts of anthropological studies. This course presents an overview of social and cultural anthropology.

CSCJ 218: Social Problems. **3 credits**
An examination of current social problems and issues in the United States. Topics include drug addition, child abuse, battered women, abortion, poverty, and inequality. Students consider alternative proposals for resolving social problems

CSCJ 301: Criminology. **3 credits**
A study of the nature and causation of crime, crime typologies and the extent of criminality. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 305: Criminal Investigation. **3 credits**
A coverage of the fundamentals of investigation; duties and responsibilities of the in-vestigator;interrogation techniques of protecting the crime scene; collections and preservation of evidence, scientific aids and other sources of information; court perpetration and case follow-up. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 308: Medical Sociology. **3 credits**
Introduction to health and illness issues and indicators. Examines disease and other health conditions in the context of ethnicity, gender and age.

CSCJ 314: Victimology. **3 credits**
Victim role, criminal-victim Relationships, and societal reaction to victimization, including crisis-intervention centers, court- related victim/witness services, restitution and compensation. *Prerequisite: CSCJ 201 or permission of the Instructor.*

CSCJ 315: Social Psychology. **3 credits**
This course focuses on individuals' interaction within the social environments. There is also an emphasis on cognition, attitude formation and change, and group behavior.

CSCJ 320: Criminal Justice Management. 3 credits
A study of roles and responsibilities of staff and managers functioning within the various agencies of the criminal justice system. Emphasis on administrative and managerial principles and techniques as they apply to the criminal justice system. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 337: Statistics I. 3 credits
Introduction to descriptive statistics, including associational measures and probability. *Prerequisite: General Education mathematics requirements.*

CSCJ 338 : Statistics II. 3 credits
Introduction to inferential statistics, hypotheses testing, simple use of analysis of variance, and correlations coefficients. *Prerequisite: CSCJ 337 or an introductory statistics course.*

CSCJ 352: Marriage and Family. 3 credits
An analysis of the American family past and present. Students consider the heritage, contemporary forms, functions, and future trends of American family life.

CSCJ 387: Social Research Methods I. 3 credits
An introduction to basic research techniques and skills. Students learn how to select and apply appropriate methods to theoretical problems. *Prerequisite: CSCJ 337 or simultaneous in that course.*

CSCJ 388: Sociological Theory. 3 credits
Historical and analytical discussions of major theoretical and methodological orientations in the development of sociology from Comte to the present constitute this course.

CSCJ 389: Social Research Methods II. 3 credits
Students learn to analyze, interpret, and present data. This is a course that stresses project design, sampling, measurement and the application of findings from social research. *Prerequisite: CSCJ 387 or an introductory research course.*

CSCJ 400: Comparative Systems in Social and Criminal Justice. 3 credits
An analysis of issues in social and criminal justice and their characteristics as they relate to the operation of larger social structures viewed in global perspective. *Prerequisite: junior or senior standing.*

CSCJ 401: Corrections. 3 credits
The systematic study of the official ways in which society reacts to persons who have been convicted of committing criminal acts, including persons handled by the juvenile courts. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 403: Judicial Process. 3 credits
An overview of courts, their legal basis, structure, jurisdiction and operation. An analysis of the legal processes including their historical development; an examination of theories, policies and practices regarding the offender. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 404: Juvenile Delinquency. 3 credits
A study of the nature, extent, and causes of delinquency. Methods of prevention, treatment and correction will also be examined. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 405: Criminal Law. 3 credits
A survey of the nature and definition of criminal acts; a general study of laws relating to crimes and the punishment for their violation. *Prerequisite: CSCJ 201 or permission of Instructor.*

CSCJ 410: Seminar on Organized Crime. 3 credits
A study of organized crime including drug and vice offenders within the structures of a Constitutional Democracy. *Prerequisite: Junior standing or permission of Instructor.*

CSCJ: 420 Special Topics I. 3 credits
Topics vary but may include an examination of the origin, change, and functions of neighborhoods and communities. May also cover community organizations and community development, environmental issues, poverty, crime, and inequality, among other topics.

CSCJ 421: Special Topics II. 3 credits
A focus on different topics in sociology and criminal justice to vary by semester. Topics include deviance, environmental racism, HIV/AIDS and homophobia, organizational behavior, addictive disorders, sexism, ageism and inequality among others.

CSCJ 425: Internship I. 3 credits
Provides upper level students the opportunity to perform as participants in established criminal justice agencies at the local, state and federal levels. *Prerequisites: Consent of the Instructor and completion of 90 or more credit hours toward the degree.*

CSCJ 426: Internship II. 3 credits
Provides upper-level students the opportunity to work with any social or criminal justice agency. Those who have taken CSCJ 425 may use it as a continuing course for 3 additional credit hours. *Prerequisite: Consent of the Instructor.*

CSCJ 430: Cultural and Ethnic Relations. 3 credits
Analysis of cultural groups both nationally and abroad. Students examine the nature of prejudice and discrimination in a context of similarities and differences of various peoples, especially those of African descent.

CSCJ 431: Social Stratification.

3 credits

An examination of global inequality relative to race/ethnicity, class, gender, age and other factors

CSCJ 432: Gender Roles.

3 credits

An examination of cultural expectations and patterns of behavior of men and women in selected societies; focuses on the distribution of resources, prestige, and power in America in comparison to other developed and developing countries.

CSCJ 480: Student Project.

3 credits

Students pursue a program of reading, research, and writing as well as engage in a critical examination of one or more selected topics under the guidance of the instructor.

CSCJ 490: Independent Study.

3 credits

Individualized program of research and/or other scholarly effort. Approval of the Department Chair required.

POLITICAL SCIENCE COURSE DESCRIPTIONS

CPSC 106: Politics and Global Issues. 3 credits

This course is offered as part of the General Education curriculum. The course introduces students to the discipline of Political Science surveys the various fields of Political Science – comparative politics, political theory and international relations. Emphasis also lies with training students to use technology and the learning skills of critical thinking, writing, and speaking.

CPSC 219: American Government and Politics. 3 credits

This is an introductory course providing understanding of the institutions and ideas basic to the American political experience and the process that shapes public participation and governmental decision.

CPSC 220: Introduction to Public Policy. 3 credits

This course offers an exploration of three major policy areas: health, income inequality (poverty), and human resource development. It emphasizes effects of policy programs on a variety of groups and the overall costs and benefits of policies. Students explore topics through computer-game simulation, graphs, aggregate data, and conventional case-study readings.

CPSC 221: State and Local Government. 3 credits

This course provides an examination of state and local governmental institutions, the tools of political participation as practiced by various groups, state and local public policies, and the role state and local governments play in the federal system.

CPSC 309: Introduction to Urban Planning. 3 credits

This course presents an introduction to the history, theories, and activities of urban planning. Students discuss trends in urbanism and influences of technical and social change, particularly as these relate to planning for human resource development.

CPSC 313: Urban Politics and Policy. 3 credits

The politics of the American metropolis is the focus of this course, with primary focus on the use of power and influence. Students devote attention to the formulation and impact of public policies and to the conditions and politics of minorities in urban areas.

CPSC 315: Comparative Politics. 3 credits

Students are introduced to the subfield of comparative politics, and the use of key analytic concepts to generalize about political systems, the way they function, as well as uniformities and variations in political systems.

CPSC 319: Electoral Politics. 3 credits

This course presents the history of elections, political parties, electoral methods, and the practical aspects of campaigning, and voting behavior. Students consider the use of political questionnaires and polling, and examine the platforms of political candidates in current races.

CPSC 322: International Relations. 3 credits

This course introduces students to the basic concepts of international relations, including foreign policy decision-making, conflict, deterrence, interdependence, coercive diplomacy, and international systems. Special attention is given to major regional and global wars, the dynamics of inter-war years, the Cold War era, the politics of international economics, and the influence of major nongovernmental actors in world affairs.

CPSC 336: Current World Problems. 3 credits

Students are presented lectures on contemporary world issues, particularly as they affect the United States. Focusing on their individual areas of interest, students conduct extensive research on policies, problems, and solutions and lead class discussions on their findings. *Prerequisite: PSC 219.*

CPSC 337: Statistics I. Fall, 3 credits

Introduction to descriptive statistics, including associational measures and probability. *Prerequisite: General Education mathematics requirements.*

CPSC 338: Statistics II. Spring, 3 credits

Introduction to inferential statistics, hypothesis testing, simple use of analysis of variance, and correlation coefficients. *Prerequisite: An introductory statistics course.*

CPSC 352: American Foreign Policy. 3 credits

Students engage in an analysis of the formulation and execution of American foreign policy and its purposes and trends. The topics covered include historical evolution of U.S. foreign policy, economic and political factors, national and international determinants, instruments of policy execution, and major problems faced by recent presidential administrations.

CPSC 361: Political Theory I. Fall, 3 credits

Major political ideas, from Machiavelli to pre-Marxian socialism, are covered throughout this course, with a special focus on the concepts of power, legitimacy, authority, liberty, and equality.

CPSC 362: Political Theory II. Spring, 3 credits

Major political ideas of the nineteenth and twentieth centuries are examined, including modern notions of democracy, socialism, communism, liberalism, and nationalism.

CPSC 371: Science and Public Policy. 3 credits

This course offers a survey of the use of science and the scientific method as applied to public policy. Government institutions involved in scientific studies are examined, and the role of expertise in policy making and the possible social effects of scientific discoveries are considered

CPSC 372: Comparative Public Policy. 3 credits

The difference in the scope and substance of major public policies affecting the United States and other countries, principally Western European, are examined in this course. Students explore the “how, why, and what” of government action in policy areas such as health, education, taxation, housing, transportation, and income maintenance.

CPSC 374: Constitutional Law. 3 credits

This course focuses on an analysis of the U.S. Constitution using the case study method. Among topics covered are the Supreme Court, federal jurisdiction, commerce power, taxation, and spending powers. This course is highly recommended for students planning to attend law school.

CPSC 375: Political and Civil Rights. 3 credits

Political and personal freedoms under the Bill of Rights and the Fourteenth Amendment to the U.S. Constitution are examined. Sound analysis of the principles underlying civil and human rights is stressed. This course is especially recommended for students planning to attend law school. *Prerequisite: PSC 374, or permission of instructor.*

CPSC 387: Scope and Methods of Research. Fall, 3 credits

This course provides a formal introduction to concepts, theories and major subfields of political science, and essential social science research method and skills students will need to conduct qualitative and normative research on political and social issues. Students learn how to select and apply appropriate social science research techniques methods to a particular problem. *(Course limited to first-semester juniors and seniors.)*

CPSC 394: Politics in Contemporary Thought. 3 credits

Review of current trends in modern political science. Students research the most recent research in the fields of public policy, historical and behavioral methods, political theory, international affairs, and American politics.

CPSC 420: Politics of Africa. Spring, 3 credits

This course provides an overview of government and politics of modern Africa. It examines the on-going dynamic relationship between modern and traditional political beliefs and institutions and identifies major issues, problems, and proposed solutions.

CPSC 479: Senior Thesis. Spring, 3 credits

The senior, in consultation with her/his advisor, selects a thesis topic, and devotes a full semester to research design, and implementation, the results of which are submitted to the advisor and the Department in the form of a Senior Thesis written report and oral presentation. *Prerequisites: PSC 361-362 Political Theory I and II, and PSC 387 Scope and Methods of Research.*

CPSC 480/483: Independent Study. 3 credits each

Students pursue a program of selected reading, research, and writing and engage in a critical examination of one or more selected topics under the guidance of an instructor. *Prerequisite: Permission of Department Chairperson.*

CPSC 484/486/487: Internship. 3-9 credits

Varied internship placement programs are made available to junior- and senior-level majors at all levels of government and in public interest organizations. Activities include attending seminars and producing a research paper. This course can be repeated for a maximum of 9 semester hours. *Prerequisite: Presentation and acceptance of formal application presented to Internship Coordinator during preregistration of the projected term for placement, and approval of the Department Chairperson.*

CPSC 490: Washington Internship in Public Policy. 3 credits

This is an opportunity for a one-semester internship placement in a Washington, D.C.-based agency or organization. Students attend seminars, work in a Congressional office, and produce a significant research paper documenting experiences and new learning. The internship is open to students in all majors who have outstanding academic records and are interested in careers in the public sector or current issues confronting the disadvantaged.

PSYCHOLOGY COURSE DESCRIPTIONS

CPSY 211: General Psychology. **3 credits**
Introduction to basic psychological concepts and methodology. Surveys major research areas, including the nervous system, perception, learning, motivation, development, and personality. General Psychology provides the foundation for more advanced study in psychology.

CPSY 218: Human Growth and Development. **3 credits**
Covers issues, theories, and research on the cognitive, social, personality, and physical development of humans throughout the lifespan with emphasis on the influences of gender and culture.

CPSY 301: Educational Psychology. **3 credits**
For prospective teachers: a survey of the basic principles, theories, and techniques of applying psychological theory to the learning process. Students identify common problems teachers confront in the classroom and apply course material to typical classroom situations.

CPSY 313: Statistics I. **3 credits**
Descriptive statistics and the basic components of experimental design. Students are introduced to measures of central tendency and variation, making and interpreting graphs, and organizing data. Also covers probability and introduces students to one sample T-Test and Chi-Square. *Prerequisite: CPSY 211 and CMAT 105.*

CPSY 314: Statistics II. **3 credits**
Hypothesis testing and inferential statistics. Students are introduced to a variety of statistical tests, both parametric and nonparametric, among which are regression, T-Tests, complex Chi-Square, independent and repeated analysis of variance tests, and Mann-Whitney U and Wilcoxon signed-ranks tests. *Prerequisites: CPSY 211, and 313 and CMAT 105.*

CPSY 315: Social Psychology. **3 credits**
Study of the individual in society. Emphasis is on cognition, attitude formation and change, and group behavior. *Prerequisite: CPSY 211.*

CPSY 316: Introduction to Psychological Testing. **3 credits**
The construction, standardization, scoring, administration, use, and interpretation of group and individual psychological tests. *Prerequisites: CPSY 211 and 313.*

CPSY 318: Industrial and Organizational Psychology. **3 credits**
Survey of methods and findings in the scientific study of humans at work as applied to business, industry, and government. Topics include employee selection, training, and motivation. *Prerequisites: CPSY 211 and 313.*

CPSY 320: Social and Personality Development. **3 credits**
A detailed look at the interaction between the physical, cognitive, and emotional aspects of development on topics such as moral reasoning, altruism, and the development of individuality. The ecological (family, peers, school, etc.) influences on the developing person will also be examined. *Prerequisite: CPSY 211.*

CPSY 330: African-Centered Psychology. **3 credits**
An examination of the behavior, attitudes, life-styles, and cultural heritage of African-Americans. This course is offered to introduce students to concepts, theories, and research pertaining to Black Psychology. This course is organized around the premise that there is a distinctive, coherent African-centered perspective that is evident in the behavior, attitudes, life-styles, and expressive patterns of people of African descent. *Prerequisite: CPSY 211.*

CPSY 358: Human Sexuality. **3 credits**
Understanding of human sexuality and its relationship to the emotional, physical, intellectual, and social aspects of the individual. Students also explore concepts of self-esteem and factors affecting interpersonal relationships.

CPSY 371/371L: Experimental Psychology with Laboratory. **4 credits**
Experimental design, sensation, and perception. Students acquire skill in the use of the scientific method, investigative methods, and data collection and analysis. Three (3) lecture hours and two (2) laboratory hours per week. *Prerequisites: CPSY 211 and 313.*

CPSY 377: History and Systems of Psychology. **3 credits**
Philosophical antecedents of the concepts of modern psychology. Students explore the life and works of significant personalities in the field of psychology and trace major theoretical viewpoints in the historical development of modern psychology. *Prerequisite: CPSY 211.*

CPSY 385: Abnormal Psychology. **3 credits**
Study of psychopathology, including history, demography, etiology, diagnosis, symptoms, and treatment. *Prerequisite: CPSY 211.*

CPSY 413: Learning. **3 credits**
Current theories and research on the processes of learning and memory. Topics studied include classical and operant conditioning, reinforcement and punishment, discrimination and generalization, and the various parts of the human memory system. *Prerequisite: CPSY 211.*

CPSY 415: Physiological Psychology. **3 credits**
Study of physiological aspects of human behavior, with emphasis on neurological structure and function. Major topics include the basic structure and function of neurons and the nervous system as well as the physiological basis of eating and drinking, sexual behavior, sleep and dreaming, and drug abuse. *Prerequisites: CPSY 211 and CBIO 111.*

CPSY 417: Independent Research. **3 credits**
A specific experimental research project, usually in conjunction with a faculty member on some aspect of his or her research. Independent Research may be taken twice for credit. *Prerequisites: CPSY 211, 313, 314, 371, and permission of instructor.*

CPSY 418: Seminar. **3 credits**
Lectures, reports, and discussions of selected topics of interest and importance to advanced undergraduate psychology majors. *Prerequisites: CPSY 211 and senior standing (at least 88 hours completed).*

CPSY 420: Special Topics. **3 credits**
Exploration of diverse topics in psychology, such as job opportunities, test preparation, graduate school opportunities, and current events with psychological implications. Presenters include students, faculty and professional psychologists. Also serves as a forum for students and faculty to present their research findings. *Prerequisite: CPSY 211.*

CPSY 480/483: Independent Study. **3 credits each**
Students, in consultation with supervising faculty member, follow detailed plans of self-directed study on topics of the students' choice. *Prerequisite: CPSY 211 and permission of instructor.*

CPSY 488/491: Internship. **3 credits each**
A semester of firsthand experience working in a psychological agency with clients needing help with psychological problems. Interns work three (3) hours each week under the direction of a professional within a designated agency and a member of the Department of Psychology faculty. Students must arrange internship details with the agency and the Department. Satisfies the University-wide service requirement. *Prerequisite: CPSY 211 and junior or senior standing.*

CPSY 492/495: Cooperative Education Experience. **3 credits each**
Opportunity for students to work in a psychological agency in order to acquire practical experience in psychological work and a better understanding of human relations. Students design their cooperative experience in collaboration with a sponsoring agency and University Cooperative Education personnel, ensuring that the proposed experience parallels and enhances their academic studies. *Prerequisite: CPSY 211 and Department approval.*

REQUIRED COURSES

BACHELOR OF ARTS DEGREE IN BUSINESS ADMINISTRATION

CBUS 207: Principles of Accounting I.

3 credits

A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. *Prerequisite: CMAT 103 with a minimum grade of "C."*

CBUS 208: Principles of Accounting II.

3 credits

A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. Introductory topics in managerial accounting are also discussed. *Prerequisite: CBUS 207, Principles of Accounting I with a minimum grade of "C."*

**BACHELOR OF ARTS DEGREE IN BUSINESS ADMINISTRATION
WITH DUAL CONCENTRATIONS IN ACCOUNTING AND FINANCE**

CBUS 207: Principles of Accounting I. **3 credits**
A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. *Prerequisite: CMAT 103 with a minimum grade of "C."*

CBUS 208: Principles of Accounting II. **3 credits**
A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. Introductory topics in managerial accounting are also discussed. *Prerequisite: CBUS 207, Principles of Accounting I with a minimum grade of "C."*

CBUS 303: Intermediate Accounting I. **3 credits**
A one-semester course in understanding accounting theory and concepts including the conceptual framework of accounting, financial statements, problems in income determination and reporting. *Prerequisite: CBUS 208, Principles of Accounting II with a minimum grade of "C."*

CBUS 304: Intermediate Accounting II. **3 credits**
A one-semester course in understanding accounting theory and concepts including the conceptual framework of accounting, financial statements, problems in income determination and reporting. *Prerequisite: CBUS 303, Intermediate Accounting I with a minimum grade of "C."*

BACHELOR OF ARTS DEGREE IN ACCOUNTING

CBUS 207: Principles of Accounting I. **3 credits**
A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. *Prerequisite: CMAT 103 with a minimum grade of "C."*

CBUS 208: Principles of Accounting II. **3 credits**
A one-semester course introducing generally accepted accounting principles. The course covers the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements. Introductory topics in managerial accounting are also discussed. *Prerequisite: CBUS 207, Principles of Accounting I with a minimum grade of "C."*

CBUS 303: Intermediate Accounting I. **3 credits**
A one-semester course in understanding accounting theory and concepts including the conceptual framework of accounting, financial statements, problems in income determination and reporting. *Prerequisite: CBUS 208, Principles of Accounting II with a minimum grade of "C."*

CBUS 304: Intermediate Accounting II. **3 credits**
A one-semester course in understanding accounting theory and concepts including the conceptual framework of accounting, financial statements, problems in income determination and reporting. *Prerequisite: CBUS 303, Intermediate Accounting I with a minimum grade of "C."*

CBUS 305: Cost Accounting. **3 credits**
A one-semester course introducing cost determination, accumulation; and application to products and/or services. The primary emphasis is on mastery of analytical concepts and proper application of cost accounting techniques to business situations. This course is open only to students in the Bachelor of Arts in Accounting program. *Prerequisite: CBUS 208, Principles of Accounting II with a minimum grade of "C."*

CBUS 308: Accounting Information Systems. **3 credits**
A one-semester course presenting accounting activities in the framework of an integrated information system. Among other topics included in the course are principles of internal control, database management systems, and electronic commerce. *Prerequisites: CBUS 303, Intermediate Accounting I and CBUS 305, Cost Accounting with minimum grades of "C."*

CBUS 405: Auditing. **3 credits**
A one-semester course introducing the standards and principles of auditing, procedures for conducting an audit, and the preparation of working papers and reports. Major topics include control and prevention of fraud and errors through internal control systems, moral and legal responsibilities of the auditor, and professional ethics. *Prerequisites: CBUS 304, Intermediate Accounting II and CBUS 308, Accounting Information Systems with minimum grades of "C."*

CBUS 426: Individual Income Tax. **3 credits**
A one-semester course introducing the Internal Revenue Code and rulings and regulations of the Department of the Treasury and the Securities and Exchange Commission. The course emphasizes taxation of individuals. *Prerequisite: CBUS 208, Principles of Accounting II with a minimum grade of "C."*

CBUS 427: Business Income Tax.**3 credits**

A one-semester course introducing the Internal Revenue Code and rulings and regulations of the Department of the Treasury and the Securities and Exchange Commission. The course emphasizes income tax aspects of corporations, partnerships, estates, trusts, tax exempt organizations, and special issues in taxation. *Prerequisite: CBUS 426, Individual Income Tax with a minimum grade of "C."*

CBUS 465: Advanced Accounting.**3 credits**

A one-semester course presenting specialized accounting problems likely to be encountered by public accountants or by those in corporate positions. The course explores accounting needs of partnerships, consolidations, business combination, liquidations, and estates and trusts. *Prerequisite: CBUS 304, Intermediate Accounting II with a minimum grade of "C."*

ELECTIVE COURSES**CBUS 209: Accounting for Nonbusiness Majors.****3 credits**

A one-semester course introducing basic Accounting principles and the role of financial statements in making business decisions. This course is not open to students majoring in business. *Prerequisites: CMAT 103.*

CSB 5690: Fund Accounting.**3 credits**

A one-semester graduate course introducing concepts and techniques of fund accounting with reporting and management problems of not-for-profit organizations and governmental bodies. This course is open to undergraduate seniors concentrating or majoring in Accounting. *Prerequisite: CBUS 304, Intermediate Accounting II with a minimum grade of "C."*

Required Courses for the Dual-Degree, Bachelor of Arts and Master of Arts in Accounting and the Master of Arts in Accounting Degree**CSB 5606: Advanced Auditing.****3 credits**

Theoretical, conceptual, practical and traditional elements for conducting attestation engagements, internal auditing, operational auditing and compliance auditing. *Prerequisite: Graduate or undergraduate course in auditing.*

CSB 5690: Fund Accounting.**3 credits**

Basic concepts and techniques of fund accounting with reporting and management problems of not-for-profit organizations and governmental bodies. Graduate course open to undergraduate seniors as an elective. *Prerequisite: CBUS 304 or CSB 6610 or their equivalents or permission of the instructor.*

CSB 6618: International Accounting.

Major issues in International Accounting with reference to influences of different environments and their impact on setting of national accounting standards. Seminar methodology, using reading assignments, discussion and presentations. Includes comparison of GAAP in selected major countries and a review of efforts at harmonization of international accounting standards by the IASC, EC, OECD and the UN. Other related topics include foreign currency translation, auditing, international taxation and transfer pricing. *Prerequisite: Graduate or undergraduate courses in financial and management accounting or permission of the instructor.*

CSB 6620: Cost Management Systems.**3 credits**

Principles of cost-systems design. Using a case-study approach, cost-management systems from actual businesses are described in detail. Students analyze, discuss and present cost-management issues for measuring business performance and for strategic decision making on pricing, product mix, the symptoms and root causes of cost-system failures. *Prerequisite: CSB 6610 or a graduate or undergraduate course in managerial accounting or cost accounting or permission of the instructor.*

CSB 6621: Current Accounting Theory and Practice I.**3 credits**

An intensive study of current accounting theory and practice as embodied in current literature and in the official pronouncements of the American Institute of Certified Public Accountants (AICPA), the Financial Accounting Standards Boards (FASB) and the Securities and Exchange Commission (SEC). *Prerequisite: CSB 6600, an undergraduate year of Principles of Accounting or permission of the instructor.*

CSB 6623: Advanced Accounting Information Systems.**3 credits**

A one-semester course including an intensive study of the design, development, implementation, operation, and maintenance of accounting information systems as a subset of business' management information systems. *Prerequisite: CBUS 308, Accounting Information Systems or the equivalent with a minimum grade of "C."*

REQUIRED COURSE DESCRIPTIONS

BACHELOR OF ARTS DEGREE IN BUSINESS ADMINISTRATION

CBUS 206: Management Information Systems. **3 credits**

This introductory course contains ideas, concepts, and principles on the basic information systems to which every business student should be exposed in the core business requirement. It integrates both computer concepts and information systems concepts, and provides a strong managerial emphasis. *Prerequisite: CCIS 100.*

CBUS 313: Statistics I. **3 credits**

Basic statistical concepts, techniques, and their applications to business decision-making. Covers the descriptive aspects for statistics, involving data collection, organization, presentation, and introduces students to probability and inferential statistics. *Prerequisite: CMAT 209 and CMAT 210.*

CBUS 460: Production/Operations Management. **3 credits**

Provides students with an understanding of the primary activities of the operations function in organizations. Intended to develop skills in the art of formulating quantitative models of real world decision making, operations strategy, and business applications, including cost-benefit analysis, forecasting, problem design and processing, planning, allocating scarce resources, facility locations, layouts, scheduling, and inventory management. Students will experience the extensive use of the computer to assist in solving the business problems. *Prerequisite: CBUS 313.*

REQUIRED COURSE DESCRIPTIONS FOR THE SUPPLY CHAIN MANAGEMENT CONCENTRATION

CBUS 317: Enterprise Integration Systems. **3 credits**

Students learn about the supply chain management programming environment, including data and communications protocols/standards, server and client operating systems, and a working knowledge of at least one online Enterprise Resource Planning Application. We prepare our students well to really understand their business functions. The role of our core business offerings is to provide students with a firm understanding of how their business function works in the overall business model. However they are competing with students who have this as well. Furthermore they are increasingly getting hands-on experience with the actual systems that are used to actually provide this functional integration. Enterprise integration is not only about software but also about the power of automation on business productivity. Students will be provided with the concepts of enterprise resource planning and extensive exposure to the SAP System. SAP has 39% penetration of the ERP market, and nearly 100% in the Fortune 100. These companies are spending tens of millions of dollars annually, updating and integrating these systems into every business function. Our students are to be exposed to this environment. *Prerequisite: CBUS 206.*

CBUS 362: Supply Chain Management. **3 credits**

Upon the completion of this course, the students will be able to describe key supply chain management concepts, understand the strategic importance of supply chain management in improving a firm's competitive position, and learn about the opportunities and problems faced in strategic sourcing environment. *Prerequisite: CBUS 206.*

CBUS 364: Procurement and Supply Management. **3 credits**

This course addresses the strategic and operational role of the purchasing and supply management functions in the modern organization. The aim of this course is to get students acquainted with the fundamental concepts, models, and instruments in the area of purchasing and supply management. Through web-based projects, case assignments, and industry presentations, the course will provide insights into the current developments, newest ideas, and biggest problem areas in this field. *Prerequisite: CBUS 362.*

CBUS 474: Logistics Management. **3 credits**

Logistics is one of the most vital areas of business today. Analysis of logistics activities includes integration of transportation, inventory management, warehousing, facility location, customer service, packaging, and materials handling. Students will be exposed to online logistics support systems to better understand the real-time nature of transportation decisions on other business functions. *Prerequisite: CBUS 362.*

SUPPLY CHAIN MANAGEMENT ELECTIVE COURSES

CBUS 314: Statistics I. 3 credits

The topics covered in this course include analysis of variance, simple regression, multiple regression, correlation, Chi-square distribution and analysis of frequencies, and time-series analysis and forecasting. The statistical software package is used. *Prerequisite: CBUS 313.*

CBUS 315: Systems Analysis and Design. 3 credits

This course provides students with a practical approach to systems analysis and design, using a blend of traditional development with current technologies to solve business problems. Students become familiar with how systems analysts interact with users, management, and other IT professionals in a typical business organization. The systems development life cycle (SDLC) is used to analyze, design, and develop projects. *Prerequisite: CBUS 206.*

CBUS 366: Project Management. 3 credits

Concepts and principles of project design, planning, and management are covered in the transformation of business functions to support supply chain management initiatives. The students gain a working knowledge of business process reengineering as it relates to the application of new information technology and new business practices to specific business functions like Accounting, Finance, Marketing, and Operations Management. *Prerequisite: CBUS 362.*

CBUS 434: Enterprise Integration Applications. 3 credits

Students learn about the mainframe, midrange supply chain management programming environment, including back office applications, data and communications protocols/standards, server and client operating systems, legacy applications, and a working knowledge of at least one large system programming language (e.g. COBOL).

CBUS 436: Data Mining/Visualization. 3 credits

This course is designed to teach students how to apply and utilize standard statistical analysis techniques to identify trends and make recommendations based on systems-generated data. Topics include: performance management, techniques for data mining, market research, regression analysis, and multivariate analysis. The students will gain a working knowledge of several statistical analysis packages. *Prerequisite: CBUS 362*

CBUS 438: Electronic Commerce. 3 credits

Concepts and principles of e-commerce are covered. The students are given an understanding of the history and background of the underlying trends and technologies (EDI, TCP/IP, Telecom, etc.) that make up e-commerce, the business models which have emerged and the implications (functional, ethical, and political)

on each of the major business functions. The students also become familiar with business process redesign concepts as the means of introducing e-commerce related changes into an existing, stable business culture. *Prerequisite: CBUS 362.*

CBUS 462: Advanced Topics in Supply Chain Management. 3 credits

This course provides in-depth treatment of one or more advanced areas of supply chain management. The topics will vary with each offering. *Prerequisite: CBUS 362.*

CBUS 470: Database Management. 3 credits

Concepts and principles of database design and administration are covered. The students gain hands-on experience with relational databases, data mining concepts, and Web-based data-oriented applications. *Prerequisite: CBUS 362.*

CBUS 472: Quality, Diversity, and Productivity. 3 credits

This course provides the opportunity to improve the teaching/learning paradigm. It is designed in an integrated fashion that fosters an “emerging paradigm” of systems thinking and learning regarding the disciplines of quality, leadership and productivity improvement. The course emphasizes the concepts of TQM and its application to modern management and the global marketplace, the new paradigm of customer value, measurement positioning, key stakeholders, product design, and cross-functional organizational systems. In addition it focuses on viewing quality as a strategic issue and the concept that good quality can be a strategic competitive advantage. Finally, the course will help students understand the major motivations/reasons for businesses and managers to pay attention to teamwork, diversity and value-added performance. *Prerequisite: CBUS 362.*

CBUS 476: Supply Chain Management Strategies. 3 credits

This course provides integrated supply chain management strategies, incorporating procurement and supply management, production, logistics, transportation, and enterprise systems. Strategies are developed around internal issues including employee relations, ergonomics and workplace changes; ethical issues; and external issues including vendor and customer relations, customer service, and regulatory considerations. *Prerequisite: CBUS 362.*

CBUS 478: Modeling the Supply Chain. 3 credits

This course provides students with discussions and examples that integrate qualitative and quantitative thinking about supply chain planning problems and models. A major approach relies heavily on optimization models, which provides frames or templates for such integration. The course attempts to demonstrate that optimization models and methods provide comprehensive systems approaches to integrated business planning, which is the essence of supply chain management. Firms that succeed in such efforts will realize a significant competitive advantage. *Prerequisite: CBUS 362.*

COURSE DESCRIPTIONS

CECO 107: Introduction to Economics.

3 credits

A one-semester survey course designed to introduce students to the fundamental principles and concepts of economics. Topics covered include demand and supply analysis, the function of the markets in the allocation of resources, measuring economic activities in the private as well as in the public sectors, problems such as unemployment, inflation, income distribution and poverty, and domestic and international financial institutions and the working of global market systems.

CECO 250: Principles of Economics. 3 credits

A one-semester introductory course in economics for students in departments which require only one semester of economics. The course focuses on both macro- and microeconomic issues that impact the decision making within the U.S. economy. Special attention is given to issues that affect the lives of African-Americans.

CECO 251 & 252: Principles of Macro- and Microeconomics. 3 credits each

A one-year comprehensive study of the principles which govern production, consumption, and distribution as well as the major institutions in the United States economic system. CECO 251 addresses macro-analysis and CECO 252 addresses micro-analysis. *Prerequisites: A grade of "C" or better in CMAT 103 and 104 (or exemption from these courses).*

CECO 250, 251 and 252: Economics Laboratory. 0 credits

Lab courses to be taken along with CECO 250, 251, and 252 respectively.

CECO 302 Government and Business. 3 credits

The nature and development of government control and regulation of enterprises. This course examines antitrust laws and their interpretation and enforcement, selected Supreme Court antitrust decisions, and current problems of government relations in various industries (offered within the Atlanta University Center).

CECO 304: Contemporary Economic Issues. 2 credits

A colloquium designed for Honors Program students (noneconomics majors). It focuses on major issues affecting the American political economy, particularly those having special significance for the economic well-being of black and other Third World peoples.

CECO 308: Mathematical Economics. 3 credits

Applications to elementary mathematics to economics. This course includes studies in calculus, matrices, and linear difference equations. Mathematical problems used in this course come from the field of economics (offered within the Atlanta University Center). *Prerequisites: A grade of "C" or better in CMAT 111 and CMAT 112.*

CECO 309: Introduction to Econometrics. 3 credits

The use of mathematical and statistical models in the study of economics relationships. Methods introduced include single equation least squares, analysis of variance, and multiequation models (offered within the Atlanta University Center). *Prerequisites: A grade of "C" or better in CBUS 313 and CBUS 314.*

CECO 315: Intermediate Macroeconomic Analysis. 3 credits

General theories of aggregate economic analysis. Traces the development and refinement of selected theories through the classical, Marxism, neoclassical, and Keynesian schools. It enables students to analyze unemployment, inflation, business cycles, and other national economic occurrences. *Prerequisite: A grade of "C" or better in CECO 251.*

CECO 316: Intermediate Microeconomic Analysis. 3 credits

The theory of the firm, the household, and the market with applications to individual decision-making units. *Prerequisite: A grade of "C" or better in CECO 252.*

CECO 324: Economic Development. 3 credits

A study of the characteristics and problems of developed and developing economies. Covers the theory of economic development, stages of growth and development, and data analysis to evaluate development performance. *Prerequisites: A grade of "C" or better in CECO 251 and CECO 252.*

CECO 325: Comparative Economic Systems. 3 credits

A study of the economic models of comparative systems. The course includes an analysis of the effectiveness of performance of alternative economic systems in terms of growth patterns and fidelity to ideology. *Prerequisites: A grade of "C" or better in CECO 251 and CECO 252.*

CECO 335: International Trade. 3 credits

Application of microeconomic policy to commercial relations between nations. Among the topics covered are the theory of comparative advantage and alternative commercial policies. *Prerequisites: A grade of "C" or better in CECO 251 and CECO 252.*

CECO 343: Public Finance. 3 credits

General survey of government finance at the federal, state, and local levels. Topics include government expenditures, principles of taxation, intergovernmental fiscal relations, debt management, public borrowing, and fiscal policies for economic stabilization (offered within the Atlanta University Center). *Prerequisites: CECO 315 and CECO 316.*

CECO 357: Economic History of the United States. 3 credits

Economic perspective of regions and historical periods in the United States. Topics include agricultural and industrial life in the colonies, the economic effect of slavery, post-Civil War agrarian revolution, development of manufacturing and transportation, westward movement, business concentration, the Depression, the World Wars, and the recent trends (offered within the Atlanta University Center).

CECO 362: Money and Banking. **3 credits**
Examines the alternative theories of money. Explores the relationship of money to prices, the role of financial intermediaries, international monetary problems, and the history of monetary policy in the United States. *Prerequisites: A grade of "C" or better in CECO 251 and CECO 252.*

CECO 365: Economics of Labor. **3 credits**
Consideration of labor as an economic factor. Covers wages, labor force participation, employment and unemployment, the growth of labor organizations, labor market discrimination and public policies. *Prerequisites: A grade of "C" or better in CECO 251 and CECO 252.*

CECO 369: Urban Economics. **3 credits**
Examination of three principal themes in the economics of urban areas: (1) the economics of the location decisions and the influence of these decisions on urban growth and the real estate market; (2) evaluation of transportation and other services; and (3) economic development of ghetto neighborhoods. *Prerequisite: CECO 252.*

CECO 372: History of Economic Doctrines. **3 credits**
Survey of economic thought from ancient times to the present (offered within the Atlanta University Center).

CECO 470: Research Methodology/Senior Thesis. **3 credits**
Designed to explain the methods of conducting social science research, including defining the problem to be studied, establishing hypotheses, and utilizing techniques of empirical analysis. All economics majors are required to write a Senior Thesis on an approved topic. *Prerequisite: approval of the undergraduate coordinator and/or department chairperson.*

ECO 490: Independent Study. **0-3 credits**
Projects designed by the student and a faculty member, who agrees to work with the student, to meet specific and individual needs. May involve direct reading in specific subject area, a research project, teaching economics in high school or a combination of any two. May be repeated for additional credits. *Prerequisite: Approval of the Undergraduate coordinator and/or department chairperson.*

CECO 495: Cooperative Education. **0-3 credits**
Intensive practical experience in a profit or nonprofit public or private organization. Students are expected to acquire knowledge, understanding, and the skills pertinent to the select organization. *Prerequisite: Approval of the undergraduate coordinator and/or department chairperson.*

COURSE DESCRIPTIONS

General and Elective Courses Offered by the Finance Department

CBUS 250: Personal Finance. **3 credits**

The course focuses on aspects of personal financial planning including career planning, tax preparation, risk management and insurance, cash and credit management and budgeting, investing, retirement and real estate planning. This course is counted only as a general elective and not a finance concentration elective.

CBUS 285: Real Estate Principles and Practices. **3 credits**

Introduction to real estate terms, concepts and attributes. The appraisal process and real estate law are also studied. This course meets the educational requirements for the Georgia Real Estate Sales license. This course is counted only as a general elective and not a finance concentration elective.

CBUS 297, CBUS 298, CBUS 298: FSI Seminar. **1 credit each**

This seminar series is required for participants in the Financial Services Institute (FSI) program, and all three must be taken in successive semesters in order to count as a general elective. In each course, presentations by faculty and practitioner experts cover practical aspects of finance careers. Subjects covered include effective interviewing, business etiquette, leadership success techniques, and a thorough treatment of alternative careers in finance. This course is counted only as a general elective and not a finance concentration elective.

REQUIRED CORE COURSE (FOR ALL UNDERGRADUATE MAJORS)

CBUS 341: Business Finance. **3 credits**

Introductory level course in financial management. Utilizing a risk-return approach, the course focuses on basic principles of financial analysis and forecasting, working capital management, time value of money, introduction to capital budgeting and leverage/risk analysis. *Prerequisites: CBUS 207 and CBUS 208 with "C" or better and CECO 251 and CECO 252.*

FINANCE ELECTIVE COURSES

CBUS 360: Principles of Insurance I. **3 credits**

Study of the basic uses and functions of insurance as applied to the overall treatment of risk. Presented from the viewpoint of the consumer. *Prerequisite: CBUS 341.*

CBUS 368: Real Estate Finance and Investments **3 credits**

This course introduces students to the principles and methods of financing and investing in Real Estate Assets. Topics include financing sources (private and governmental) and different types of financing instruments, and applications of techniques of investment analysis to real property. *Prerequisite: CBUS 341.*

CBUS 420: International Financial Management. **3 credits**

Examines international capital movements and balance of payment problems. Students analyze problems of international operations as they affect financial functions and review foreign and international institutions and the foreign exchange process. The course aims at familiarizing students with the concepts of multinational financial management and financial decision-making in the international context. Required course for students with a concentration in Finance or international Business. *Prerequisite: CBUS 341.*

CBUS 451: Commercial Bank Management. 3 credits

The course focuses on the management and operations of commercial banks. Topics covered will include the recent developments in the banking industry, the regulatory environment, the financial performance measurement in banks, asset-liability management, use of derivatives, the lending process and changes and the changing role of banks in all areas in an increasingly global environment. Required course for students with a concentration in Finance. *Prerequisite: CBUS 341.*

CBUS 452: Security Analysis and Portfolio Management. 3 credits

Analysis and evaluation of investments in various types of listed securities including stocks, bonds and mutual funds and their performance utilizing financial and statistical models with the aid of investment software. Topics include legal and ethical issues in the investment industry and international investment alternatives. Students are introduced to the fundamentals of diversification portfolio management and performance measurement. Required course for students with a concentration in Finance. *Prerequisite: CBUS 341.*

CBUS 453: Corporate Finance. 3 credits

This course provides students with an understanding of long-term financial decision analysis for corporations. Topics include a thorough analysis of capital expenditure analysis, cost of capital, valuation and concepts of capital structure. Course projects require the use of computers for data collection and financial decision-making. Required course for students with a concentration in Finance. *Prerequisite: CBUS 341.*

CBUS 454: Financial Analysis for Decision Making. 3 credits

Exposes students to various forms of financial decision making in a variety of contexts. Students will practice decision-making skills using financial analysis in assessing firm performance, evaluating financial alternatives and in valuation. Students will develop proficiency in financial statement analysis, financial forecasting, and investment and financing decision analysis. Textbook case studies and computer software with current technology for financial modeling and data analysis are utilized. *Prerequisite: CBUS 341.*

CBUS 455: Financial Markets and Institutions. 3 credits

The course surveys financial markets to examine the process of savings and investment. The role of financial institutions in transferring savings primarily to business enterprises for investment is examined. Students will study the principles of financial markets, develop an understanding of how interest rates are determined and measured, the concept of the required rate of return, the theory of portfolio choice and diversification and will be guided through the process of asset pricing and derivative markets. This course may be used as a substitute for CBUS 451 to satisfy the finance concentration requirement. *Prerequisite: CBUS 341.*

REQUIRED COURSE DESCRIPTIONS

BACHELOR OF ARTS DEGREE IN BUSINESS ADMINISTRATION

CBUS 330: Legal, Social, and Ethical Aspects of Business I. 3 credits

Introduction to business law. This course surveys the nature, types, and functions of laws regulating businesses. Students are introduced to the role of the court systems in business and the concepts of contract and agency. Students are also introduced to the social and ethical aspects of business.

CBUS 340: Principles of Management. 3 credits

Conceptual framework for the study, evaluation, and practice of management. Emphasis is on planning, organizing, staffing, influencing, and controlling as these factors affect managerial decision making. Addresses problems of both the sole proprietorship and the corporation.

CBUS 485: Business Policy. 3 credits

Integration of knowledge from various functional fields of business. Students approach policy making and administration from a top-management point of view. *Prerequisites: CBUS 340, CBUS 335 and CBUS 341.*

BACHELOR OF ARTS DEGREE IN BUSINESS ADMINISTRATION WITH MANAGEMENT CONCENTRATION

Students may select four of the following courses:

CBUS 337: Introduction to International Business Management. 3 credits

Study of domestic and foreign environmental factors affecting the international operations of United States business firms. The course stresses personal experiences and observations regarding leadership and helps students assess leadership qualities and style. *Prerequisite CBUS 340.*

CBUS 372: Personnel Management.**3 credits**

Exploration of organizational behavior and human performance in the organization. Students examine structure, the selection process, performance appraisal, control systems, and reward practices as means of affecting human behavior in organizations. *Prerequisite: CBUS 340.*

CBUS 468: Organizational Behavior.**3 credits**

Exploration of organizational behavior and human performance in organization. Students examine structure, the selection process, performance appraisal, control systems, and reward practices as means of affecting human behavior in organizations. PSY 318, Industrial and Organizational Psychology, may be taken as a substitute course. *Prerequisite: CBUS 340.*

CBUS 471: Employee Benefits.**3 credits**

Basic uses and functions of employee benefit plans and their impact on organizations and employees. Areas covered include social security, group insurance, profit-sharing, pensions, and investment plans. *Prerequisite: CBUS 340.*

CBUS 480: Entrepreneurship and Enterprise.**3 credits**

Analysis of procedures necessary for developing or acquiring a major management and equity position in a new or existing business venture. The course focuses on the problems of purchasing or initiating an enterprise and the analysis needed to address those problems rather than on day-to-day management. *Prerequisite: CBUS 340.*

Elective Course Descriptions**CBUS 331: Legal, Social, and Ethical Aspects of Business II.****3 credits**

Continuation of CBUS 330. Examine partnerships, corporations, commercial paper, secured transaction sales, consumer credit, bankruptcy, and modern legislation regulating business. Increased emphasis on social and ethical responsibilities of management. *Prerequisite: CBUS 330.*

CBUS 488: Business Internship.**3 credits**

Students obtain credit from practical experiences in supervised business internship programs. Prior approval from the Chairperson is required.

CPSY 337: Industrial and Organizational Psychology.**3 credits**

Survey of methods and findings in the scientific study of humans at work as applied to business, industry, and government. Topics include employee selection, training, and motivation. *Prerequisites: CPSY 211 and CBUS 313.*

COURSE DESCRIPTIONS**REQUIRED COURSES****CBUS 335: Principles of Marketing.****3 credits**

The Marketing process as applied by profit and not-for-profit organizations. The course emphasizes the adoption of the marketing concept philosophy in a global setting.

CBUS 362: Consumer Behavior.**3 credits**

A study of the process that consumers utilize to evaluate, purchase, use and dispose of goods and services expected to satisfy their needs. The basic concepts and research procedures used to investigate pre- and postpurchase buyer behavior with emphasis on the impact of behavior factors on the decision-making process are examined. *Prerequisite: CBUS 335.*

CBUS 445: Marketing Research.**3 credits**

The gathering, analysis, and presentation of information to guide marketing decisions. Includes research project design, use of information sources, and research report preparation. *Prerequisites: CBUS 313 and CBUS 335.*

CBUS 450: Marketing Management.**3 credits**

Develops the environmental, managerial, and strategic planning aspects of marketing theory and practice. Experience in producing an actual marketing plan. *Prerequisites: CBUS 313 and CBUS 335*

ELECTIVE COURSE DESCRIPTIONS

Two courses must be selected to complete a Marketing Concentration in the Business Administration major.

CBUS 411: Retailing.

3 credits

A study of the basic concepts and principles of retailing and its role in distribution in terms of administrative organization, site selection, buying, pricing, merchandising, promotions and current trends in retailing. *Prerequisite: CBUS 335.*

CBUS 421: Introduction to Professional Sales.

3 credits

A study of the theory and practice of professional sales with special emphasis on application of concepts in actual sales presentations. *Prerequisite: CBUS 335.*

CBUS 422: International Marketing.

3 credits

Analysis of the multinational process of planning and promotion of goods, ideas, and services worldwide. Special consideration of Third World economics is stressed. *Prerequisite: CBUS 335.*

CBUS 431: Principles of Advertising.

3 credits

Course is designed to introduce students to the field and practice of advertising with an emphasis on the pervasiveness of advertising in contemporary society. The student will develop knowledge of the business, creation and media placement of advertising, and will become acquainted with advertising management, strategies and processes. *Prerequisite: CBUS 335.*

DEPARTMENT OF CURRICULUM COURSE DESCRIPTIONS

CECE 200: Introduction to Early Childhood Education. **Fall, 2 credits**
Course experiences are designed to provide a survey overview of early childhood education (ages 3-7 years; preschool thru grade 2) as professional field of study and practice. Emphasis is on the role and function of early childhood education (ECE) programs in providing a learning foundation for urban, minority children. Course contents include an introduction to historical and contemporary issues, pioneers, and approaches in ECE. Course reviews and analyses include, but are not limited to, The Montessori Method, James Banks' work in the Hartford Connecticut School System, Jawanza Kunjufu's theories on urban, black education, and the Reggio Emilia approach to ECE. Candidates will observe and analyze a variety of urban, minority ECE programs. *Prerequisites: CENG-105 and CENG 106 with a grade of "C" or better and CGED 101. Corequisites: CEDC 262, CECE 212.*

CECE 206: Foundations of Mathematics for Teachers I. **Spring, 3 credits**
Extends candidates' content proficiency, conceptual understanding of numbers, numeration systems and fundamental concepts of algebra with an emphasis on conjecture and explanation. Candidates will work on specific content in the composition, decomposition, and recomposition of numbers including place value of any base, factors and multiples, prime and composite numbers, inverses and the application of the order of operations to numerical and algebraic expressions. Candidates will explore the use of proportional reasoning skills, symbolic, numerical and graphic representations of mathematical situations, as well as

understand the properties and operations of real numbers in an algebraic context. The presentation of these principles and aspects of mathematics will be interpreted through the National Council of Teachers of Mathematics (NCTM) standards in particular standards on problem solving, reasoning, technology and making connections to real world and cross disciplinary instruction. *Prerequisites: CMAT 103 and CMAT 105 or CMAT 105 and CMAT 106. Corequisites: CEDF 211 and CECE 213.*

CECE 212: Preprofessional Lab (Observing). Fall, 1 credit

This entry-level practicum introduces potential teacher education candidates seeking admission to Early Childhood programs to the varied educational institutions that support the schooling process (e.g., museums, science centers, and other community resources). Potential candidates can earn service learning hours as they complete course content. *Corequisites: CEDC 262, CECE 200.*

CECE 213: Practicum I (Observing and Exploring). Spring, 1 credit

This entry-level practicum is designed for potential teacher education candidates. The practicum provides experiences that introduce potential candidates to teachers, learners, and the school community through processes of observing and exploring. Course assignments engage potential candidates in activities that strengthen skills in writing and critical observations. *Corequisites: CEDF 211, CECE 206.*

CECE 214: Literature for Children and Youth. Spring, 3 credits

The criteria for selection and evaluation of books for children and youth, in terms of appropriateness for their stages of growth and development. The course includes the use of literature for enhancing cultural pluralism and strategies for presenting literature in creative ways.

CECE 300: Literacy in Early Childhood I. Fall, 2 credits

Insights into the nature of the reading process and emergence of reading readiness skills will be emphasized. Candidates learn to provide a developmentally appropriate environment for reading to begin. The course focuses on the strategies needed to teach reading to the preschool, kindergarten, first-grade, and second grade student. A field component provides practical experience. *Prerequisite: Admission to the Early Childhood Program. Corequisite: CECE 313.*

CECE 301: Literacy in Early Childhood II. Spring, 2 credits

This course will examine, in depth, the content and methods used in teaching reading and writing effectively. Candidates will create a classroom climate where literacy flourishes. It will examine various theories and methodologies; issues germane to the urban school environment will be addressed. The use of multicultural literature and ways to serve the linguistically different child will be included. The field experience in an urban school setting will provide practical experiences for the candidates. *Prerequisite: CECE 300, 313. Co-requisite: CECE 316*

CECE 302: Child Development: The Urban Learner. Spring, 3 credits

Engages candidates in an exploration of how children learn and develop, of myriad influences on children's development, and theories of child development and facilitates candidates' development of strategies, which promote optimal learner growth. Focuses special attention on cultural elements, which influence the development of children in urban schools and communities. Guides candidates to an appreciation of the interdependence of cognitive, physical, and affective domains in the overall development of children.

CECE 312: Language Arts I: Content. Fall, 3 credits

Instruction in the elements of the language arts program, with emphasis on candidates' own achievement of proficiency in language arts skills. Candidates review teacher competencies needed to teach language arts effectively. *Prerequisites: Admission to the Teacher Education Program CENG 105, CENG 106; CECE 200 and CECE 214.*

CECE 313: Practicum II (Planning and Implementing). Fall, 1 credit

This practicum promotes the development of teacher education candidates' knowledge and understanding of the schooling process and its influences and facilitates candidates' awareness of the foundational underpinnings that shape contemporary educational practices. *Corequisites: CCPS 301, CECE 300, CECE 302, CECE 312.*

CECE 316: Practicum III (Instructing, Connecting & Assessing). Spring, 1 credit

This practicum focuses on the instructional process and skills, resources, knowledge and interactions that ensure student learning. Experiences are provided which promote candidates' awareness of the importance of developing and nurturing family relationships to support the teaching/learning process. Candidates are guided to use their specific content knowledge to establish teaching/learning objectives. *Corequisites: CECE 301, CECE 415, CECE 426, CECE 452, CECE 498.*

CECE 317: Practicum IV (Evaluating, Analyzing & Reflecting). Fall, 1 credit

This practicum stresses principles, practices and tools of evaluation, analyses, and reflection on the schooling processes. Attention is also given to ethical and practical considerations of testing and to the implications of cultural diversity in the process of evaluating, analyzing, reflecting and making decisions. *Corequisites: CECE 401, CECE 404, CEDC 408.*

CECE 314: Creative Development. Fall, 4 credits

This course offers guided observations of and experiences in application of instructional methodologies. Emphasis on interdisciplinary methodology, culturally appropriate pedagogy, integration of creative activities and on assessment. Self/peer/professor review and critique. Some field experience. Designed to offer candidates the opportunity to gain competency in the use of variety of media and explore potentials in creative arts. Candidates enhance their abilities to

appreciatively criticize art, develop an understanding of the function of art in society and education, experience the practical use of tests in art/health/physical and movement education /and professional education. The course is also designed to offer candidates the opportunity to gain competence in the use of a variety of media. *Prerequisite: Admission to the Teacher Education Program.*

CECE 402: Professional Development. Fall, 1 credit

This course provides the opportunity for candidates to enhance their skills in interpersonal relationships. It examines situations encountered by teachers, school administrators, supervisors, and group leaders. Professional presence, which includes poise, self-confidence, control and style which empower the candidate and command respect will be emphasized. *Prerequisite: Admission to the Educational Studies Program.*

CECE 404: Early Childhood Curriculum and Methods. Fall, 3 credits

Study of origins, philosophy, organization, and implementation of curriculum models for early childhood education. Candidates also examine teaching methods and materials used during the early years, and principles and practices employed in early learning programs. *Prerequisites: Admission to the Teacher Education or Postbaccalaureate Program, CEDC 200, CEDF 211.*

CECE 405: Preschool Program Development. Fall, 3 credits

Examination of organizational structure, aims, purposes, and variety of preschool educational programs, including teacher characteristics, classroom organization, and program scheduling. The laboratory component allows students to observe and participate in a preschool setting. *Prerequisites: CEDC 200, CEDF 211, Passing scores on Praxis I or exemption from Praxis I.*

CECE 415: Methods of Teaching Reading and Writing. Spring, 3 credits

Knowledge, skills, and attitudes necessary for effective organization and implementation of the reading program. Candidates learn to promote reading as an informative, rewarding, and essential component of education. The course includes a review of widely used methods in teaching reading and a laboratory experience in which candidates practice instructional strategies. *Prerequisites: Admission to the Teacher Education or Postbaccalaureate Certification Program, CEDC 312, CEDC 313.*

CECE 426: Integrated Teaching of Elementary Math and Science. Fall, 3 credits

This courses uses readings, case studies, instructional technology, and a school-based practicum to help preservice teachers develop the scientific and mathematical knowledge, skills, and dispositions needed to teach science and mathematics in grades K-4. It examines research and theory in the field of math and science instruction and assessment, and emphasizes culturally appropriate methodology in the integration of math and science. *Prerequisite: Admission to the Teacher Education Program, CECE 212, 213, 307, 313, and CMAT 308. Corequisite: CECE 316*

CECE 444: Preservice Teaching – Early Childhood Education.

Fall, Spring, 13 credits

Practical experiences with children, preschool to grade five, in approved educational settings and under the supervision of state-certified teachers. Through daily work and other interactions, the candidate integrates and utilizes the knowledge and skills gained in major courses. CEDC 444 is a full-day practicum daily lasting sixteen weeks. The preservice teacher is required to attend the campus-based reflective seminars once per week, and other teaching-related workshops and activities. *Prerequisites: Completion of all core and major courses with required grades; passing scores on the Praxis I examination and the Praxis II examination in the appropriate field; appropriate recommendations; acceptable interview.*

CECE 452: Integrated Teaching of Social Studies and Language Arts.

Spring, 3 credits

This course will examine, in depth, the methods used in teaching the integration of Social Studies into the Language Arts in the elementary school. We will examine various theories from the foundation for methods that are commonly practiced. We will explore current research and its use as a basis for the “best practice” in diagnosis and instruction. Through detailed study, research, class discussion and examination of each area of the social sciences and language arts, candidates will grow in their understanding of the interrelation of both disciplines. In keeping with our mission as change agents in the urban environment, we will address issues that are extremely important in an urban school environment, such as the need to establish a positive environment, ways to build positive images of self in order to enhance learning, the use of multicultural literature, and ways to serve the linguistically different child. Instruction in the elements of social studies and language arts, with emphasis on knowledge required for the teaching of content skills and methods in the language arts and social studies programs. Candidates review teacher competencies needed to effectively teach language arts and social studies skills. *Prerequisites: Admission to the Teacher Education Program, CECE 212, 213, 307, 313, and CMAT 308. Corequisite: CECE 316.*

CECE 498: Developing Family and Community Relationships. Fall, 3 credits

The study of current and historical theory and practices in parent education as well as studying the impact of connecting with the community. The course includes a review of parent and other adults’ involvement with schools (i.e., volunteers and paraprofessionals in the classroom). The course covers the role of parent education in the school’s curriculum and the theoretical and practical aspects of parental involvement in the educational setting. The course takes an in-depth view of the role that the community plays in shaping the development of children and youth. *Prerequisites: Admitted to Teacher Education Program, CEDF 211, CCPS 301, CECE 302.*

CEDC 199: Preprofessional Seminar.

Fall, Spring, 1 credit

Provides intensive instruction in the concepts, strategies, and content covered on the Praxis I exam. The strategies will include both generic and subject matter test-taking strategies.

CEDC 201: Teaching Geography Themes in Education. Spring, 3 credits

This course is designed to cover basic concepts in human geography, including population, political, cultural, urban, and economic geographical concepts needed to teach. Taught as a survey course in human geographical inquiry rooted in the four academic traditions of geography: the earth science tradition, culture-environment tradition, locational tradition, and area analysis tradition. Emphasis will be given to people of African descent in the regions of Africa, the Middle East, North and South America, Asia, Europe and Oceania. Provides practical experiences in teaching geography in P-12 school settings. *Prerequisite: Admission to Teacher Education or Educational Studies. Corequisites: As outlined on planned programs of study.*

CEDC 215: Adolescent Literature. Spring, 3 credits

This course is a study of selected adolescent novels relevant to the interest, concerns, and developmental tasks of adolescents, with emphasis on evaluating and teaching these materials in the middle grades (4-8) and high schools. *Prerequisite: Admission to Teacher Education or Educational Studies. Corequisites: As outlined on planned programs of study.*

CEDC 262: Educational Technology. Fall, Spring, Summer, 3 credits

Candidates gain experience with a variety of computer applications and technological tools used in education and other professions. Emphasis on acquiring knowledge to enhance productivity, communication skills, critical thinking and problem solving in research and societal and ethical issues. Hands-on training in applications including advanced word processing, the Internet, spreadsheet, database and presentation tools. Designed to offer candidates opportunity to gain competency in the use of a variety of media, including 16mm films, projectors, videotapes, audiotapes, and other equipment for instruction. Significant focus is placed on Computer-Assisted Instruction, the development of websites and electronic portfolios. Candidates will demonstrate competency in field experiences. This course is designed to satisfy the Georgia Teacher Certification Requirement in Technology. *Corequisites vary by program.*

CEDC 303: Human Relations. Spring, 3 credits

Opportunity for students to enhance their skills in interpersonal relationships. The course uses role-playing and other drama techniques to examine the quality of human relations between various groups. *Prerequisite: Passing scores on Praxis I or exemption from Praxis I.*

CEDC 305: Presentation Skills. Spring, 3 credits

Simulated situations in which students practice the skills needed for effective oral presentations in their major areas. Through closed circuit video presentations, students examine situations encountered by teachers, school administrators, sales representative managers, supervisors, and group leaders. *Prerequisite: Passing scores on Praxis I or exemption from Praxis I.*

CEDC 309: Teaching Geometry, Grades 6-12. Fall, 3 credits

Presents geometric concepts central to the mathematics program of the middle grades: construction and measurement, congruence and similarity, parallelism, perpendicularity, polygons, circles, 3-D figures, area, perimeter and volume. *Prerequisites: Admission to Teacher Education or Educational Studies, CMAT 105, CMAT 106, and CMAT 307. Corequisite: CEDC 311.*

CEDC 311: Teaching Algebra, Grades 6-12. Fall, 3 credits

Deals with topics in elementary/middle grades curriculum: Negative numbers, linear and quadratic equations, polynomials, number theory, probability and statistics. *Prerequisite: Admission to Teacher Education or Educational Studies, CMAT 105, CMAT 106 and CMAT 307. Corequisites: CMAT 308, CEMG 302.*

CEDC 320: Teaching Foundations of Mathematics from Cultural Perspectives-Grades 6-12. Spring, 3 credits

This course examines the history of mathematics, its contributors from all cultures, proofs, mathematical modeling, set theory and logic, and a history of numbers and number theory. The course engages candidates in different types of teaching strategies, including the use of different technologies, as well as content. *Prerequisites: Admission to Teacher Education or Educational Studies, CMAT 105, CMAT 106, CMAT 307, CMAT 308. Corequisites: CMAT 309, CEDC 309, CEMG 303 or CEDC 488.*

CEDC 321: Teaching Concepts of Calculus-Grades 6-12. Fall, 3 credits

This course introduces the candidate to the intuitive idea of a limit, reintroduces the concepts of series, sequences, and functions, and the limit of the same. The epsilon-delta neighborhood definitions will be used for continuity concepts, derivatives, and integrals. The computer programs MATHCAD and MATHEMATICA will be the tools for problem solving and applications. Such problems as area under curves and maxima and minima will be examined as to their applications in middle grade mathematics program using this computer technology. *Prerequisites: Admission to Teacher Education or Educational Studies, CMAT 105, CMAT 106, CMAT 307, CMAT 308, and CMAT 309. Corequisites: CEMG 430 and CEMG 404 or CEDC 488.*

CEDC 322: Teaching Science, Grades 4-8. Spring, 3 credits

This is an activity-based course that infuses the earth and life sciences teaching strategies, content, central themes, and technology for teaching earth and life sciences' concepts to middle grades learners. *Prerequisites: Admission to Teacher Education or Educational Studies. Corequisites: As outlined on planned programs of study.*

CEDC 401: Classroom Management. **Fall, 2 credits**

This course includes a review of organization and scheduling practices which maximize a positive learning environment. Candidates explore the use of guidance and discipline techniques for managing classroom behavior. Through simulations of typical management problems in the classroom, candidates gain understanding of how to structure and organize the environment for effective learning. *Prerequisite: Admission to the Teacher Education, Educational Studies, or Postbaccalaureate Certification Program.*

CEDC 408: Multicultural and Global Education. **Fall, 3 credits**

Examines theories of multiculturalism and introduces critical race theory as a tool in critiquing elements of society and education. Overview research about the education of culturally diverse groups and promotes candidates' skills in creating culturally compatible learning environments and implementing culturally responsive pedagogy. Guides candidates in an exploration of community, and family cultural resources and in building family and community relationships in urban schools and communities. Develops candidates' dispositions, knowledge, and skills in their role as advocate for equity and social justice in culturally diverse schools in urban communities. Examines cross-cultural educational institutions. *Prerequisite: Admission to the Teacher Education, Educational Studies, or Postbaccalaureate Certification Program.*

CEDC 430: Teaching Integrated Mathematics and Science. **Fall, 3 credits**

This course integrates methods of teaching math and science principles and concepts. Emphasis is on such concepts as quantification, space-time relationships, data collection and graphic communications. Materials and assignments will be selected to ensure the development of mathematics competencies while at the same time achieving the goals of science. *Prerequisites: Admission to Teacher Education and Educational Studies, completion of all mathematics and science content courses in the Middle Grades program of study with one exception (CEDC 456). Corequisites: CEMG 404, CEMG 441, CEDC 456-Science Concentration.*

CEDC 442: P-12 Curriculum and Methods. **Fall, 3 credits**

Study of curriculum and theory and common practices across the P-12 grade level. Topics include: In-depth analysis of scope, sequence, integration and cumulative learning concepts. Course activities cover the philosophy, programs, and instructional methods/materials associated with the P-5, 6-8, and 9-12 curricular offerings. Candidates complete eight (8) hours of field-based experience at each level. *Prerequisites: CEDF 211, CCPS 301, CEDC 302 or CPSY 218 and completion of most of the specialty area courses.*

CEDC 443: High School Curriculum and Methods. **Fall, 3 credits**

Acquisition of knowledge and skills for guiding the learning process at the secondary education level. Covers the nature of effective teaching; organization of the secondary school curriculum; planning and implementing classroom instruction; guidance in the secondary classroom setting; promotion of self-discipline; and evaluation of learning. *Prerequisites: CEDF 211, CCPS 301, and CPSY 218 or CCPS 398.*

CEDC 448: Preservice Teaching - Secondary School. **Fall, Spring, 13 credits**

Experience in teaching major concentration courses. Under the supervision of a state-certified teacher and a college supervisor in the teaching field, candidates plan, implement, and evaluate teaching and learning experiences in an approved Atlanta area school. Instruction occurs through individual conferences, observation, assessments and evaluations, and participation in Education Seminar, workshops, and other interactions with supervisors. CEDC 448 is a full-day practicum and lasts sixteen weeks. The preservice teacher is required to attend the campus-based reflective seminars once per week, as well as other teaching-related workshops and activities. *Prerequisites: Completion of all core and major courses with required grades; passing scores on the Praxis I examination and the Praxis II examination in the appropriate field; appropriate recommendations; acceptable interview.*

CEDC 449: Preservice Teaching P-12. **Fall, Spring, 13 credits**

This preservice teaching practicum is for the P-12 fields of Foreign Languages (French, Spanish) and Music. P-12 majors pursue a full-time in-depth practicum with children under the supervision of a state-certified classroom teacher (preferably one who has acquired the Teacher Support Specialist [TSS] endorsement) and a college supervisor in the teaching field. Candidates plan, implement, and evaluate teaching and learning experiences in an approved Atlanta area school. P-12 preservice teachers spend ten weeks of in-depth practica at one grade level (i.e., early childhood education, middle grades, or secondary) school setting. Prior to in-depth practica, two-four weeks sessions are spent observing and implementing projects with children at the other grade levels. The preservice teacher is required to attend the campus-based reflective seminars once per week, as well as other teaching-related workshops and activities. *Prerequisites: Completion of all core and major courses with required grades; passing scores on the Praxis I examination and the Praxis II examination in the appropriate field; appropriate recommendations; acceptable interview.*

CEDC 454: Methods of Teaching Secondary Mathematics. **Fall, 3 credits**

Examines the content and structure of the secondary school mathematics program in the light of the NCTM standards and stresses methods and materials for effective instruction. *Prerequisites: Admission to Teacher Education, CMAT 105, CMAT 106, CMAT 310, CMAT 311.*

CEDC 456: Teaching Physics Concepts, Grades 4-8. Fall, 3 credits

This course focuses on the concepts, principles and theories of kinematics, motion, energy and its transformations, electricity, magnetism and wave properties. Appropriate instructional strategies and assessment practices for middle grades teachers that are aligned with the National Science Education Standards, National Science Teacher Association Standards, and Georgia Performance Standards will be emphasized. Laboratory is included. *Prerequisites: Admission to the Teacher Education or Educational Studies, No grade of D, F or I in prior courses. Co-requisites: CEMG 303 or CEDC 488, CPHY 106, CEDC 415*

CEDC 492: Cooperative Education Experience. Fall, Spring, Summer 9-12 credits

Educational Studies candidates spend a full semester (at least 12 weeks) working in an education related agency appropriate to their concentration or career goal. Experiences are supervised and monitored by a University professor and an on-site supervisor. Experiences are accompanied by a weekly seminar and require that candidates submit evaluations and reports that may include action research. *Prerequisites: Completion of all other program requirements and acceptable recommendations and interviews.*

CEDC 498: Parent Education: Theory and Practice. 3 credits

Study of current and historical theory and practices in parent education. Includes a review of parent and other adults' involvement with the schools (i.e., volunteers, and paraprofessionals in the classroom). Covers the role of parent education in the school's curriculum and the theoretical and practical aspects of parental involvement in the educational setting. *Prerequisites: CEDF 211, CCPS 301 and CEDC 302.*

CEDC 499: Independent Study. 1-3 credits

Identification and investigation of a particular topic, issue, or problem in the field of education. Under the supervision of a major area professor, students conduct in-depth studies of specific problems and produce written accounts of their studies. Varying credit hours require specific activities as follows: one credit hour requires students to attend colloquia; two credit hours require attendance at symposia; three credit hours may include attendance at four seminars. *Prerequisites: approval of the supervising professor and at least a 2.5 GPA.*

CEMG 201: Practicum I: Observing and Exploring. Spring, 1 credit

This course, the first of a four-course series, is designed to provide second semester sophomore level teacher candidates, admitted to the MGTE Program, with opportunities to observe pedagogical and content knowledge, engage in basic literacy instruction (tutorial) in authentic settings, and explore the urban communities for cultural resources that support learning. This field course introduces candidates to the school and classroom setting for grades 4 and 6, and the community as an academic support for student learning. Candidates are provided with opportunities to observe and explore varied aspects of middle-

level teaching and management with competent classroom clinical faculty (teachers), and other personnel at a selected elementary school for 4th grade and middle school for 6th grade. *Prerequisites: Admission to the Middle Grades Teacher Education (MGTE) Program. Co-requisites: CEMG 202, CEDC 262, CCPS 301, CEDF 211, 1-content course in the School of Arts and Sciences.*

CEMG 202: Introduction to Middle-Level Teaching. Spring, 3 credits

Designed to introduce middle grades education candidates to the middle-level philosophy, teaching in the middle grades and middle school organization. Provides the candidates with an understanding of the major concepts, principles, theories, standards, and related research. This course is a prerequisite and a part of the introductory block of courses for all candidates admitted to the initial middle grades teacher education program. *Prerequisites: Completion of required program core courses with a "C" or better that yields a cumulative 2.75 GPA; Meet Praxis I criteria for or exemptions; Admission to the Middle Grades Teacher Education (MGTE) Program. Co-requisites: CEMG 201, CEDF 211, CEDC 262, CCPS 301, 1-core content course.*

CEMG 302: Practicum II: Planning, Instructing, Connecting, and Assessing. Fall, 1 credit

The second practicum of a four-course series, designed to provide middle-level teacher candidates with opportunities to demonstrate by teaching, advising and mentoring their content knowledge, dispositions and skills in planning, instructing, assessing student learning, and making connections with students, students' families, and community under the tutelage of clinical faculty (teachers). This practicum is where candidates demonstrate their conceptualization of what they are learning in planning, instructing, assessing of students' learning and in making appropriate connections as competent professionals. The placements are in FIFTH grade urban elementary schools and 7th grade urban middle schools. *Prerequisites: Admission to the Middle Grades Teacher Education (MGTE) Program, cumulative 2.75 GPA, no failing grade or incomplete grade in previous courses (i.e., D, F, I). Co-requisites: As outlined on middle grades concentrations' plans of study.*

CEMG 303: Practicum II: Planning, Instructing, Connecting, and Assessing. Spring, 1 credit

The third practicum of a four-course series, designed to provide middle-level teacher candidates with opportunities to demonstrate, by teaching, advising and mentoring, their content knowledge, dispositions and skills in planning, instructing, assessing student learning, and making connections with students, students' families, and community under the tutelage of clinical faculty (teachers). This practicum experience is completed in urban elementary schools in a 4th or FIFTH grade and an urban middle school in an 8th grade. *Prerequisites: Admission to the Middle-Grades Teacher Education (MGTE) Program, cumulative 2.75 GPA, no failing grade or incomplete grade in previous courses (i.e., D, F, I). Co-requisite: As outlined on middle grades concentrations' plans of study.*

CEMG 322: Teaching Science Grades 4-8.**Spring, 3 credits**

This is an activity-based course that infuses the earth and life sciences teaching strategies, content, central themes, and technology for teaching earth and life sciences concepts to middle grades learners. Prerequisites: Admission to the Middle Grades Teacher Education (MGTE) Program, cumulative 2.75 GPA, no failing grade or incomplete grade in previous courses (i.e., D, F, I). *Corequisites: As outlined on middle grades concentrations' plans of study.*

CEMG 404: Practicum IV Interdisciplinary**Teaming: Connecting, Evaluating and Reflecting.****Fall, 1 credit**

The fourth and final practicum, in the four-course practica series before preservice Teaching (CEMG 446), is designed to engage middle-level candidates in interdisciplinary team organization and interdisciplinary instructional experiences. Candidates collaborating with two or more teachers on a team to plan, teach and assess students, under the guidance of a clinical faculty (teacher), use a number of instructional strategies, a variety of student-grouping patterns and develop positive relationships with teachers on the team and in related subject areas. Candidates engage in reflective practice with teachers and university supervisors in assessing their progress. The practicum placements are completed in 4th- or 5th- grade urban elementary schools, and in 6th-, 7th- or 8th- grade urban middle schools. *Prerequisites: Admission to the Middle Grades Teacher Education (MGTE) Program, cumulative 2.75 GPA, no failing grade or incomplete grade in previous courses (i.e., D, F, I). Corequisites: As outlined on middle grades concentrations' plans of study.*

CEMG 441: Middle Grades Curriculum and Instructional Practices.**Fall, 3 credits**

A review of the rationale and origins of the concept, developing the curriculum and organizing the middle school, the learner, the teacher, and the identification of processes for delivering relevant curriculum components, including career awareness for the young adolescent. *Prerequisites: Admission to the Middle Grades Teacher Education (MGTE) Program or Educational Studies Program, cumulative 2.75 GPA, no failing grade or incomplete grade in previous courses (i.e., D, F, I). Corequisites: As outlined on middle grades concentrations' plans of study.*

CEDC 415: Methods of Teaching Reading and Writing.**Spring, 3 credits**

This course is designed to prepare middle grades (4-8) and high school (7-12) teacher candidates to develop and conduct reading and writing lessons and activities which enable learners to process required materials successfully, to become life-long readers and writers through the cultivation of interests and motivation in reading and writing, to develop and use critical literacy as a tool for social justice and individual empowerment, to use technology to enhance reading and writing development, and to engage in self assessment in reading and writing. *Prerequisite: Admission to Teacher Education. Corequisites: As outlined on programs of study.*

CEMG 446: Preservice Teaching – Middle Grades.**Fall, Spring, 13 credits**

Practicum experiences with middle-level learners in an approved educational setting, under the supervision of state-certified practicing classroom teacher and the University supervisor. CEDC 446 is a full-day practicum for ten to twelve weeks. The practicum provides an opportunity for preservice teachers to synthesize prior content knowledge, interactive knowledge, and knowledge based on research and practical experiences. Preservice teachers are required to attend the campus-based reflective seminars once per week, and other teaching-related workshops and activities. *Prerequisites prior to interview: Completion of all core and major courses with required 2.75 GPA and no D, F or I grades; passing scores on the Praxis I examination or exemptions and the Praxis II examinations in two content areas; appropriate recommendations; acceptable interview.*

CSEC 219: Practicum I (Observing and Exploring).**Spring, 1 credit**

This entry-level practicum is designed for potential education candidates. The practicum provides experiences that introduce potential candidates to teachers, learners, and the school community through processes of observing and exploring. Course assignments engage potential candidates in activities that strengthen skills in writing and critical observations. *Corequisite: CEDC 262.*

CSEC 319: Practicum II (Planning and Implementing).**Fall, 1 credit**

This practicum provides the development of teacher education candidates' knowledge and understanding of the schooling process, facilitating candidates' awareness of the foundational underpinnings which shape contemporary educational practices. *Corequisite: CEDF 211.*

CSEC 320: Practicum III (Instructing, Connecting, and Assessing).**Spring, 1 credit**

This practicum focuses on the instructional process and skills, resources, knowledge, and interactions that ensure student learning. Experiences are provided which promote candidates' awareness of the importance of developing and nurturing family relationships to support the teaching/learning process in Health and Physical Education. Candidates are guided to use their specific content knowledge to establish teaching/learning objectives. *Corequisite: CEDC 408.*

CSEC 419: Practicum IV**(Evaluating, Analyzing and Reflecting).****Fall, 1 credit**

This practicum stresses principles, practices and appraisal tools that analyze and reflect on schooling processes. Attention is also given to the ethical and practical considerations of testing and to the implications of cultural diversity in the process of evaluating, analyzing, reflecting, and decision-making. *Corequisite: CSEC 443.*

PHYSICAL EDUCATION COURSE DESCRIPTIONS

CPED __: Physical Education. 1 credit

General education requirements for all students. These courses develop recreational skills and abilities for current and future participation in leisure-time activities such as badminton, volleyball, basketball, beginning swimming, tennis, modern dance, jazz exercise, softball, and individual fitness programs.

CHPE 201: Physical Fitness and Conditioning. Spring, 2 credits

Basic course to provide a rationale for a physically active lifestyle and an opportunity to learn appropriate behaviors for selected activities to promote fitness. Evaluation of fitness, with computer-assisted analyses used for selected tests, will be stressed as a starting point for goal setting.

CHPE 203: Methods of Teaching Dance (P). Fall, 2 credits

In this course candidates are introduced to numerous types of dance; folk, American, square, Latin, contra, round and other ethnic dances. Movement concepts and rhythmic activities are included in the methods courses.

CHPE 212: History and Principles of Physical Education. Spring, 3 credits

This course focuses on critical examination of past and present scientific and cultural bases of health and physical education. Historical and theoretical bases of physical education are explored to trace the evolution of current theories and practices. Candidates examine their relationship to modern principles and learn to translate the theories and principles and put them into practice.

CHPE 230: Anatomy and Physiology for Physical Educators. Spring, 3 credits

This course introduces candidates to the fundamentals of the structure and function of the human organism, thus laying the foundation for candidates to learn how anatomy and physiology affect human movement.

CHPE 254: Skills and Techniques of Individual/Dual Sports I (P). Fall, 2 credits

Study of the origins, rules and regulations, technology, skills, strategies, safety practices, sociological and psychological effects of participation in individual and dual sports such as handball, racquetball, bowling, and track and field.

CHPE 255: Skills and Techniques of Individual and Dual Sports II (P). Spring, 2 credits

This course focuses on the study of the origins, rules and regulations, terminology, skills, teaching strategies, safety practices, sociological and psychological effects of participation in individual and dual sports such as archery, badminton, golf, and tennis. *Corequisite: CHPE 275- Practicum I.*

CHPE 256: Skills and Techniques of Outdoor Activities (P). Spring, 2 credits

This course focuses on the history, basic rules, regulations, sociological and psychological aspects of participation and terminology associated with outdoor activities such as; camping, hiking, orienteering, shuffle board, horseshoes, and cooperative games. *Corequisite: CHPE 275- Practicum I.*

CHPE 257: Skills and Techniques of Team Sports (P). Fall, 2 credits

This course focuses on the historical perspective of specific activities, the selection and care of equipment, the basic rules, strategies and fundamental skills of team sports, including basketball, softball, volleyball, soccer, flag football, speedball, and field hockey. Teaching methodologies and strategies are also included and practiced in the course content. *Corequisite: CHPE 275 – Practicum I.*

CHPE 275: Practicum I (Observing and Exploring). Spring, 1 credit

This entry-level practicum is designed for potential education candidates. The practicum provides experiences that introduce potential candidates to teachers, learners, and the school community through processes of observing and exploring. Course assignments engage potential candidates in activities that strengthen skills in writing and critical observations. *Corequisite: CHPE 203, CHPE 255, CHPE 256.*

CHPE 299: Nutrition. Fall, 3 credits

The study of nutrients in order to evaluate dietary patterns in diverse groups of individuals including but not limited to exercisers, vegetarians, people from various ethnic groups, pregnant women, children, adolescents, elderly, the obese, and those with disordered eating. Strategies for behavioral and social sciences research-based change agency will be formulated to promote health and safety in urban and other communities.

CHPE 300: Psychological and Social Health. Fall, 3 credits

This course identifies and explains important health concepts that must be fully understood for sound decision-making. The focus is on personal behavior and the ways in which the individual can affect control over his or her life and health. Issues include the effects of substance abuse on health, knowledge of body defenses and immunization, communicable diseases, including acquired immune deficiency syndrome (AIDS), and other sexually transmitted diseases (STDS), and chronic and degenerative diseases.

CHPE 312: Physiology of Exercise Spring, 3 credits

This course focuses on the investigation of the basic concepts of the physiological effects of human movement. Laboratory experiences provide application of principles. *Prerequisites: CHPE 201 and college level course in anatomy and physiology or, for students not majoring in Health and Physical Education, consent of the instructor.*

CHPE 318: Human Growth and Development (P). Fall, 3 credits
This course provides an interdisciplinary view drawing on psychology, sociology, biology and anthropology to emphasize the continuity of development throughout the life span. It shows how our experiences at one time in life affect future development; and how to understand the influences upon us from our genes, our families and the world in which we live. *Corequisite: CHPE 375.*

CHPE 325: Methods of Teaching Gymnastics (P). Spring, 2 credits
Introduction to the basic concepts, theories, movement activities, and apparatus related to gymnastics, tumbling, and stunts. Candidates participate in skills activities which lead to the acquisition of basic skills performance, evaluation, analysis, and concept attainment. Teaching and spotting strategies are incorporated into the course work. *Corequisite: CHPE 465 – Practicum III.*

CHPE 350: Adapted Physical Education (P) Fall, 3 credits
This course functions as an introduction to the survey of adapted physical education programs. The course covers the types of students served, legal aspects, liaison with medical and related professions, and adaptation of activities to special needs. *Corequisite: CHPE 375.*

CHPE 358: First Aid, Safety and CPR. Fall, 2 credits
This course provides students with the knowledge and skills necessary in an emergency. It presents opportunities for students to recognize emergencies and make appropriate decisions for first aid care. Students will take American Red Cross basic Community First Aid and Safety course as well as the Instructor course for First Aid, Adult CPR, and Infant and Child CPR. American Red Cross certificates will be issued to those meeting the requirements of the course.

CHPE 375: Practicum II (Planning and Implementing). Fall, 1 credit
This practicum provides the development of teacher education candidates' knowledge and understanding of the schooling process, facilitating candidates' awareness of the foundational underpinnings which shape contemporary educational practices. *Corequisites: CHPE 318, CHPE 350, CHPE 442.*

CHPE 383: Lifeguard Training. Fall (even years) 2 credits
This course provides students with the knowledge and skills necessary to operate a safe swimming facility and prepare them to recognize and make appropriate decisions to take action in a water emergency. American Red Cross certification will be issued to those meeting the requirements for the course. Students are also required to complete CPR for the professional rescuer.

CHPE 384: Skills and Techniques of Swimming. Fall, 2 credits
Swimming skills and techniques of all strokes and skills and techniques of life-saving are covered with practice in class organization, management, and teaching progressions. Requirements meet the American Red Cross Water Safety Instructor's Training Program. American Red Cross Water Safety Instructor's Certificate issued to students completing all course requirements.

CHPE 404: Methods of Teaching Early Childhood Health and Physical Education (P). Spring, 3 credits
This course is designed for candidates who will be teaching physical education at the elementary school level, whether as teachers in the self-contained classroom or as teachers trained as physical education specialists. The course provides a source of information about the most recent trends and developments in physical education, addressing the inclusion of students with special needs, temporary and permanent adaptive strategies, program evaluation, safety procedures, equipment selection, program planning motor exploration, physical fitness, and as a resource for new games, stunts, dances, and fitness development. *Corequisite: CHPE 465.*

CHPE 413: Health Education Curriculum, Methods and Materials (P). Fall, 3 credits
This course provides the background information and skills teachers need to implement comprehensive school health at grade levels in which they are certified. The course includes information on the six categories of risk behavior identified by the Centers for Disease Control and Prevention: (1) communicable diseases, (2) sexually transmitted diseases, (3) non-communicable diseases, and (4) chronic degenerative disease. It examines educational reforms that focus on improving the health of today's youth. *Prerequisite: EDF 211. Corequisite: CHPE 475.*

CHPE 441: Methods of Teaching Middle Grades Health and Physical Education (P). Spring, 3 credits
This course studies supervision of Physical Education activities for boys and girls between the elementary and high school years. One pattern of organization being considered by many school systems is the middle school concept. Integration of knowledge from therapy brings together separate areas of knowledge, enlightening each; organization and administration, program planning, equipment selection, safety procedures, program evaluation and special needs students. *Corequisite: CHPE 465.*

CHPE 442: Organization and Administration of Health and Physical Education (P). Fall, 3 credits
An analysis of organizing and administering a comprehensive program with related leadership techniques. Specific approaches to departmental structure, policy development, personnel, public relations, budget and finance, equipment, supplies, facility planning and utilization, legal aspects, and management of school Physical Education Programs. *Corequisite: CHPE 375.*

CHPE 443: Methods of Teaching Secondary School Health and Physical Education (P).

Spring, 3 credits

Secondary High School Physical Education is designed to provide the candidate with knowledge and skills needed to focus on specific learning characteristics that can serve as a basis for total talent portfolio. Tapping health and physical educator's knowledge of various aspects of program planning such as curriculum development, annual, unit and daily planning. Subjects covered are general planning for facilities, equipment and safety procedures. *Corequisite: CHPE 465.*

CHPE 449: Preservice Teaching.

Fall, Spring, 13 credits

This preservice teaching practicum is for the P-12 field of Health/Physical Education. P-12 majors pursue a full-time in-depth practicum with children under the supervision of a state certified classroom teacher (preferably one who has acquired the Teacher Support Specialist [TSS] endorsement) and a college supervisor in the teaching field. Candidates plan, implement, and evaluate teaching and learning experiences in an approved Atlanta area school. P-12 preservice teachers spend ten weeks of in-depth practica at one grade level (i.e., early childhood education, middle grades, or secondary) school setting. Prior to in-depth practica, two four-week sessions are spent observing and implementing projects with children at the other grade levels. The preservice teacher is required to attend the campus-based reflective seminars once per week, as well as other teaching-related workshops and activities. *Prerequisites: Completion of all core and major courses with required grades; passing scores on the Praxis I examination and the Praxis II examination in the appropriate field; appropriate recommendations; acceptable interview.*

CHPE 455: Tests and Measurement (P).

Fall, 3 credits

This course provides a comprehensive learning package of statistical techniques, measurement theory, and testing procedures with wide application to a variety of educational settings. *Prerequisites: CMAT 103, CMAT 104, and CEDC 262. Corequisite: CHPE 475.*

CHPE 457: Kinesiology.

Fall, 3 credits

This course studies the anatomical bases and mechanical principles of human movement. *Prerequisite: college-level course in anatomy and physiology*

CHPE 465: Practicum III (Instructing, Connecting and Assessing).

Spring, 1 credit

This practicum focuses on the instructional process and skills, resources, knowledge, and interactions that ensure student learning. Experiences are provided which promote candidates' awareness of the importance of developing and nurturing family relationships to support the teaching/learning process in Health and Physical Education. Candidates are guided to use their specific content knowledge to establish teaching/learning objectives. *Corequisites: CHPE 325, CHPE 404, CHPE 441, CHPE 443.*

CHPE 475: Practicum IV (Evaluating, Analyzing & Reflecting). Fall, 1 credit

This practicum stresses principles, practices and appraisal tools that analyze and reflect on schooling processes. Attention is also given to ethical and practical considerations of testing and to the implications of cultural diversity in the process of evaluating, analyzing, reflecting, and decision-making. *Corequisites: CHPE 413, CHPE 455.*

REQUIRED COURSE DESCRIPTIONS

All Social Work majors must complete the following required courses:

CUSW 200: Introduction to Social Work. **Fall, 3 credits**

This is the first course for students expressing an interest in the field of social work. The course selectively traces the development of social work from early volunteer efforts to the present organizations in social welfare. The emergence,

development and changing nature of social needs and services are selectively analyzed. The course also introduces students to the development of social work practice as a professional and to the various fields of social work practice and career opportunities.

CUSW 202: Introduction to Professional Helping. **Spring, 3 credits**

A study in self-assessment, including values clarification, problem solving, and interviewing skills for career choices in social services. The course includes a directed field observation experience of at least fifty (50) clock hours, during which students work in an agency, community, or other social-service environments using a generalist framework.

CUSW 300: Social Welfare Policy and Services. **Fall, 3 credits**

This course is designed to familiarize students with policy formation and policies related to social welfare legislation and corresponding organizational structures, programs, services, and clients. The course also explores and analyzes selected historical and current perspectives in the development of social needs and societal responses for increased understanding of present needs, services, and issues.

CUSW 360: Interpersonal Skills Laboratory. **Spring, 3 credits**

The objective of this course is to enhance basic social work skills such as interviewing, problem solving, time management, technical writing, group processing, and empathic understanding. This course is also designed to assist students in developing communication and problem-solving skills with communities and organizations, identifying community resources, and conducting organizational analysis. *Prerequisites: CUSW 200, 202, 300.*

CUSW 401: Human Behavior I. **Fall, 3 credits**

This course is designed to provide social work students with knowledge of human behavior and development over the life span. Emphasis is placed on the individual, his/her membership in families, groups, organizations and communities. Students will explore social, psychological, biological, cultural and societal factors affecting human growth and development with special emphasis on each stage of development. *Prerequisites: USW 200, 202, 300 and 360; Corequisites: USW 403, 405, 504S.*

CUSW 402: Human Behavior II. **Spring, 3 credits**

This course is the second course in the human behavior and social environment sequence. It extends the breadth and depth of knowledge and values introduced in Human Behavior I, emphasizing behaviors of significance to professionals in human service organizations. The course is designed to help students develop a useful framework within which to explore, analyze, process and synthesize a range of behavioral constructs and contemporary social problems referenced and supported by findings in the literature. *Prerequisite: CUSW 401; Corequisites: CUSW 404, 406, 406S.*

CUSW 403: Practice Competencies I.**Fall, 3 credits**

The purpose of this course is to pursue and obtain a synthesis of knowledge, values, and skills, for its integration into appropriate and effective helping strategies for professional practice with individuals, families, groups, and communities. *Prerequisites:* CUSW 200, 202, 300, 360 or permission of instructor; *Corequisite:* CUSW 401, 405, 405S.

CUSW 404: Practice Competencies II.**Spring, 3 credits**

Continuation of USW 403. This course is designed to provide students with skills in supervision, consultation, and autonomous work habits. The course also requires greater involvement with other professionals on behalf of individuals, groups, families, communities and agencies. Emphasis is on teamwork in agencies and organizations; techniques for interpreting and applying organizational policies and mandates. *Prerequisite:* CUSW 403; *Corequisite:* CUSW 402, 406, 406S.

CUSW 405: Field Instruction I.**Fall, 6 credits**

This course is an educationally directed practicum in a social service setting. A "generalist" teaching/learning framework is utilized to ensure that students have direct engagement with values clarification, agency structures, policies, clientele, and variously related individuals, groups, families, communities, and organizations. Students are required to complete two hundred and fifty (250) clock hours while concurrently enrolled in CUSW 401 (Human Behavior I) CUSW 403 (Practice Competencies I), and CUSW 405S Field Seminar I.

CUSW 405S: Field Seminar I.**Fall, 0 credit**

Field Seminar I consists of lectures and discussions designed to integrate and synthesize theory and practice. Field Seminar I is also designed to facilitate student's acculturation to the social work profession by providing opportunities for students to assimilate their experiences and to develop a realistic balance between the theoretical concepts discussed in the classroom and the real world of providing social services to clients. *Prerequisites:* CUSW 200, 201, 300, 360; *Corequisite:* CUSW 401, 403.

CUSW 406: Field Instruction II.**Spring, 6 credits**

Continuation of CUSW 405. This course emphasizes evaluation, planning, assessment, research, and the relationship of these activities to improved social services delivery. Students are required to complete two hundred and fifty (250) clock hours while concurrently enrolled in CUSW 402 (Human Behavior II), CUSW 404 (Practice Competencies II), and CUSW 406S Field Seminar II.

CUSW 406S: Field Seminar II.**Spring, 0 credit**

Field Seminar consists of lectures and discussions designed to integrate and synthesize theory of social service administration with practice. Field Seminar II is also designed to facilitate students' acculturation to the social work profession by providing opportunities for students to assimilate their experiences and to develop a realistic balance between the theoretical concepts discussed in the classroom and the real world of providing social services to clients. *Prerequisite:* CUSW 405S; *Corequisite:* CUSW 402, 404.

ELECTIVE COURSES

Social Work majors choose two electives for pursuing various and/or emerging interests. The following electives are strongly recommended. (Not all electives are offered each semester.)

CUSW 350: Issues of Health Disparities Among Minority Populations. 3 credits

This course is designed to introduce students to selected issues of health disparities dominant among minority populations. The course is divided into three modules: (1) review of current knowledge of the major health disparities; (2) review of community-based programs designed to address health disparities, and (3) review of research methodologies and best-practice approaches to address the issues of health disparities in the United States. The course has a service-learning component as a culminating activity.

CUSW 411: Social Work and Social Philosophy.**3 credits**

This course is designed to introduce students to select philosophical, ethical, and value frameworks presented in social work practice (casework, group work, research, administration, and community organization). Principles of decision-making are discussed in conjunction with the application of philosophical theories.

CUSW 412: Mental Health Issues of Diverse Groups and Women. 3 credits

The objective of this course is to relate the need for mental health services to the provision of these services for diverse group members based on their (1) demographic characteristics; (2) problems; (3) treatment needs, etc. Students are expected to become particularly knowledgeable about mental health needs, and services available to meet the needs of diverse groups. The diverse groups addressed in this course include African-Americans, Hispanics, Native Americans, physically handicapped, migrant workers, women, and the elderly. The life situation that affects the behavior of these particular populations are examined from an ecosystems perspective in an effort to understand the mental health problems that emerge.

CUSW 413: Intervention Strategies with Families and Children. 3 credits

This course reviews theories and models of intervention with children and families. The focus is on the specialized assessment and treatment skills necessary for effective intervention with this client population.

CUSW 415: Issues in Child Welfare: Abuse, Neglect and Investigation. 3 credits

This course focuses on issues encountered as a social worker investigating and managing child welfare issues - specifically child abuse and neglect cases. The primary emphasis is on how to investigate allegations that a child has been abused and/or neglected. Procedures and techniques that should be utilized after conducting an investigation are discussed. Upon completion of this course, students should understand the various components of child abuse and neglect investigation and have knowledge of how to begin case management in child protective services.

CUSW 416: Social Work Practice with the Aged. 3 credits

This course is designed to assist students in developing competence in the delivery of services in an interdisciplinary organizational environment which serves elderly populations. Students will explore the nature of social work practices with the elderly in a variety of services; utilization of the problem-solving process; and skills required for interdisciplinary collaboration and intervention.