

LIST OF COURSES AND DESCRIPTIONS

CART 101	Art Foundations I	3 Credits
Studio problems in basic design explore the elements and principles of applied design theory.		
CART 102	Art Foundations II	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. <i>Prerequisite:</i> CART 201.		
CART 217	Printmaking I	3 Credits
Introduction to hand printmaking. Stresses creativity, experimentation, and development of skill and craftsmanship in printing procedures. <i>Prerequisites:</i> CART 101 and CART 102 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 277	Computer Imaging Basics	3 Credits
An introduction to Adobe Illustrator and Adobe Photoshop that explores techniques for basic digital design. Academic advisor's approval required.		
CART 301	Art Direction/Design I	3 Credits
Introduction to the study of letterforms, including a study of typefaces and letter spacing, composition, and their applications to the design of visual communication materials. <i>Prerequisites:</i> CART 101, CART 102, and CART 277 or permission of instructor.		
CART 302	Art Direction/Design II	3 Credits
Covers visual and symbolic communication, including generation of visual symbols, graphic simplification, communication of content through form, and visual metaphor. Further development of technical skills. <i>Prerequisite:</i> CART 301 or permission of instructor.		
CART 303	Advanced Drawing	3 Credits
Investigation of advanced drawing techniques with an emphasis on figure drawing. <i>Prerequisites:</i> CART 101, CART 102, CART 201, and CART 202 or permission of instructor.		
CART 315	Illustration I	3 Credits
Basic illustration conceptualization. Develops students' professional illustration techniques and processes. <i>Prerequisites:</i> 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. <i>Prerequisites:</i> CART 101, CART 102, and CART 217.		
CART 375	Photography II	3 Credits
Continuation of CART 275. Students are required to form a personal vision through directed assignments. <i>Prerequisite:</i> CART 275 or permission of instructor.		
CART 379	Advanced Computer Imaging	3 Credits
Covers advanced computer graphics imaging utilizing graphics software for visual communication. <i>Prerequisites:</i> CART 101, CART 102, CART 201, or permission of instructor. Academic advisor's approval is required.		
CART 401	Art Direction/Design III	3 Credits
Ideas of sequence and series, organization, and typographic hierarchy are addressed through poster, brochure, and book design. Package design principles are also explored. <i>Prerequisites:</i> CART 301 and CART 302, or permission of instructor.		
CART 402	Art Direction/Design IV	3 Credits
The study of advanced digital imaging techniques. Content includes the development of advertising campaigns utilizing creative briefs. Synthesizes concepts learned in typography and image communication through the development of visual programs for sequential viewing. <i>Prerequisites:</i> CART 301, CART 302, and CART 401, or permission of instructor.		
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 Contemporary 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 451	Illustration	3 Credits
Advanced coursework in illustration based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisite:</i> CART 315.		
CART 456	Photography	3 Credits
Advanced coursework in photography based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisites:</i> CART 275 and CART 375.		
CART 457	Printmaking	3 Credits
Advanced coursework in printmaking based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisites:</i> CART 217 and CART 317.		
CART 460	Printmaking (Lithography)	3 Credits
Advanced coursework in lithographic printing based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisites:</i> CART 217 and CART 317.		
CART 462	Graphic Design	3 Credits
Advanced coursework in visual communication based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisites:</i> CART 301 and CART 302.		
CART 479	Computer Graphics	3 Credits
Advanced coursework in digital imaging based on a student research topic. The student works directly with faculty to guide and develop the project. <i>Prerequisite:</i> CART 379.		
CART 488	Internship	3 Credits
On-the-job training for the work world. Students can qualify for an internship after the freshman year. <i>Prerequisite:</i> Permission of department chair.		
CART 492	Senior Seminar	3 Credits
Capstone course for General Studio and Advertising Design art majors. Includes preparation for portfolio presentation, job searches, interview techniques, oral presentations and organizing exhibitions. <i>Prerequisite:</i> Permission of department chair.		
CART XXX	Directed Study	3 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. Approval of the instructor required.		
CBIO 101	Biological Science	3 Credits
This course is offered for non-science majors. Topics covered include basic concepts of 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 per week.		
CBIO 111/111L	General Biology I	4 Credits
This course introduces the basic principles of biology, covering cells, cell organelles, and genetics. The cell surface; roles of plastids and mitochondria in cell energetics; and the role of the nucleus in cell division and regulation are given special emphasis. Specific topics included in the course are cell chemistry, concepts of molecular biology, mitosis and meiosis. Three (3) lecture hours and three (3) laboratory hours per week.		
CBIO 111H/L & 112H/L	General Biology I & II (Science Majors)	4 Credits ea.
CBIO 111H/L: Introduction to the basic principles of biology, covering cells, organisms and genetics. CBIO 112H/L: Fundamental principles, concepts, and facts of specific areas in biology. Three (3) lecture hours and three (3) laboratory hours per week.		
CBIO 112/112L	General Biology II	4 Credits
This course is the second part to the general biology requirement for majors. Fundamental principles, concepts, and facts of specific areas in biology, such as development, behavior, population biology, and ecology are presented. Topics cover mammalian physiology and general anatomy (nervous, hormonal, muscular, circulatory, excretory systems), with emphasis on regulation at the level of the organism. Three (3) lecture hours and a three (3) hour laboratory per week. <i>Prerequisite:</i> CBIO 111.		
CBIO 230	Human Anatomy and Physiology I	4 Credits
This introductory course covers the basics of human anatomy and physiology including anatomical terminology, basic biochemistry, cells and tissues, and the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Laboratory component includes anatomical studies using microscopy and dissection and the study of physiological concepts via virtual labs. <i>Prerequisites:</i> CBIO 111 and CBIO 112.		
CBIO 231	Human Anatomy and Physiology II	4 Credits
This course is the second of a two-semester sequence including the study of the endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Introduces common human disease processes. Laboratory component includes anatomical studies using microscopy and dissection and the study of physiological concepts via virtual labs. <i>Prerequisites:</i> CBIO 111, CBIO 112 and CBIO 230.		

CBIO 233/233L	Microbiology	4 Credits
This course focuses on the study of microorganisms with emphasis on bacteria and viruses. The 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 associated with bacteria and viruses are studied. Three (3) lecture hours and a three (3) hour laboratory required per week. Prerequisites: CBIO 111, CBIO 112 and CCHE 111.		
CBIO 251/251L	Vertebrate Anatomy and Embryology	4 Credits
Students are required to make comparative studies of the structure, functions and ontogenesis of the vertebrates in this course. Structural origin and mechanisms of development are emphasized. Three (3) lecture hours and a three-(3) hour laboratory required per week. Prerequisites: CBIO 111 and CBIO 112.		
CBIO 255/255L	Invertebrate Zoology	4 Credits
The classification, morphology, physiology, phylogeny, and ecology of invertebrate animals are presented. Laboratory work includes practical anatomy and physiology of indigenous and exotic species. Three (3) lecture hours and a three-(3) hour laboratory required per week. Prerequisites: CBIO 111 and CBIO 112.		
CBIO 261/261L	Environmental Biology	4 Credits
The study of living things and their impacts on each other and the environment is the focus of this course. An introduction to basic biological principles and how they relate to our environment are presented. Problems caused by human use of the natural world along with general principles of ecology, chemistry, microbiology, and public health are emphasized. Specific topics covered in the course include: life's diversity, biogeochemical cycles, biology of wastewater treatment, pests and disease vectors, environmental pollution, pesticides and human health, and environmental laws. Three (3) lecture hours and a three-hour laboratory required per week. Prerequisites: CBIO 111 and CBIO 112.		
CBIO 300/300L	Histological Technique	4 Credits
This laboratory course deals 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, CBIO 112, CCHE 111 and CCHE 112.		
CBIO 312/312R	Genetics I	4 Credits
General study of the fundamental principles of genetics, including chromosome structure, the chromosomal basis of inheritance, meiosis, Mendelian genetics, linkage, human genetics, cytogenetics, DNA replication, 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, CBIO 112, CCHE 111 and CCHE 112.		
CBIO 315	Biomedical Experimentation	3 Credits
This course will cover topics related to the responsible conduct of research such as conflicts of interest, responsible authorship, policies regarding the use of human and animal subjects, handling misconduct, proper data management, research funding rules and procedures. Students will review and present case studies for class discussion. Prerequisites: CBIO 111 and 112.		
CBIO 331/331L	Plant Biology	4 Credits
Introductions to the major groups in the plant kingdom, emphasizing the vascular plants are the focus of this course. Students explore the structure, function diversity, ecology, and physiology of plants. The laboratory emphasizes microscopy, experimentation and may include field trips. Three (3) lecture hours and three (3) laboratory hours required per week. Prerequisites: CBIO 111 and CBIO 112.		
CBIO 356/356L	Comparative Vertebrate Anatomy and Embryology	4 Credits
This course focuses on the 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 three (3) laboratory hours per week. Prerequisites: CBIO 111, CBIO 112, CCHE 111 and CCHE 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, CBIO 112, CCHE 111 and CCHE 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 biochemistry topics including sugars, amino acids, peptides, nucleic acids, lipids, enzymes, cofactors, vitamins, hormones and the operation of metabolic pathways. Prerequisites: CBIO 111, CBIO 112, CCHE 111, CCHE 112, CCHE 231 and CCHE 232.		
CBIO 415	Physical Chemistry for Biologists	3 Credits
This course places emphasis on the use of biological examples to illustrate the principles of physical chemistry. The relevance of physical chemistry to biology is stressed. Topics introduced include: quantitative modeling in bioinformatics and systems biology; basic principles of statistical thermodynamics; chemical kinetics with selected applications in bio-molecular systems; molecular driving forces in biology; and computation with biomolecular structures and selected quantitative models of bio-molecular networks. Prerequisites: CBIO 111, CBIO 112, CCHE 111 and CCHE 112.		

CBIO 420	Biology of Radioactive Materials	4 Credits
This course will review types of ionizing radiation and their differences, physical and chemical interactions of radiation with key biological molecules, effects on living matter beginning with molecular and cellular interactions and proceeding to tissue, organ, and organism levels, emphasizing the human system. Radiation's beneficial effects in cancer therapy and medicine as well as detrimental and carcinogenic effects will be discussed. Specific units will consider food irradiation, nuclear power plant accidents, radiation terrorism, everyday sources of exposure to humans, and other practical situations involving radiation. <i>Prerequisites:</i> CBIO 111, CBIO 112, CCHE 111, CCHE 112 and CBIO 261.		
CBIO 465	Endocrinology	3 Credits
This course focuses on the endocrine system, including anatomy of the brain, neuroendocrine control, gland and function, hormone structure and biosynthesis, mechanisms of hormone action, and relationship to reproduction, lactation, growth, and metabolism. <i>Prerequisites:</i> CBIO 111, and CBIO 112 and CBIO 491 or CBIO 390. This course emphasizes the study of photosynthesis, nitrogen metabolism, and hormones in vascular plants. Three (3) lecture hours and four (4) laboratory hours required per week. <i>Prerequisites:</i> CBIO 111, CBIO 112, CCHE 111 and CCHE 112. Recommended: CBIO 331.		
CBIO 476/476L	Human Physiology	4 Credits
Students study the 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 in this course. Three (3) lecture hours and one hour of recitation required per week. <i>Prerequisites:</i> CBIO 111, CBIO 112, CCHE 111 and CCHE 112.		
CBIO 478L	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. <i>Prerequisites:</i> CBIO 111, CBIO 112, CBIO 312, CCHE 111, CCHE 112, CCHE 231, and CCHE 232. <i>Co-requisite:</i> CBIO 375.		
CBIO 480	Research in Biology	1-9 Credits
An independent faculty-supervised laboratory investigation course on topics of special interest. Students present periodic reports and are required to make an oral presentation and submit a written paper on their research project. This course is offered each semester may be repeated for varying credit hours up to 9 hours. <i>Prerequisite:</i> Permission of department chair and faculty research supervisor. A maximum of nine (9) credits of research can be applied toward graduation.		
CBIO 482	Seminar in Biology	1 Credit
Students present scientific seminars on contemporary biological topics. Students are required to make an oral presentation on the selected topic and submit a written paper. One (1) lecture hour per week.		
CBIO 484	Eukaryotic Gene Control	3 Credits
This course will cover the molecular mechanism by which genes are regulated in eukaryotes, including humans. Topics include the role of gene regulation during normal development and disease (e.g., cancer), the organization and packing of DNA into chromatin, chromatin modifications, epigenetics, non-coding RNAs, transposable elements, gene regulatory networks, genomic detection of gene expression and bioinformatics analysis of differential gene regulation.		
CBIO 491/491R	Biochemistry I	3 Credits
Topics in this course focus on the structure and function of proteins, nucleic acids, carbohydrates, and lipids. Three (3) lecture hours and one hour of recitation required per week. <i>Prerequisites:</i> CBIO 111, CBIO 112, CCHE 231 and CCHE 232.		
CBIO 492/492R	Biochemistry II	3 Credits
Intermediary metabolism and the control mechanisms involved in DNA replication and introductory recombination are presented. Three (3) lecture hours and one (1) recitation hour per week. <i>Prerequisites:</i> CBIO 111, CBIO 112, CBIO 491, CCHE 231 and CCHE 232.		
CBIO 499	Special Topics	1-4 Credits
The course is designed to present selected contemporary topics in biology. The course may be repeated for credit when topic varies. <i>Prerequisites:</i> CBIO 111, CBIO 112. Some topics may require permission of the instructor.		
CBIO 501/502	Biology Seminar Series	0 Credit
This course meets once a week for 1 hour. Research is presented/ discussed by the faculty, invited speakers and degree candidates. [Every Semester, 0 credit] REQUIRED for every semester of in resident matriculation until a candidate reaches the point where he/she is enrolled in Thesis/Dissertation Consultation ONLY. CBIO 501- Fall; CBIO 502- Spring. Attendance required for good academic standing		
CBIO 504	Molecular Genetics	3 Credits
This course provides an in-depth study of the structure, function and regulation of genes in bacteria and viruses.		
CBIO 506	Cell Biology	3 Credits
Students study cellular structure and function in this course.		
CBIO 509	Methods/Techniques in Biology	3 Credits
This is a laboratory course which covers standard and current research techniques in cell biology, molecular biology, and biochemistry.		
CBIO 511 or CCHE 551	Biochemistry I	3 Credits
This course focuses on biosynthesis and biological significance of carbohydrates, lipids, proteins, enzymes, nucleic acids and other endogenous compounds.		

CBIO 512 or CCHE 552	Biochemistry II	3 Credits
This course focuses on biosynthesis and the biological significance of carbohydrates, lipids, proteins, enzymes, nucleic acids and other endogenous compounds.		
CBIO 551	Biostatistics	3 Credits
This course focuses on the statistical theory and methods as applied to biological research.		
CBIO 552	Bioinformatics	3 Credits
The general objective of this course is to provide a one-semester introduction and overview to the fields of bioinformatics and genomics. Bioinformatics is an emerging field that comprises the intersection of biology, mathematics, and computer science to address biological and medical research problems. Prerequisites: Graduate students must have completed the CBIO 551 (biostatistics) or equivalent. Undergraduate students must be junior status, GPA 3.0 or higher, a course in Biostatistics/Statistics (200 level or above) and permission of instructor.		
CBIO 801	Thesis Consultation	1 Credit
CBIO 871	Research in Molecular Biology	Variable - 3-12 Credits
CBIO 881	Research in Cellular Biology	Variable - 3-12 Credits
CBIO 884	Research in Biochemistry	Variable - 3-12 Credits
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 207	Principles of Accounting I	3 Credits
CBUS 207 is the first course of the two-semester sequence of Principles of Accounting that introduces business students to generally accepted accounting principles. The primary objective of the course is to help students understand (a) basic concepts and theories of contemporary external financial accounting and reporting per Generally Accepted Accounting Principles (GAAP) and (b) procedures used to measure, record, and report financial data related to the topics to be covered. The topics in this first course include the accounting cycle and cover the fundamentals of recording and accumulating accounting data and the preparation, meaning, and uses of financial statements.		
CBUS 208	Principles of Accounting II	3 Credits
CBUS 208 is the second course of the two-semester sequence of Principles of Accounting. Topics to be covered include cost concepts, job order costing, process costing, cost-profit-volume analysis, performance evaluation tools, master budgeting process, capital budgeting process, analysis of variance, activity based accounting process, analysis of financial statements and cash flow statement. Prerequisite: CBUS 207 with a minimum grade of "C".		
CBUS 209	Accounting for Non-business Majors	3 Credits
An introduction to financial and managerial accounting, with emphasis on the content, interpretation, and uses of accounting reports. Discussion of the determination and reporting of net income and financial position, and the theories underlying business financial statements; consideration of managerial accounting topics designed to extend the student's knowledge to the planning and controlling of the operations of the firm.		
CBUS 250	Survey of Financial Planning	3 Credits
Overview of the financial planning process for individuals and families: financial planning statements, cash flow management, time value of money, and planning with respect to education, insurance, investments, tax, retirement, and estate transfers. Through classroom lecture, examination, and assignments the students will gain an understanding of how the financial planning process can benefit families and individuals. Students will have the opportunity to apply basic financial planning knowledge gained through assigned readings and lectures by completing assignments and exams. At the conclusion of this course, students will be familiar with financial planning processes, content areas, and techniques.		
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 295	Leadership and Professional Development I	1 Credit
The Leadership and Professional Development courses are designed to help students identify, appreciate and capitalize on natural strengths that will enable them to communicate, learn, and think more effectively. They will also be able to make critical decisions more efficiently and set realistic goals for success in college and the world of work. Students learn leadership attributes, roles and responsibilities; resume preparation, teamwork and group presentations, emotional intelligence, importance of credit and being credit worthy, etiquette skills, conflict resolution as well as other personal and professional development skills needed to function successfully in today's business environments. Prerequisites: Minimum grades of "C" in CGED 100 and CGED 101.		

CBUS 303	Intermediate Accounting I	3 Credits
This course is the first of three-course financial accounting series providing a theoretical foundation, concepts, and principles underlying financial statements; current assets; current liabilities; property, plant, and equipment; short-term investments; present value analysis. <i>Prerequisite:</i> CBUS 208 with a minimum grade of "C".		
CBUS 304	Intermediate Accounting II	3 Credits
This course is the second of a three-course financial accounting series, providing an in-depth study of the accounting cycle, conceptual framework of financial accounting, valuation of balance sheet accounts, recognition of revenues, matching of expenses, and the reporting of the financial condition, operating results, and cash flows of an entity. <i>Prerequisite:</i> CBUS 303 with a minimum grade of "C".		
CBUS 305	Cost Accounting	3 Credits
Analysis of manufacturing costs, development of cost estimates, and preparation of relevant information for management decision making. <i>Prerequisite:</i> CBUS 207 and CBUS 208 with minimum grades of "C".		
CBUS 308	Accounting Information Systems	3 Credits
Accounting information systems of organizations. Topics include selected hardware and software concepts, fundamentals of accounting information systems analysis, design, implementation, and control. <i>Prerequisite:</i> CBUS 303 with a minimum grade of "C".		
CBUS 313	Statistics I	3 Credits
Provides basic statistical concepts, techniques, and applications to business decision making. This course covers the descriptive aspects for statistics, involving data collection, organization, presentation, and introduces students to probability and inferential statistics. <i>Prerequisite:</i> CMAT 209 and CMAT 210.		
CBUS 314	Statistics II	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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CBUS 206		
CBUS 317	Enterprise Integration Systems	3 Credits
In this course 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 on-line Enterprise Resource Planning Application. Students are prepared to understand their business functions. In this course students obtain 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 SAP. <i>Prerequisite:</i> CBUS 206.		
CBUS 325	Business Communication	3 Credits
This is an advanced writing course which adapts standard English to the needs of business. The student develops a working knowledge of written and oral communication and strengthens interpersonal and professional communication skills and job-search techniques. <i>Prerequisites:</i> CENG 105, CENG 106, and CSTA 101		
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. <i>Prerequisites:</i> ECO 251 and ECO 252 and CBUS 207 and CBUS 208.		
CBUS 331	Legal, Social, and Ethical Aspects of Business II	3 Credits
Continuation of CBUS 330. Examines partnerships, corporations, commercial paper, secured transaction sales, consumer credit, bankruptcy, and modern legislation regulating business. Increased emphasis on social and ethical responsibilities of management. <i>Prerequisite:</i> CBUS 330.		
CBUS 335	Principles of Marketing	3 Credits
This course provides an overview of the core concepts of marketing. Emphasis is placed on developing an ethical framework which uses the elements of the marketing mix to provide customer satisfaction in the global marketing of goods and services. Topics include assessment of the marketing environment, designing and conducting marketing research, and determining what elements are most important to customers as they make purchasing decisions. <i>Prerequisites:</i> CMAT 209 and CMAT 210, CECO 251 and CECO 252, CBUS 207 and CBUS 208.		
CBUS 336	Consumer Behavior	3 Credits
This course provides an overview of the processes that consumers utilize to evaluate, purchase, use and dispose of goods and services expected to satisfy their needs. Insights into consumer identity issues are provided as a background for presenting the consumer behavior concepts, processes, and models that help explain differences in consumer's pre- and post-purchase behavior and choice. Implications for marketing strategies (e.g., market research procedures, market segmentation, product design, pricing, and promotion) are discussed. <i>Prerequisite:</i> CBUS 335.		
CBUS 337	Introduction to International Business Management	3 Credits
Studies 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. <i>Prerequisite:</i> CBUS 340.		

CBUS 340	Principles of Management	3 Credits
Conceptual framework for the study, evaluation, and practice of management. Emphasis is on planning, leading, organizing, staffing, influencing, and controlling as these factors affect managerial decision making. Addresses problems, opportunities, and decision making within organizations. Prerequisites: CECO 251 and CECO 252, CBUS 207 and CBUS 208.		
CBUS 341	Business Finance	3 Credits
The basic concepts and analytical tools of finance in both corporate finance and investments. Topics include risk and return, financial institutions, efficient markets, valuation theory, capital budgeting, portfolio theory, cost of capital, and international finance. Prerequisites: Minimum grades of "C" in CBUS 207 and CBUS 208 and CECO 251 and CECO 252.		
CBUS 360	Principles of Insurance	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: Minimum grade of "C" in CBUS 341.		
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 366	Project Management	3 Credits
This course provides an overview of the structured process for managing projects. The emphasis is on the defining, planning, scheduling, organizing, implementing, and controlling of single and multiple projects, in order to successfully complete them within quality specifications, on schedule, and within budget. Other topics include project organization, roles of the project manager and team members, and project leadership. Additionally, the importance of communication and people management is integrated throughout the discussion. Prerequisites: CBUS 206 and CBUS 362.		
CBUS 368	Real Estate Finance and Investments	3 Credits
The instruments, techniques, and institutions of real estate finance; sources of funds; mortgage risk analysis: emphasis on typical policies and procedures used in financing of residential, industrial, and commercial properties. Prerequisite: Minimum grade of "C" in CBUS 341.		
CBUS 372	Personnel Management	3 Credits
This course explores 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 373	Sports and Entertainment Marketing	3 Credits
This course is designed for students interested in application of marketing principles to sports, entertainment, and event marketing. Emphasis is placed on the following principles as they apply to the industry: branding, licensing, and naming rights; business foundations; concessions and on site merchandising; economic foundations; promotion; safety and security; and human relations.		
CBUS 374	Sports and Entertainment Law	3 Credits
An examination of the sports and entertainment industry requires delving into the law of contracts, labor, anti-trust, intellectual property, torts, Internet and the U.S. Constitution. Our analysis begins by studying college sports, amateur sports, Olympic sports, and Title IX's impact on athletic opportunities for women. A significant amount of the classroom material is devoted to surveying the major professional team sports including looking at collective bargaining agreements, labor discord, privacy, salaries, drug testing and freedom of movement from team to team. The economic aspects of both professional sports and movie industry are explored. This includes looking at team franchise movement in professional sports and financing, producing, and distributing movies and TV. The role of the Screen Actors Guild is reviewed at length. Agency law is also examined in the context of the relationships involving agents (and/or managers) that represent celebrities and athletes.		
CBUS 375	Managing and Operating in the Sports and Entertainment Industry	3 Credits
This course offers an overview of the sport business and entertainment industry and examines the principles and applications of sport business and entertainment management in professional, collegiate, and Olympic sports. Issues such as talent identification, hiring and firing, and cultural, social and community issues are explored.		
CBUS 380	Entrepreneurial Thinking	3 Credits
Focuses on all aspects of starting a business: selecting promising ideas, initiating new ventures and obtaining initial financing. Examines analysis of procedures necessary for developing or acquiring a major management and equity position in a new or existing business venture. Concentrates on how ventures are begun, how venture ideas and other key ingredients for start-ups are derived, and how to evaluate new venture proposals. Explores business plan development.		
CBUS 381	Financing Entrepreneurial Ventures	3 Credits
Students will learn that the most difficult part of launching a new enterprise is financing. Various financing options will be discussed and explored. Special emphasis will be placed on nontraditional and emerging financing techniques emerging on the internet.		

CBUS 382	Marketing the Entrepreneurial Venture	3 Credits
Students will explore the various options available to market their venture. Emphasis will be placed on the use of low-cost and not cost strategies and tactics. Use of technology and social media will be reinforced and evaluated.		
CBUS 395	Leadership and Professional Development II	1 Credit
The Leadership and Professional Development courses are designed to help students identify, appreciate and capitalize on natural strengths that will enable them to communicate, learn, and think more effectively. They will also be able to make critical decisions more efficiently and set realistic goals for success in college and the world of work. Students learn leadership attributes, roles and responsibilities; resume preparation, teamwork and group presentations, emotional intelligence, importance of credit and being credit worthy, etiquette skills, conflict resolution as well as other personal and professional development skills needed to function successfully in today's business environments. Prerequisite: Minimum grade of "C" in CBUS 295, Leadership and Professional Development I.		
CBUS 405	Auditing and Control	3 Credits
Examination of basic auditing concepts and practices, and the auditor's professional responsibilities. Emphasis) A case-based graduate seminar that provides the students with the opportunity to identify and research issues in accounting. Developing the students' professional written communication skills is an important component of this course. Emphasis is on auditing standards and the auditing procedures commonly used in public accounting. The course emphasizes practice standards and procedures of auditing: ethics, legal liability, sampling methods, control systems, control design, and control evaluation. Prerequisite: CBUS 303 and CBUS 304 with a minimum grade of "C".		
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 420	International Financial Management	3 Credits
International business decision making emphasizing the effects of internationalized financial and non-financial markets. Exchange rate analysis, hedged costs of funds, economic exposure and management, capital budgeting, financial and corporate strategy, and the evaluation of international risks and returns. Prerequisite: Minimum grade of "C" in CBUS 341.		
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 promotions of goods, ideas, and services worldwide. Special consideration of Third World economics is stressed. Prerequisite: CBUS 335.		
CBUS 426	Individual Income Tax	3 Credits
Introduction of tax preparation for individuals using the Internal Revenue Code and rulings; individual tax planning; tax- payer rights and responsibilities will be covered in this course. Prerequisite: CBUS 207 and CBUS 208 with minimum grades of "C".		
CBUS 427	Business Income Tax	3 Credits
Review of federal taxation associated with the organization, operation, and dissolution of corporate partnership and tax-exempt organizations. Introduction to federal estate and gift taxes and to income taxation of trusts and estates. Prerequisite: CBUS 426 with a minimum grade of "C".		
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.		
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 445	Marketing Research	3 Credits
This course focuses on the gathering, analysis, and presentation of information to guide marketing decisions. Topics taught include 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.		
CBUS 451	Management of Financial Institutions	3 Credits
The basic concepts and analytical tools of finance in both corporate finance and investments. Topics include risk and return, financial institutions, efficient markets, valuation theory, capital budgeting, portfolio theory, cost of capital, and international finance. Prerequisite: Minimum grade of "C" in 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. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 341.		
CBUS 453	Corporate Finance	3 Credits
Development of a framework that is useful for understanding a broad range of important corporate financial decisions. Substantial emphasis will be placed on discussion of the determinants of corporate financing and payout policies, alternative methods of security issuance, and mergers and acquisitions. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 341.		
CBUS 454	Financial Analysis and 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 contexts analysis in assessing firm performance, evaluating 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. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 341.		
CBUS 458	Retirement Planning and Employee Benefits	3 Credits
This course provides individuals with knowledge of both public and private retirement plans. The public plans include Social Security, Medicare, and Medicaid. The private plans include pension, profit sharing, defined benefit, defined contribution, nonqualified, and individual plans and their regulatory provisions. The specifics of the various qualified and tax advantaged plans are analyzed as well as non-qualified deferred compensation plans. Other issues that individuals face during employment and retirement are also discussed, such as life-style choices, and health issues. Retirement plans are often offered as part of an overall benefits package that employees are offered through their employer. Specifics about several employee benefits will be discussed in the course as well. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 250 and CBUS 341.		
CBUS 459	Estate Planning	3 Credits
Estate Planning deals with the efficient accumulation, conservation and distribution of a client's acquired property. This course covers estate planning techniques which may be used during a client's life, as well as at death, in order to meet stated objectives. The identification and use of appropriate forms of wills and trusts is set forth. Techniques for reducing, freezing, or eliminating the Unified Transfer Tax are explained and applied to client situations. Finally, post-mortem planning techniques are identified and explained. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 250 and CBUS 341.		
CBUS 460	Operations Management	3 Credits
This course 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. <i>Prerequisite:</i> CBUS 313.		
CBUS 461	Strategies in Financial Planning (Capstone Course)	3 Credits
In this Financial Planning Capstone course students' knowledge, critical thinking, and decision-making skills in financial planning will be reinforced through the analysis of financial planning case studies. Students will develop comprehensive financial recommendations for clients based on clients' financial situations, expectations, and goals. <i>Prerequisites:</i> Minimum grade of "C" in CBUS 250 and CBUS 341, CBUS 426, CBUS 458 and CBUS 459.		
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. <i>Prerequisite:</i> CBUS 362.		
CBUS 465	Advanced Accounting	3 Credits
Accounting problems with respect to multiple ownership; consolidated financial statements and partnership accounts; foreign currency translation; segmental reporting; other special topics. <i>Prerequisite:</i> CBUS 304 with a minimum grade of "C".		
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. <i>Prerequisite:</i> CBUS 340. or CPSY 318, Industrial and Organizational Psychology, may be taken as a substitute course. 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. <i>Prerequisites:</i> CPSY 211 and CBUS 313. Note: CPSY 318, Industrial and Organizational Psychology may be substituted for CBUS 468, Organizational Behavior.		
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. <i>Prerequisite:</i> CBUS 362.		
CBUS 471	Global Leadership	3 Credits
Students will investigate the leadership tasks which face managers in companies with worldwide operations. Initially, students will identify the forces of global change and the strategic challenges which impact individuals, managers and organizations. Subsequently, students will examine the leadership characteristics required to manage global operations in a changing environment. <i>Prerequisite:</i> CBUS 340.		

CBUS 472	Quality, Diversity, and Productivity	3 Credits
This course 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. It emphasizes the concepts of Total Quality Management (TQM), Six Sigma DMAIC process 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.		
CBUS 474	Logistics Management	3 Credits
Analysis of logistics activities, including 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CBUS 362.		
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. <i>Prerequisite:</i> CBUS 335.		
CBUS 481	Entrepreneurial Practicum	3 Credits
This course seeks to immerse the student in real life experiences of an entrepreneur. Each student will be expected to spend 6-8 weeks interning in a small business in order to better hone their understanding of being an entrepreneur and the challenges that each faces. Afterwards, the student will utilize the knowledge learned to complete his/her Business Plan.		
CBUS 482	Business Law for Entrepreneurs	3 Credits
This course seeks to immerse the student in legal issues related to entrepreneurs. It will take students through the various stages of starting a business from start-up and growth to an initial public offering. It will highlight the legal preparations and pitfalls that go along with them.		
CBUS 483	Labor Relations	3 Credits
Study of the history and development of organized labor, collective bargaining, and government's role in management-labor relations; consideration of the interaction of management and labor in relation to the bargaining process.		
CBUS 484	Small Business Management	3 Credits
This course takes the student through the conceptual idea phase to opening and operating the business. Students will examine the process of new-business creation, including idea development, opportunity identification, market feasibility and financial challenges for new ventures. The student will learn how to create business plan. The class may include individual and/or team business plan competition. There will be a group of professionals along with the Professor, who will grade the plans at the end of the course.		
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. <i>Prerequisites:</i> CBUS 207, CBUS 208, CECO 251, CECO 252; CBUS 335, CBUS 340 and CBUS 341.		
CBUS 486	Sports and Entertainment Practicum	3 Credits
This is a course through which students can culminate their educational and internship experiences by choosing a project that is germane to the student's career path. The project may be combined with an internship in the industry.		
CBUS 487	Contemporary Issues in Sports and Entertainment Management	3 Credits
This course will emphasize on the application and "real world" perspectives from people in the field (professional guest lecturers interact with students in the class).		
CBUS 488	Business Internship	3 Credits
Students obtain credit from practical experiences in supervised business internship programs. At least six (6) seminars from LPD program required and four (4) interviews through the Career Planning and Placement office (CPPC). <i>Prerequisite:</i> Approval of the department chair is required.		
CBUS 495	Leadership and Professional Development III	1 Credit
The Leadership and Professional Development courses are designed to help students identify, appreciate, and capitalize on natural strengths that will enable them to communicate, learn, and think more effectively. They will also be able to make critical decisions more efficiently and set realistic goals for success in college and the world of work. Students learn leadership attributes, roles and responsibilities; resume preparation, teamwork and group presentations, emotional intelligence, importance of credit and being credit worthy, etiquette skills, conflict resolution as well as other personal and professional development skills needed to function successfully in today's business environments. <i>Prerequisite:</i> Minimum grade of "C" in CBUS 395, Leadership and Professional Development III.		

CCHE 111/111L/111R	General Chemistry I	4 Credits
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 (3) hours of lecture, three (3) hours of laboratory and three (3) hours of recitation are required.		
CCHE 111H/L & 112H/L	General Chemistry I & II	4 Credits ea.
CCHE 111H: Fundamental theories and laws, chemical calculations, equations, periodic classification of the elements, structure of matter, and ionization. CCHE 112H: 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 and recitation hours per week.		
CCHE 112/112L/112R	General Chemistry II	4 Credits
The topics covered in this course include: kinetics, equilibria, thermodynamics, and electrochemistry. Three (3) hours of lecture, three (3) hours of laboratory and three (3) hours of recitation are required. <i>Prerequisite:</i> CCHE 111.		
CCHE 211/211L	Analytical Chemistry I	4 Credits
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. <i>Prerequisites:</i> CCHE 112/112L.		
CCHE 212/212L	Analytical Chemistry II	4 Credits
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. <i>Prerequisites:</i> CCHE 211/211L.		
CCHE 231/231L/231R	Organic Chemistry I	4 Credits
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. <i>Prerequisites:</i> CCHE 112/112L/112R.		
CCHE 232/232L/232R	Organic Chemistry II	4 Credits
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. <i>Prerequisites:</i> CCHE 231/231L/231R.		
CCHE 341	Physical Chemistry I	3 Credits
The 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. <i>Prerequisites:</i> CCHE 211/211L; CPHY 111/111L and CPHY 112/112L; CMAT 111, CMAT 112, CMAT 211, and CMAT 212.		
CCHE 341L/341R	Physical Chemistry Laboratory and Recitation	1 Credit
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. Four (4) laboratory and recitation hours per week are required.		
CCHE 342	Physical Chemistry II	3 Credits
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. <i>Prerequisites:</i> CCHE 211/211L; CPHY 111/111L and CPHY 112/112L; CMAT 111, CMAT 112, CMAT 211, and CMAT 212.		
CCHE 342L/342R	Physical Chemistry II Laboratory and Recitation	1 Credit
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. Four (4) laboratory and recitation hours per week are required.)		
CCHE 381	Junior-level Chemistry Seminar I	0 Credit
This is a one-hour lecture/seminar course. CCHE 381 Zero (0) credit. CCHE 382 One (1) credit. One year of the course generates one credit.		
CCHE 382	Junior-level Chemistry Seminar II	1 Credit
This is a one-hour lecture/seminar course. CCHE 381, Zero (0) credits. CCHE 382, One (1) credit. One year of the course generates one credit.		
CCHE 412/412L	Instrumental Methods and Laboratory	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. <i>Prerequisites:</i> CCHE 211/211L, CCHE 341/341L/341R, and CCHE 342/342L/342R.		
CCHE 421/421L	Inorganic Chemistry and Laboratory	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. <i>Prerequisites:</i> CCHE 341/341L/341R and CCHE 342/342L/342R.		

CCHE 431/431L	Advanced Organic Chemistry I and Laboratory	4 Credits
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. <i>Prerequisites:</i> CCHE 231/231L/231R and CCHE 232/232L/232R.		
CCHE 432/432L	Methods of Structure Determination and Laboratory	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. <i>Prerequisite:</i> CCHE 431/431L.		
CCHE 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. <i>Prerequisites:</i> CCHE 341/341L/341R and CCHE 342/342L/342R.		
CCHE 451	Biochemistry I	3 Credits
This course is dual numbered with CBIO 491. An introduction to the structure and function of biological molecules, proteins, carbohydrates, lipids and nucleic acids. Three (3) lecture hours per week. <i>Prerequisites:</i> CCHE 231 and CCHE 232; CBIO 111 and CBIO 112.		
CCHE 452	Biochemistry II	3 Credits
This course is dual numbered with CBIO 492. Basic metabolic path ways governing the function of cells and tissues (intermediary metabolism). Fundamentals of enzymatic catalysis, including kinetics and mechanism. Three (3) lecture hours per week. <i>Prerequisites:</i> CCHE 231/231L/231R and CCHE 232/232L/232R; CBIO 111/111L and CBIO 112/112L.		
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	Senior-Level Chemistry Seminar I	0 Credit
This is a one year one-hour lecture/seminar two-course sequence that generates one hour of credit; CCHE 481 zero (0) credit and CCHE 482 one (1) credit.		
CCHE 482	Senior-Level Chemistry Seminar II	1 Credit
This is a one year one-hour lecture/seminar two-course sequence that generates one hour of credit; CCHE 481 zero (0) credit and CCHE 482 one (1) credit. <i>Prerequisite:</i> CCHE 481		
CCHE 511	Environmental Chemistry	3 Credits
An examination of the origins, transport, reactions, effects, ultimate fate of hazardous waste in the environment. This course is designed to develop a working level knowledge of: (1) chemistry fundamentals; and (2) the basic principles and concepts of environmental chemistry: including (a) geochemistry; (b) atmospheric chemistry; (c) environmental microbiology; and (d) waste treatment. Three (3) lecture hours per week.		
CCHE 512	Instrumental Methods	3 Credits
An advanced lecture course focuses on the typical theory, design, and practical application of spectroscopic and chromatographic instrumentation for chemical analysis. Three (3) lecture hours per week.		
CCHE 521	Advanced Inorganic Chemistry	3 Credits
Treatment of bonding and structure, oxidation-reduction and acid-base theory, and correlation with chemical reactivity, and Ligand field theory. Three (3) lecture hours per week.		
CCHE 531	Mechanistic Organic Chemistry	3 Credits
Treatment of bonding, resonance, inductive and steric effects and discussion reactive intermediates, nucleophilic substitution and elimination reactions a mechanistic point of view. Three (3) lecture hours per week.		
CCHE 532	Organic Synthesis	3 Credits
The chemistry of aromatic, heterocyclic and alicyclic compounds with emphasis on mechanisms. This course will teach students the disconnection approach for the synthesis of complex organic molecules. The course will present modern methods for carbon-carbon bond formation and apply these methods to prepare target molecules. Three (3) lecture hours per week.		
CCHE 541	Thermodynamics	3 Credits
A rigorous treatment of basic theories and methods in chemical thermodynamics and equilibria including phase equilibria, chemical reactions, real solutions, surface effects, and some applications to macromolecules. Three (3) lecture hours per week.		
CCHE 542	Quantum Chemistry	3 Credits
Concepts and general principles of wave mechanics, with mathematical discussion of the hydrogen atom and harmonic oscillator. Introduction to matrix mechanics, angular momentum operators, and applications to small molecules. Variational and perturbation techniques are discussed. Three (3) lecture hours per week.		
CCHE 551	Advanced Biochemistry I	3 Credits
A study of the chemistry of carbohydrates, lipids, proteins, enzymes, and other compounds of biological significance and their applications to biological systems, enzyme kinetics. Three (3) lecture hours per week.		

CCHE 552	Advanced Biochemistry II	3 Credits
Bioenergetics of metabolic reactions, metabolism of carbohydrates, lipids, proteins, nucleotides. An intensive study of protein synthesis, membrane transport and biochemical genetics. Three (3) lecture hours per week.		
CCHE 561	Topics in Industrial Chemistry	3 Credits
Introduction to topics in chemical product development. Laboratory synthesis; scale-up to pilot plant and manufacturing; process control; process and equipment design; quality control and environmental issues; product marketing; and chemical industry management issues. Lectures will be given by personnel from a variety of areas of the chemical industry: energy inorganic chemicals; polymers; pharmaceuticals; surfactants; soaps; and detergents, etc. Three (3) lecture hours per week.		
CCHE 562	Scale-Up for Chemists	3 Credits
This course is designed to acquaint the student with the principles of chemical production scale-up and manufacture. Topics such as material and energy balance; transport phenomena involving momentum and energy transfer and unit operations of heat and mass transfer; and process and equipment design. Three (3) lecture hours per week.		
CCHE 571	Introduction to Polymer Chemistry	3 Credits
Synthesis, including radical and ionic polymerization and polycondens reactions, structure-property relationships, characterization and rheological properties of polymeric materials.		
CCHE 572/572L	Techniques in Polymer Chemistry Lecture and Laboratory	3 Credits
A course designed to introduce students to experimental polymer chemistry, synthesis using ionic, free-radical and condensation polymerizations, molecular weight measurements by viscosity, osmometry, gel permeation and light scattering, spectroscopic characterization of polymers, measurements of thermal transitions. Two (2) lecture hours and two (2) laboratory hours per week.		
CCHE 573	Physical Polymer Science	3 Credits
Course deals with interrelationships among polymer structure, physical properties, and useful behavior of polymers. Topics to be covered include chain structure and configuration, solution and phase behavior, glass-rubber transition behavior, rubber elasticity, polymer viscoelasticity and flow, mechanical behavior of polymers, etc. Three (3) lecture hours per week.		
CCHE 700	Thesis Consultation	1 Credit
CCIS 100	Information Technology and Computer Applications	3 Credits
A hands-on introduction to personal computer concepts and productivity applications. Computer concepts include basic architecture, the Internet, and operating systems. Productivity applications include word processing, spreadsheets, graphical presentations, and relational database usage. (For all non-majors)		
CCIS 101	Computer Applications	3 Credits
An introductory course providing a practical overview of the primary topics in Computer Science. Introduction to computer applications, web page design and implementation with XHTML, CSS, and JavaScript.		
CCIS 103	Scientific Computing for Simulation, Analysis and Visualization	3 Credits
An introduction to programming concepts for biology, chemistry, mathematics, physics and social science majors. The course introduces the scientific programming and analysis tool Matlab. Co-requisite: 103L. (For all non-majors)		
CCIS 103L	Scientific Computing for Simulation, Analysis and Visualization Laboratory	1 Credit
A hands-on guided experience in developing Matlab programs. (Must be taken while completing CCIS 103) Co-requisite: CCIS 103. (For all non-majors)		
CCIS 104	Business Programming	3 Credits
An introduction to programming concepts for business majors. The classroom lecture utilizes a procedural pseudocode, while the associated recitations require hands-on programming. Co-requisite: CCIS 104R. (For all majors)		
CCIS 104R	Business Programming Recitation	1 Credit
A hands-on guided programming experience in developing COBOL and Visual BASIC programs. Must be taken while completing CCIS 104. Co-requisite: CCIS 104. (For all majors)		
CCIS 105	Programming Principles I	3 Credits
An introduction to the fundamental concepts of problem solving focusing on programming oriented solutions and object oriented paradigm. Students are encouraged to be enrolled in or to have already completed CMAT 111. Guided laboratory is required. Co-requisite: CCIS 101 and CCIS 105L.		
CCIS 105L	Programming Principles I Laboratory	1 Credit
A hands-on guided problem-solving experience that supplements CCIS 105. Co-requisite: CCIS 105.		
CCIS 106	Programming Principles II	3 Credits
A continuation of CIS 105 teaching advanced concepts in computer programming using a modern programming language. Guided laboratory is required. Co-requisite: CCIS 106L. Prerequisite: CCIS 105.		

CCIS 106L	Programming Principles II Laboratory	1 Credit
A hands-on guided programming experience in developing programs. <i>Co-requisite:</i> 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. <i>Prerequisite:</i> CCIS 101.		
CCIS 200	Programming Mobile Devices for Non-Majors	3 Credits
Students learn programming concepts by building mobile apps for phones and tablets with the visual language App Inventor.		
CCIS 223	Data Structures	3 Credits
Introductory study of data structures, including record, file, linked structures, lists, stacks, queues, graphs and trees. Guided laboratory is required. <i>Co-requisite:</i> CCIS 223L. <i>Prerequisites:</i> CCIS 106 and CCIS 106L.		
CCIS 223L	Data Structures Laboratory	1 Credit
A hands-on guided data structures programming and problem-solving experience that supplements CCIS 223. <i>Co-requisite:</i> CCIS 223.		
CCIS 229	Rich Internet Applications	3 Credits
Introduction to design and development of applications for the World Wide Web. This course will emphasize client-side programming with a brief introduction to server-side applications. This course will provide the student with an introduction to the main concepts of the design and development of web-based applications. The focus will be on learning and understanding the fundamental concepts. <i>Prerequisite:</i> CCIS 101.		
CCIS 300	Storyboard Programming for Animation and Interactive Media for Non-Majors	3 Credits
Introduction to storyboarding and the planning processes of visual storytelling for non-majors. Translation of concepts such as shot types, continuity, pacing, transitions and sequencing into a visual narrative. Using visual programming to animate storyboards. Use of interactive media.		
CCIS 315	Computer Logic Design	3 Credits
Provides an introduction to logic design. Topics covered include combinational and sequential circuits.		
CCIS 329	Advanced Server Side Applications	3 Credits
Introduction to internet based applications, often called Rich Internet Applications (RIA). Topics include server and client technologies, server side programming. Topics include Common Gateway Interface (CGI), server pages, database access, and AJAX. <i>Prerequisites:</i> CCIS 229 and CCIS 374.		
CCIS 371	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. <i>Prerequisite:</i> CCIS 223.		
CCIS 372	Computer Architecture	3 Credits
Study of logical organization of computer hardware and functional components using a simulation programming language. <i>Prerequisites:</i> CCIS 121 and CCIS 223.		
CCIS 374	Database Systems	3 Credits
Study of basic concepts of databases, including data models, query processing and other topics of interest. <i>Prerequisite:</i> CCIS 223.		
CCIS 375	Artificial Intelligence	3 Credits
Introductory study of intelligent problem solving and search algorithms, inference systems, machine intelligence and knowledge organization. <i>Prerequisite:</i> CCIS 223.		
CCIS 381	Software Engineering	3 Credits
Introductory study of large software development issues, including requirements analysis, specification, design, testing and maintenance. <i>Prerequisite:</i> CCIS 223.		
CCIS 400	Fundamentals of Geographic Information Systems	3 Credits
This course will provide students with the theoretical concepts and practical experience to the field of Geographical Information Systems. Emphasis will be placed on concepts and spatial reasoning of the analysis techniques. GIS functionality, methodology for implementing the technology, and its potential usefulness in numerous disciplines will be covered in this course.		
CCIS 408	Introduction to VLSI Design	3 Credits
Study of signals in a digital representation and the processing methods of these signals. Topics include time-series analysis, transformations, and filters. <i>Co-requisite:</i> CCIS 408L. <i>Prerequisite:</i> CCIS 372.		
CCIS 408L	VLSI Design Laboratory	1 Credit
Hands-on projects in VLSI Design, including programming of FPGAs. <i>Co-requisite:</i> CCIS 408.		
CCIS 409	Introduction to Digital Signal Processing	3 Credits
Study of signals in a digital representation and the processing methods of these signals. Topics include time-series analysis, transformations, and filters. <i>Co-requisite:</i> CCIS 409L.		

CCIS 409L	Digital Signal Processing Laboratory	1 Credit
Hands-on projects in Digital Signal Processing. <i>Co-requisite:</i> CCIS 409.		
CCIS 410	Introduction to Embedded Systems	3 Credits
Embedded systems are computers that are often specialized for a single task. Topics include system architecture, real-time system, input/output devices and development kits. <i>Co-requisite:</i> CCIS 410L.		
CCIS 410L	Embedded Systems Laboratory	1 Credit
Hands on projects in Embedded Systems <i>Co-requisite:</i> CCIS 410.		
CCIS 412	Introduction to Image Processing and Computer Vision	3 Credits
Study of theories of image manipulation and feature extraction. Topics include pixel transformation, filters, edge-detection, color spaces and corrections, and compression. <i>Co-requisite:</i> CCIS 412L. <i>Prerequisite:</i> CCIS 372.		
CCIS 412L	Introduction to Image Processing and Computer Vision Laboratory	1 Credit
Hands on projects in Image Processing and Computer Vision. <i>Co-requisite:</i> CCIS 412.		
CCIS 413	Introduction to Robotics	3 Credits
Topics include feature extraction, pattern recognition, spatial recognition, fast color tracking, and stereoscopic vision. <i>Co-requisite:</i> CCIS 413L. <i>Prerequisite:</i> CCIS 372.		
CCIS 413L	Robotics Laboratory	1 Credit
Hands on projects in Robotics. <i>Co-requisite:</i> CCIS 413.		
CCIS 416	Introduction to High Performance Computing	3 Credits
This course provides in introduction to high performance computing as it relates to scientific computing. The course addresses topics related to accessing high performance computing resources, developing applications for those resources, and executing developed applications. The lectures and presentations are designed to provide knowledge and experiences to students that serve as a foundation for continued learning of high performance computing. <i>Prerequisite:</i> CCIS 473.		
CCIS 422	Introduction to Computer Forensics	3 Credits
The objective of computer forensics is to pertain legal evidence found in computer files and storage media. Topics include methods and tools to recover deleted or distorted data, encryption, intrusion detection, and analysis of log files.		
CCIS 423	Introduction to Wireless and Wired Networks	3 Credits
Study of design and analysis techniques for wireless and wired computer networks. Topics include network device hardware, topologies, medium access control, protocol models like OSI, routing, and QoS.		
CCIS 429	Introduction to Digital Multi-Media	3 Credits
Introduction of concepts and tools to create and distribute digital photographs, video and sound. Topics include data formats, streaming protocols, compression algorithms, bandwidth requirements, perceived quality, watermarking, digital signatures, and Digital Rights Protection.		
CCIS 431	Information Security	3 Credits
Provides a comprehensive overview of the concepts relevant to information security. Concepts include development of security policy, malicious code, general purpose protection of resources, trusted systems, and cryptography. <i>Prerequisites:</i> CCIS 223 and CCIS 227.		
CCIS 432	Introduction to E-Commerce, Web-services and Cloud Computing	3 Credits
Study of electronic commerce applications. Topics include technical infrastructure, business strategies, performance metrics, and policies. <i>Prerequisite:</i> CCIS 274.		
CCIS 433	Principles of Computer Game Design	3 Credits
This course introduces the fundamentals of video and computer game design. Students learn the practical aspects of game implementation, while simultaneously learning the conceptual aspects of games.		
CCIS 473	Operating Systems	3 Credits
Study of basic operating systems concepts, including multiprogramming, resource management and implementation. <i>Prerequisite:</i> CCIS 223.		
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. <i>Prerequisite:</i> CCIS 223.		
CCIS 480	Current Topics in Computer Science	3 Credits
This course covers new developments in computer science. <i>Prerequisite:</i> Instructor permission required.		
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. <i>Prerequisite:</i> Consent of the department chair.		

CCIS 493	Senior Design Project	3 Credits
A one-semester capstone course culminating in a design project acceptable to the department. This course will be managed by a group of faculty members offering a variety of projects for the students. <i>Prerequisite:</i> CCIS 381 and consent of advising Professor.		
CCIS 500	Applications Software	3 Credits
For non-majors, emphasizing hands-on training in the use of Microsoft Office Suites, including application-oriented projects in word processing, spreadsheets, database design, and presentations design. <i>Prerequisite:</i> Graduate standing.		
CCIS 509	Introduction to Information Systems	3 Credits
Study of Information Systems at an introductory level. Topics include data structures, hardware concepts, software engineering, programming languages, and operating systems.		
CCIS 571	Introduction to Algorithms	3 Credits
Study of algorithm design, using appropriate data structures. Topics include algorithms for sorting, searching and graph traversal and complexity issues.		
CCIS 572	Introduction to Computer Architecture	3 Credits
Study of logical organization of computer hardware and functional components.		
CCIS 573	Introduction to Operating Systems	3 Credits
Study of basic operating system structures and designs, including process management, resource management and implementation.		
CCIS 574	Introduction to Database Systems	3 Credits
Study of basic concepts of databases, query processing and other topics of interest.		
CCIS 575	Introduction to Artificial Intelligence	3 Credits
Introductory study of intelligent problem solving and search algorithms, inference systems, machine intelligence and knowledge organization.		
CCIS 576	Programming Languages and Compilers	3 Credits
Overview of syntactic, semantic and pragmatic principles of programming. Parsing, translation and compiler construction.		
CCIS 671	Algorithm Design and Analysis	3 Credits
Study of algorithm design and analysis techniques. Topics include designing algorithms for sorting, order statistics, set manipulation, graphs, fast Fourier transforms and mathematical manipulations. An introduction to NP completeness theory. <i>Prerequisite:</i> CCIS 571.		
CCIS 672	Computer Organization	3 Credits
Advanced study of logical organization of functional components of computers, including processors, control units and memory. Topics also include interconnection networks, memory hierarchies, array and pipeline machines. <i>Prerequisite:</i> CCIS 572.		
CCIS 673	Operating Systems Design	3 Credits
Advanced study of major issues in operating systems including resource management, concurrent programs and duality of operating systems. <i>Prerequisite:</i> CCIS 573.		
CCIS 674	Database Design	3 Credits
Advanced study of database design including data models, relational interfaces, relational database design, query optimization, crash recovery and concurrency control. Concepts are reinforced via design projects. <i>Prerequisite:</i> CCIS 574.		
CCIS 675	Artificial Intelligence	3 Credits
Advanced study of problem solving, theorem proving, knowledge representation, expert systems, learning and natural language processing. <i>Prerequisite:</i> CCIS 575.		
CCIS 676	Theory of Programming Languages Design	3 Credits
Study of features of modern programming languages and issues of modular, concurrent, functional, logic and object programming. Topics also include exception handling and software reuse. <i>Prerequisite:</i> CCIS 576.		
CCIS 681	Computability Theory	3 Credits
Introduction to computability theory including recursive function theory, Turing machines and self-modifying programs. <i>Prerequisite:</i> CCIS 571.		
CCIS 683	Algorithms for Parallel Computers	3 Credits
Study of parallel algorithms and architecture. Topics include design and analysis of parallel algorithms for sorting, searching, graphs, mathematical manipulations and numerical problems. <i>Prerequisites:</i> CCIS 671 and CCIS 672.		
CCIS 691	Software Engineering	3 Credits
Study of the concept of software process as a framework for developing software systems with emphasis on various management issues. Topics in alternative models for the software process. <i>Prerequisite:</i> Graduate standing.		
CCIS 701	Logic Circuit Design	3 Credits
Study of the design of switching and sequential circuits, including timing, structure, realization and modular logic design and related problems of physical design and modeling. <i>Prerequisite:</i> CCIS 572.		

CCIS 702	VLSI Design	3 Credits
Study of VLSI systems design, emphasizing quantitative characterization, analysis and computer techniques. <i>Prerequisite:</i> CCIS 701.		
CCIS 703	Microprocessor Design	3 Credits
Introductory study of the concept, design and operation of microprocessors. Topics include architecture, programming, comparative microprocessor evaluation, system design techniques and applications. <i>Prerequisites:</i> CCIS 572, CCIS 701, CCIS 702.		
CCIS 709	Digital Signal Processing	3 Credits
Study of signals in a digital representation and the processing methods of these signals. Topics include time-series analysis, transformations, and filters. <i>Co-requisite:</i> CCIS 709L		
CCIS 709L	Digital Signal Processing Laboratory	0 Credit
Hands-on projects in Digital Signal Processing. <i>Co-requisite:</i> CCIS 709.		
CCIS 710	Embedded Systems	3 Credits
Embedded systems are computers that are often specialized for a single task. Topics include system architecture, real-time system, input/output devices and development kits. <i>Co-requisite:</i> CCIS 710L.		
CCIS 710L	Embedded Systems Laboratory	0 Credit
Hands on projects in Embedded Systems. <i>Co-requisite:</i> CCIS 710.		
CCIS 711	Image Processing	3 Credits
Study of theories of image manipulation and feature extraction. Topics include pixel transformation, filters, edge-detection, color spaces and corrections, and compression. <i>Prerequisites:</i> CCIS 709. <i>Co-requisite:</i> CCIS 711L.		
CCIS 711L	Image Processing Laboratory	0 Credit
Hands-on projects in Image Processing. <i>Co-requisite:</i> CCIS 711.		
CCIS 712	Computer Vision	3 Credits
Topics include feature extraction, pattern recognition, spatial recognition, fast color tracking, and stereoscopic vision. <i>Prerequisite:</i> CCIS 711. <i>Co-requisite:</i> CCIS 712L.		
CCIS 712L	Computer Vision Laboratory	0 Credit
Hands-on projects in Computer Vision. <i>Co-requisite:</i> CCIS 712.		
CCIS 713	Robotics	3 Credits
Topics include hierarchical and reactive paradigms, localization and navigation, analysis of range and vision sensors, planning, and multi-agent paradigms. <i>Prerequisite:</i> CCIS 675. <i>Co-requisite:</i> CCIS 713L.		
CCIS 713L	Robotics Laboratory	0 Credit
Hands on projects in Robotics. <i>Co-requisite:</i> CCIS 713.		
CCIS 714	Distributed Systems	3 Credits
Provides a comprehensive overview of the concepts relevant to information security. Concepts include development of security policy, malicious code, general purpose protection of resources, trusted systems, and cryptography.		
CCIS 715	Pattern Recognition	3 Credits
Introduction to theory and application of decision-theoretic and syntactic methods of pattern recognition. Topics include deterministic and statistical algorithms, cluster seeking and automatic learning of decision functions and grammars.		
CCIS 720	Data Communication	3 Credits
Study of theories and methods to data communication techniques, data link control, multiplexing and communication networking.		
CCIS 721	Data Security	3 Credits
Provides a comprehensive overview of the concepts relevant to information security. Concepts include development of security policy, malicious code, general purpose protection of resources, trusted systems, and cryptography.		
CCIS 722	Computer Forensics	3 Credits
The objective of computer forensics is to extract, analyze and report on data found in computer files and storage media. Topics include methods and tools to recover deleted or distorted data, encryption, intrusion detection, and analysis of log files.		
CCIS 723	Wireless and Wired Networks	3 Credits
Study of design and analysis techniques for wireless and wired computer networks. Topics include network device hardware, topologies, medium access control, protocol models like OSI, routing, and QoS.		
CCIS 724	Information Assurance	3 Credits
Study of commercial off-the-shelf and research tools relevant to information assurance. Topics include: firewalls, password cracking, system administration tools, intrusion detection and prevention, and wireless security.		
CCIS 729	Internet Application Design	3 Credits
Internet applications require software on the client side and on the server side. This course focuses on server-side programming. Topics include Common Gateway Interface (CGI), server pages, database access, and AJAX. <i>Prerequisite:</i> CCIS 574.		
CCIS 730	Digital Multimedia	3 Credits
Introduction of concepts and tools to create and distribute digital photographs, video and sound. Topics include data formats, streaming protocols, compression algorithms, bandwidth requirements, perceived quality, water-marking, digital signatures, and Digital Rights Protection.		

CCIS 731	Human Computer Interfaces	3 Credits
Study of human factors involved in interaction with computers. Topics include terminal emulation, split-screen technology, menu-driven input, command-line processing and response-time considerations.		
CCIS 732	E-Commerce with Web-services	3 Credits
Study of electronic commerce applications. Topics include technical infrastructure, business strategies, performance metrics, and policies.		
CCIS 735	Knowledge-intensive Systems	3 Credits
Study of expert systems, data-mining, and knowledge representation. Topics include rule-based programming, semantic Web, reasoning, cluster analysis and self-organizing maps. <i>Prerequisite:</i> CCIS 675.		
CCIS 800	Practical Training	3 Credits
Advanced practical training with government laboratories and industry via cooperative education and internship programs. To receive credit for this course, a student must register prior to undertaking the proposed work. <i>Prerequisite:</i> Approval of the Department Chair.		
CCIS 801	Topics in Computer Science	3 Credits
Advanced study of a topic of current interest in the department, leading to a publishable technical report. <i>Prerequisite:</i> Approval of the Department Chair. Course may be repeated for credit.		
CCIS 803	Research/Design Project in Systems Software/Hardware	3 Credits
<i>Prerequisites:</i> CCIS 672 and 673.		
CCIS 805	Research/Design Project in Data Base	3 Credits
<i>Prerequisite:</i> CCIS 674		
CCIS 807	Research/Design Project in Distributed Systems/Networking	3 Credits
<i>Prerequisite:</i> consent of instructor.		
CCIS 809	Research/Design Project in Software Engineering	3 Credits
<i>Prerequisite:</i> CCIS 691.		
CCIS 811	Research/Design Project in Artificial Intelligence	3 Credits
<i>Prerequisite:</i> CCIS 675.		
CCIS 815	Research/Design Project in Information Systems	3 Credits
<i>Prerequisite:</i> CCIS 721.		
CCIS 821	Thesis Research	3 Credits
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 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.		
CECE 200	Introduction to Early Childhood Education	3 Credits
This course is designed to provide overview of early childhood education (preschool thru grade 5) 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. <i>Prerequisite:</i> Admission to Teacher Education or Educational Studies.		
CECE 206	Foundations of Mathematics for Teachers	3 Credits
This course extends candidates' content proficiency, conceptual understanding of numbers, numeration systems and fundamental concepts of algebra, geometry, probability, statistics, and measurement. 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 the real world. <i>Prerequisite:</i> Admission to Teacher Education or Educational Studies.		

CECE 212	Pre-Professional Laboratory	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. <i>Co-requisites:</i> CEDC 262 and CECE 200.		
CECE 213	Practicum I (Observing and Exploring)	2 Credits
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. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 300	Literacy in Early Childhood	6 Credits
This course provides 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. <i>Prerequisite:</i> Admission to Teacher Education or Educational Studies.		
CECE 302	Child Development	3 Credits
This course engages candidates in an exploration of how children learn and develop, of myriad influences on children's development, and theories of child development. 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. <i>Prerequisites:</i> CCPS 301, Educational Psychology, and Admission to Teacher Education or Educational Studies.		
CECE 313	Practicum II	2 Credits
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. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 314	Creative Development	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. Designed to offer candidates the opportunity to gain competency in the use of a variety of media and explore potentials in creative arts. <i>Prerequisite:</i> Admission to Educational Studies.		
CECE 316	Practicum III	3 Credits
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. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 404	Early Childhood Curriculum and Methods	3 Credits
This course engages in the 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. <i>Prerequisite:</i> Admission to Teacher Education or Educational Studies.		
CECE 405	Preschool Program Development	3 Credits
This course examines the 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. <i>Prerequisite:</i> Admission to Educational Studies.		
CECE 415	Methods of Teaching Reading and Writing	3 Credits
This course examines 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. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 426	Integrated Teaching of Elementary Mathematics and Science	3 Credits
This course uses readings, case studies, instructional technology, and a school-based practicum to help pre-service teachers develop the scientific and mathematical knowledge, skills, and dispositions needed to teach science and mathematics in grades P-5. 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. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 444	Pre-Service Teaching	13 Credits
This course provides 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-time field experience lasting sixteen weeks. The pre-service teacher is required to attend the campus-based reflective seminars once per week and other teaching-related workshops and activities. <i>Prerequisites:</i> Completion of all core and major courses with required grades; passing scores on the GACE Basic Skills and relevant content examinations; appropriate recommendations; acceptable interview.		

CECE 452	Integrated Teaching of Social Studies and Language Arts	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 from an interdisciplinary, multicultural approach. 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 addressing national and state standards. <i>Prerequisite:</i> Admission to Teacher Education.		
CECE 498	Developing Family and Community Relationships	3 Credits
This course engages candidates in the study of current and historical theory and practices in parent education and the impact of connecting with the community. The course reviews parents' and other adults' involvement with schools and 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. <i>Prerequisite:</i> Admission to Teacher Education.		
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.		
CECO 250L/251L/252L	Economics Laboratory	0 Credit
Laboratory courses are taken along with CECO 250, CECO 251, and CECO 252, respectively.		
CECO 251	Principles of Macroeconomics	3 Credits
Principles of Macroeconomics, is one of the two introductory courses that acquaint students with the major sub-fields of economics. The two courses are designed to aid students in understanding the functioning of the U.S. economic system and its relation to the global economy. Economics 251 concentrates on macroeconomic phenomena in terms of key aggregates such as GNP or GDP, unemployment, inflation, poverty, saving, investment, income distribution and budget and trade deficits. Students will also be introduced to the tools available to the government, in the guise of fiscal and monetary policies, to influence the behavior patterns of the components of the macroeconomic system. <i>Prerequisites:</i> Minimum grades of "C" in CMAT 209 and CMAT 210.		
CECO 252	Principles of Microeconomics	3 Credits
A one-semester comprehensive study of the principles which govern production, consumption, and distribution as well as the major institutions in the United States economic system. <i>Prerequisites:</i> Minimum grades of "C" in CMAT 209 and CMAT 210.		
CECO 302	Government and Business	3 Credits
The nature and development of government control and regulation of enterprises is the focus of this course. It examines antitrust laws and their interpretation and enforcement, selected Supreme Court antitrust decisions, and current problems of government relations in various industries.		
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 General Education Core requirement for social science.		
CECO 308	Mathematical Economics	3 Credits
Applications to elementary mathematics to economics are covered. This course includes studies in calculus, matrices, and linear difference equations. Mathematical problems used in this course come from the field of economics. <i>Prerequisites:</i> Minimum grades of "C" 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 is covered in this course. Methods introduced include single equation least squares, analysis of variance, and multi-equation models (offered within the Atlanta University Center). <i>Prerequisites:</i> Minimum grades of "C" in CBUS 313 and CBUS 314.		
CECO 315	Intermediate Macroeconomic Analysis	3 Credits
This course examines general theories of aggregate economic analysis. It 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. <i>Prerequisites:</i> Minimum grade of "C" 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 are covered in this course. <i>Prerequisites:</i> Minimum grade of "C" 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. <i>Prerequisites:</i> Minimum grades of "C" 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. <i>Prerequisites:</i> Minimum grades of "C" 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. <i>Prerequisites:</i> Minimum grades of "C" 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). <i>Prerequisites:</i> 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.		
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. <i>Prerequisites:</i> Minimum grades of "C" 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 (offered within the Atlanta University Center). <i>Prerequisites:</i> Minimum grades of "C" 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. <i>Prerequisites:</i> Minimum grades of "C" in CECO 251 and CECO 252.		
CECO 372	History of Economic Doctrines	3 Credits
Survey of economic thought from ancient times to the present. <i>Prerequisites:</i> Minimum grades of "C" in CECO 251 and CECO 252.		
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. <i>Prerequisite:</i> Approval of the department chair.		
CECO 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. <i>Prerequisite:</i> Approval of the department chair.		
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. <i>Prerequisite:</i> Approval of the department chair.		
CEDC 199	Pre-Professional Seminar	3 Credits
This course provides intensive instruction in the concepts, strategies, and content covered on the GACE Basic Skills assessments. The strategies will include both generic and subject matter test-taking strategies.		
CEDC 262	Educational Technology	3 Credits
This course engages candidates with a variety of computer applications and technological tools used in education. Candidates have hands-on training with applications including word processing, Internet, spreadsheet, database, presentation, and digital technology tools. Significant focus is placed on the development of websites and electronic portfolios. This course is designed to satisfy the Georgia Teacher Certification Computer Skills Competency Requirement.		
CEDC 303	Human Relations	3 Credits
This course provides 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. <i>Prerequisite:</i> Admission to Educational Studies.		
CEDC 305	Presentation Skills	3 Credits
This course provides 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. <i>Prerequisite:</i> Admission to Educational Studies.		

CEDC 360	Educational Measurement	3 Credits
This course engages candidates in the study of statistical concepts and terminology for education. Students gain knowledge of widely used standardized education tests, such as CAT and ITBS. The course explores test construction, selection, administration, and interpretation of test results to pupils and parents. This course is designed to provide experiences in test taking, analysis, construction, and interpretation of results. <i>Prerequisite:</i> Admission to Teacher Education.		
CEDC 408	Multicultural and Global Education	3 Credits
This course introduces teacher education candidates to concepts, principles, practices, and implications of multicultural and global education. Major attention is given to the social justice dimension of multicultural education and to candidates' skill in developing lessons which achieve social justice objectives in urban schools and communities. <i>Prerequisite:</i> Admission to Teacher Education or Educational Studies.		
CEDC 492	Cooperative Education Experience	9-12 Credits
This course engages 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 onsite supervisor. Experiences are accompanied by a weekly seminar and require that candidates submit evaluations and reports that may include action research. <i>Prerequisites:</i> Admission to Educational Studies and acceptable recommendations and interviews (course is completed during the last semester).		
CEDC 499	Independent Study	1-3 Credits
This course provides for the 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. <i>Prerequisites:</i> Admission to Teacher Education or Educational Studies, approval of the supervising professor, and minimum 2.5 GPA.		
CEDF 211	Foundations of Education	3 Credits
This course examines an introduction to the profession of teaching from an urban context. It examines the philosophical, historical, and sociological roots of basic questions and possible solutions in the field of American education and, specifically, in urban communities. Must be admitted to Teacher Education or Educational Studies.		
CEDS 425	Introduction to Exceptional Education	3 Credits
This course is designed to introduce students to the characteristics and education of individuals with disabilities. Must be admitted to Teacher Education or Educational Studies.		
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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CMAT 105.		
CEGR 110	Engineering Computer 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. <i>Prerequisite:</i> 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). <i>Prerequisites:</i> 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. <i>Prerequisites:</i> CMAT 112, CPHY 121.		
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. <i>Prerequisite:</i> CEGR 211.		
CEGR 314	Matlab/Labview for Engineers	3 Credits
Application of Matlab/Labview techniques to various engineering problems including numerical methods for solving nonlinear problems. <i>Prerequisites:</i> CMAT 112, CMAT 212.		
CENG 105	College Composition I	3 Credits
A one-semester course emphasizing development of college-level writing skills. In CENG 105, students write multi-paragraph 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 multi-paragraph themes, including the persuasive essay and the research paper. <i>Prerequisite:</i> A minimum grade of "C" is required.		

CENG 105H/106H	College Composition I & II	3 Credits ea.
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 College Composition.		
CENG 106	College Composition II	3 Credits
A one-semester course emphasizing development of college-level writing skills. In CENG 105, students write multi-paragraph 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 multi-paragraph themes, including the persuasive essay and the research paper. A minimum grade of "C" is required for each course. Prerequisite: CENG 105 with a minimum final grade of "C". A writing proficiency examination is administered as a requirement for exiting CENG 106.		
CENG 201	Introduction to World Literature I	3 Credits
Offered each semester for English majors. 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. Prerequisite: CENG 106 with a minimum final grade of "C".		
CENG 201H or CENG 202H	Introduction to World Literature I or II	3 Credits ea.
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.		
CENG 202	Introduction to World Literature II	3 Credits
Offered each semester for English majors. 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 202 explores literature from the Renaissance to the present. Prerequisite: CENG 106 with a minimum final grade of "C".		
CENG 210	Literary Forms	3 Credits
Introduction to the techniques of reading literature and writing about literature and includes the study of genre, rhetorical and literary devices, literary research and documentation. This course is prerequisite to other major courses in English.		
CENG 231	Sophomore Seminar	2 Credits
Opportunities for majors to acquire career preparation and additional academic enrichment.		
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	Survey of Major British Writers I	3 Credits ea.
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 and includes writers such as Chaucer, Shakespeare, and Milton.		
CENG 314	Survey of Major British Writers II	3 Credits
A study of authors whose lives, writings, and philosophies represent major stages in the literature of Great Britain. CENG 314 covers the Restoration to the present and includes writers from Dryden to Eliot.		
CENG 315	Survey of Major United States Writers I	3 Credits
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, as well as early Native American and African American writing.		
CENG 316	Survey of Major United States Writers II	3 Credits
A chronological study of major writers in the United States from the eighteenth century to the present. CENG 316 covers the literature from 1865 to the present, including 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. Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats along with lesser known Romantics are included.		
CENG 322	The Victorian Period	3 Credits
A study of major essayists, novelists, playwrights, and poets from 1832 to 1901.		
CENG 331	Junior Seminar	2 Credits
Opportunities for majors to acquire career preparation and additional academic enrichment.		

CENG 340	Introduction to Fiction Writing	3 Credits
This class introduces students to the writer's craft, with emphasis on the analytical study of fiction, narrative strategies, diction, tone, character, and conflict. (Offered every other fall semester)		
CENG 341	Introduction to Poetry Writing	3 Credits
This course introduces poetry through reading, writing, analysis, and peer critiques. Students study different forms of poetry and the different poetic movements. Students produce a number of original poems in this class. (Offered every other fall semester)		
CENG 342	Introduction to Drama Writing	3 Credits
The course is an introduction to the process of playwriting. The emphasis is on the exploration of a range of techniques and tools available to the playwright. Through the completion and discussion of a series of writing exercises the class will examine the various elements of playwriting. Students completing this course will craft at least one ten-minute play and one one-act play. (Offered every other fall semester)		
CENG 343	Introduction to Creative Nonfiction Writing	3 Credits
This course focuses on the study of the personal essay. Students will study and analyze the essays of professional writers as well as create a personal essay of their own. (Offered every other fall semester)		
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. <i>Prerequisite:</i> 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 is 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 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. This course is a good choice for students who plan to go on to graduate school in English.		
CENG 409	Shakespeare	3 Credits
A study of representative plays, including histories, tragedies, romances, and comedies.		
CENG 412	Fiction Writing Workshop	3 Credits
Students produce three pieces of fiction for classmates to analyze in this advanced course. Emphasis in this class will be on producing at least one piece of publishable fiction. (Offered every other spring semester)		
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 414	Drama Workshop	3 Credits
Advanced study of the process of playwriting in which students will produce at least two plays and participate in the analyzing of student plays. (Offered every other spring semester)		
CENG 415	Creative Nonfiction Workshop	3 Credits
This is an advanced study of the personal essay. Students in this class produce at least three personal essays and participate in analyzing classmates' personal non-fiction. Emphasis in this class will be on producing at least one publishable essay. (Offered every other spring semester)		
CENG 416	Editing and Publishing: <i>The CAU Review</i>	3 Credits
Students will learn the skills of editing and publishing as well as working with writers. Students will solicit, select, edit, and publish creative works from students in the Atlanta University Center (AUC) in Clark Atlanta University's literary magazine <i>The CAU Review</i> . (Offered every other spring semester)		
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. This course 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 420	Poetry Workshop	3 Credits
Students produce five poems for classmates to analyze in this advanced course. Emphasis in this class will be on producing at least one publishable poem. (Offered every other spring semester)		
CENG 431	Senior Seminar	2 Credits
Opportunities for majors to acquire career preparation and additional academic enrichment.		
CENG 459	African-American Literature I	3 Credits
A survey of African and African-American literature, with emphasis on the historical evolution and treatment of representative poetry, tales, short stories, and novels. This course covers colonial African-American literature to the Harlem Renaissance.		
CENG 460	African-American Literature II	3 Credits
A survey of African and African-American literature, with emphasis on the historical evolution and treatment of representative poetry, tales, short stories, and novels. This course covers the period from the Harlem Renaissance to the present.		
CENG 461	Modern Literature	3 Credits
An examination of selected twentieth- and twenty-first century writers. This course 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 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.		
CFAS 201	Creative Fashion Presentation	3 Credits
Introduces students to the complexities of fashion presentations through the examination of industry clinics, shows, and publications. Students learn about brand images for fashion magazines and apparel and the necessity of working on a collaborative team to solve a client's problem. This course prepares students interested in fields of brand identity, marketing, styling and creative direction.		
CFAS 210	Principles of Fashion Industry	3 Credits
Students are introduced to the fashion industry within the context of its dynamic global and domestic fashion markets. This course provides students with a historic overview of the fashion industry while incorporating the principles of fashion design and fashion merchandising.		
CFAS 220	History of Costume	3 Credits
Chronological study of costumes from ancient Egyptian to 20th-century styles through a visual history of fashion. Emphasis on culture, art form, and climates are related to the cause and effect of costumes in each period.		
CFAS 230	Textiles	3 Credits
An introduction to textiles used in fashion and interiors industry. Study of natural and man-made fibers, yarns, and weaves, fancy weaves, finishes and dyes. Students develop a familiarity with the application of fabrics in the apparel field. The course includes an analysis of the use and care of textiles, design applications, and finishing and emphasis is placed on fabric performance and the customer's role in the utilization of fabrics.		
CFAS 237	Fashion Illustration	3 Credits
Fundamentals of rendering to communicate fashion design ideas. Students learn to draw the male and female fashion figure. Students learn to utilize color, proportion, fabric and methods for making quick sketches to illustrate different styles. Prerequisites: CART 101, CART 102, and CART 201.		
CFAS 240	Apparel Construction I	3 Credits
The course provides the student the opportunity to develop skills and techniques required for apparel construction through the introduction of basic sewing techniques, understanding construction terminology, selecting proper materials and techniques for a particular garment/apparel detail or project, applying design principles and operating sewing equipment.		
CFAS 250	Visual Merchandising	3 Credits
The course examines the application of basic design principles in visual merchandising. Students learn the role that fixtures, presentation and retail patterns play in display, and also examine how to utilize visual merchandising concepts with creative design to potentially enhance store image and maximize sales. Prerequisites: CART 101 and CART 102.		
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 314	Promotion Planning Strategy	3 Credits
Comprehensive study integrating all phases of fashion marketing channels by analyzing sources and market trends with emphasis on the scope and importance of each phase and the necessity of identifying target markets and developing appropriate strategies. Students assist in the production of the annual fashion show event at the University. Prerequisites: CFAS 210 and CBUS 336.		
CFAS 320	Draping	3 Credits
The course introduces the student to the study of patternmaking through draping techniques. Using the working sketch, a final fashion garment is constructed from a pattern developed through the draping process. Prerequisite: CFAS 310 or permission of instructor.		

CFAS 325	Wardrobe Styling and Consulting	3 Credits
An interactive course that investigates the principles for conducting wardrobe assessments, clothing clusters, and matching wardrobe to various personality types that includes study of color, line, and visual principles in addition to analyzing the human figure and face. The course will cover hair, make-up and skin-care.		
CFAS 340	Apparel Construction II	3 Credits
This course builds on the basic apparel construction techniques and skills from Apparel Construction I. The student is provided the opportunity to advance his knowledge and skills by constructing selected garments. Techniques for lining a garment are introduced. Design principles and basic commercial pattern manipulation is addressed. <i>Prerequisite:</i> CFAS 240 Apparel Construction I.		
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. Students have the opportunity to develop and design accessories such as hats, belts, jewelry and other textile products. <i>Prerequisites:</i> CFAS 210, CFAS 220, and CFAS 240.		
CFAS 360	Fashion Apparel Computer Aided Design (CAD)	3 Credits
The course covers the utilization of computer aided design software for the fashion industry. Through basic design exercises, the student develops the skills and techniques to create fashion flats, illustrations, textile designs and merchandise presentations. <i>Prerequisites:</i> CART 101, CART 102 and CART 277.		
CFAS 401	Retail Mathematics	3 Credits
Examination and analysis of the theory and practice of buying and selling apparel relative to a career in the buying arena. Introduction into developing and mastering mathematical techniques (gross margin, buying and selling methods, markup calculation, and merchandise planning. In addition, the course will cover operating expenses and how they affect gross margin. <i>Prerequisites:</i> CMAT 103 and CMAT 104, CFAS 314, and CFAS 440.		
CFAS 402	Fashion Buying and Planning	3 Credits
A study of the principles of buying and planning merchandise by department for stores. This course is an examination and analysis of the theory and practice of buying (budgeting, marketing objectives, merchandise assortment planning, expense control, and inventory management) and selling (volume and profit) apparel. <i>Prerequisites:</i> CMAT 103 and CMAT 104, CFAS 314, and CFAS 440.		
CFAS 410	Fashion Design Senior Collection	3 Credits
A comprehensive course that allows students to apply skills, creativity and execution in the development of a line of merchandise incorporating patternmaking, apparel construction and portfolio preparation by applying design skills. To process book and presentation boards. <i>Prerequisites:</i> CART 101, CART 102, CART 201, CFAS 240, CFAS 310.		
CFAS 420	Fashion Show Production	3 Credits
Involves the production of a full-scale fashion show featuring student designs and methods of promotion. This course involves development of advanced planning required for a special event. Students receive committee assignments and assist in model training, merchandise selection, advertising and publicity of the event. Other topics include budgeting, floor plans, staging and designing flyers, and programs. Students plan lighting and sound, choreograph routines and participate in the production of a fashion show <i>Prerequisite:</i> Juniors and Seniors or permission of instructor.		
CFAS 425	Case Studies in Fashion Marketing	3 Credits
Students are presented opportunities to analyze decision-making in arriving at independent solutions to typical marketing problems. This course examines the merchandising objectives of the fashion industry through the use of the case study method by examining actual cases. The presentations of actual cases are evaluated for weighing of factual data, disciplined thinking and rational conclusions.		
CFAS 430	Trend Forecasting	3 Credits
The study of current fashion trends in the market that lead to the development of and planning merchandise lines. Learning to predict future trends through reporting strategies is a key component of the course by analyzing videos and fashion publications, researching websites to identify opportunities in the fashion business for growth and profit.		
CFAS 440	Retail Management	3 Credits
An exploration of the contemporary aspects of retailing, this course examines the functions of management, merchandising, globalization, multiculturalism, ethics, recycling, promotion, and customer service in brick-and-mortar retailing and off-site retailing. The field of retailing is examined within domestic and foreign markets thereby emphasizing the interrelationship of the major facets of the retail industry and its markets. This course focuses on the analytical skills and industry specifications required in evaluating a retail business. <i>Prerequisites:</i> CFAS 210, CFAS 220 and CFAS 250.		
CFAS 450	Fashion Design Portfolio	3 Credits
Designing for different markets is integrated with fashion presentations, the components of design, fabric and end use. Students develop a portfolio for entry into the industry through the development of a small collection while learning advanced rendering techniques and presentation formats based on their specified career goal. <i>Prerequisites:</i> Senior status. This is the capstone course for the concentration in Fashion Design.		
CFAS 480	Internship	3-18 Credits
The internship will allow students to participate in a supervised fashion industry work experience to increase professional skills by participating in an on the job training experience in specialty stores, department stores, design, advertising and other related occupations. Students can qualify for an internship after the freshman year and may register for 3-6 credit hours each semester. Internships can be taken up to three times and students can enroll in section 1-3. The internship is monitored by a faculty member. <i>Prerequisite:</i> Advance permission of department chair required.		

CFAS 490	Fashion Merchandising Senior Seminar	3 Credits
Presents current practices, trends, and problems in the field. Students learn to analyze contemporary problems by using the case study method and by presenting a written and oral case analysis at the end of the course. This is the capstone course for the concentration in Fashion Merchandising.		
CFLF 101	Elementary French I	3 Credits
Students 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. The course includes a variety of media, including audio, video and the Internet to complement the textbook. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week.		
CFLF 102	Elementary French II	3 Credits
Students 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. The course includes a variety of media, including audio, video and the Internet to complement the textbook. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. Prerequisite: CFLF 101.		
CFLF 201	Intermediate French I	3 Credits
Students 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, significantly more authentic cultural artifacts (literary texts, newspaper articles, and films) are introduced throughout the course. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. Prerequisite: CFLF 102.		
CFLF 202	Intermediate French II	3 Credits
Students 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, significantly more authentic cultural artifacts (literary texts, newspaper articles, and films) are introduced throughout the course. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. Prerequisite: CFLF 201.		
CFLF 307	Business French I	3 Credits
Students are introduced to business practices in France and in Francophone countries. This course includes 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 CFLF 201 and 202, Intermediate French I and II. This Course is conducted entirely in French. Prerequisite: CFLF 202.		
CFLF 308	Business French II	3 Credits
Students are introduced to business practices in France and in Francophone countries. This course includes 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 CFLF 201 and 202, Intermediate French I and II. This course is conducted entirely in French. Prerequisite: CFLF 202.		
CFLF 311	Survey of French Literature I	3 Credits
This course is a cursory treatment of the essential works of French literature in prose, poetry, theatre and philosophical thought. Particular emphasis is 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 312	Survey of French Literature II	3 Credits
The course is a cursory treatment of the essential works of French literature in prose, poetry, theatre and philosophical thought. Particular emphasis is 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
The 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
The course stresses 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	Advanced French Grammar and Composition I	3 Credits
The course enhances students' proficiency in spoken and written French and examines the most difficult idiomatic and literary expressions of the French language. Written and oral exercises include themes, translations, reports on assigned subjects, and compositions. Prerequisites: CFLF 202 and CFLF 332.		
CFLF 342	Advanced French Grammar and Composition II	3 Credits
The course enhances students' proficiency in spoken and written French and examines the most difficult idiomatic and literary expressions of the French language. Written and oral exercises include themes, translations, reports on assigned subjects, and compositions. Prerequisites: CFLF 202 and CFLF 332.		
CFLF 355	Intensive Reading in French Literature I	3 Credits
This course teaches techniques in literary analysis of various genres of French literature. Works of the twentieth century will be the primary focus of the course. Students are 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 or CFLF 342.		

CFLF 356	Intensive Reading in French Literature II	3 Credits
This course teaches techniques in literary analysis of various genres of French literature. Works of the twentieth century will be the primary focus of the course. Students are 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. <i>Prerequisite:</i> CFLF 341 or CFLF 342.		
CFLF 419	French Linguistics	3 Credits
The course introduces students to the scientific study of language focusing on the analysis and description of language. Topics include language acquisition, writing systems, sound systems, meaning, and language change in society. <i>Prerequisite:</i> CFLF 341 or CFLF 342.		
CFLF 431	Civilization of Francophone Africa	3 Credits
The 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 postcolonial period, in preparation for in-depth study of the literature and cultures. <i>Prerequisite:</i> CFLF 332 or CFLF 341. (Recommended for majors and those students interested in studying abroad in Francophone, 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. <i>Prerequisite:</i> CFLF 341 or approval of the instructor. (Recommended for students interested in studying abroad in Francophone, Africa).		
CFLF 440	Directed Study	3 Credits
The course is designed for students majoring in French to do more in-depth study and investigation of special areas of interest and to improve their language proficiency. Students work under the close supervision of a professor who will prescribe a plan-of-study which must be approved in advance by the department chair. Students must be able to work independently on the Internet. <i>Prerequisite:</i> Successful completion of all required 300 level courses.		
CFLF 447	French Civilization I	3 Credits
The course treats the history of France from its origin to the present. It delves into the social and political institutions and explores 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. <i>Prerequisites:</i> CFLF 311 and CFLF 312.		
CFLF 448	French Civilization II	3 Credits
The course treats the history of France from its origin to the present. It delves into the social and political institutions and explores 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. <i>Prerequisites:</i> CFLF 311 and CFLF 312.		
CFLF 451	Composition and Translation	3 Credits
The course treats advanced issues in French grammar and syntax, written exercises, and free composition. It features instruction in writing different genres and in modifying writing styles to accommodate specific audiences and techniques for promoting cultural and global awareness. The course includes instruction in stylistic features of writing that distinguish French from English. This course is conducted entirely in French. <i>Prerequisite:</i> CFLF 332 or CFLF 341.		
CFLF 452	Explication de Texto	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 French. The course is conducted entirely in French. <i>Prerequisite:</i> CFLF 341 or CFLF 355.		
CFLF 453	French Literature	3 Credits
The course is a study of the origins, development, and triumph of the Romantic Movement in France via the analysis of literary, historical, and critical texts. In particular, it examines the literary theories and manifestos, which 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 – The course assesses the legacy of this important movement. <i>Prerequisites:</i> CFLF 447 and CFLF 448.		
CFLF 454	French Prose	3 Credits
The course studies the progressive dominance of the novel as a literary genre in the modern period. Special attention is 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 "Realist" and "Naturalist" movements. Perhaps even more important, the course presents how the objectives and discourse of science came to define literary criticism—writing on writing. Students analyze not only literary texts of the period but also the analyses of such texts: Is there such a thing as objective value in art? <i>Prerequisite:</i> CFLF 453.		
CFLF 480	Senior Conference in French	3 Credits
The course is a final year directed, independent study designed to explore and remedy specific areas of weakness of prospective graduates. Different assessment tools are used to enhance students' content knowledge and productive skills in the target language to meet University and ACTFL standards. <i>Prerequisite:</i> Completion of all required courses for the major.		
CFLF 484	Travel-Study Seminar	3 Credits
The course is a travel and independent study in a foreign country under the guidance of faculty members. It is strongly recommended for students in French major or minor. <i>Prerequisite:</i> Departmental approval.		

CFLS 101	Elementary Spanish I	3 Credits
Students acquire a basic level of communication in Spanish and a familiarity with a variety of Francophone cultures through the utilization of the language in context. The course includes a variety of media, including audio, video and the Internet to complement the textbook. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week.		
CFLS 102	Elementary Spanish II	3 Credits
Students acquire a basic level of communication in Spanish and a familiarity with a variety of Francophone cultures through the utilization of the language in context. The course includes a variety of media, including audio, video and the Internet to complement the textbook. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. <i>Prerequisite:</i> CFLS 101.		
CFLS 201	Intermediate Spanish I	3 Credits
Students 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, significantly more authentic cultural artifacts (literary texts, newspaper articles, and films) are introduced throughout the course. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. <i>Prerequisite:</i> CFLS 102.		
CFLS 202	Intermediate Spanish II	3 Credits
Students 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, significantly more authentic cultural artifacts (literary texts, newspaper articles, and films) are introduced throughout the course. Classes meet three (3) lecture hours per week and one (1) laboratory hour per week. <i>Prerequisite:</i> CFLF 201.		
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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CFLS 202.		
CFLS 307	Business Spanish I	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. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 202.		
CFLS 308	Business Spanish II	3 Credits
The course is a continuation of CFLS 307, Business Spanish I. It emphasizes the practical application of 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. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 307.		
CFLS 315	Latin American Civilization	3 Credits
This course treats the geography, history, institutions, and cultural development of the Latin-American world. <i>Prerequisites:</i> CFLS 303 and CFLS 304.		
CFLS 325	Survey of Peninsular Literature I	3 Credits
The course includes a study of the outstanding works of major authors and the major literary movements from the Middle Ages to the Golden Age. <i>Prerequisite:</i> CFLS 315.		
CFLS 326	Survey of Peninsular Literature II	3 Credits
The course includes a study of the outstanding works of major authors and the major literary movements from the seventeenth century to the present. <i>Prerequisite:</i> CFLS 315.		
CFLS 327	Survey of Latin American Literature I	3 Credits
The course is a study of the representative works of Latin American literature, including Afro-Hispanic literature and covers the pre-Hispanic, colonial and independence eras. The second half covers the post-independence period to the present. <i>Prerequisite:</i> CFLS 304.		
CFLS 328	Survey of Latin American Literature II	3 Credits
Study of the representative works of Latin American literature, including Afro-Hispanic literature. The first half of this two-part series covers the pre-Hispanic, colonial and independence eras. The second half covers the post-independence period to the present. <i>Prerequisite:</i> CFLS 304.		
CFLS 335	Intensive Readings in Spanish Literature I	3 Credits
The course is a survey of grammar with emphasis on improving and reinforcing reading skills. <i>Prerequisite:</i> CFLS 304 or approval of the instructor.		
CFLS 336	Intensive Readings in Spanish Literature II	3 Credits
The course is a continuation of CFLS 335 including reading and analysis of increasingly rigorous texts from different fields. <i>Prerequisite:</i> CFLS 335 or approval of the instructor.		

CFLS 351	Composition and Translation I	3 Credits
The course discusses advanced problems in grammar and syntax, written exercises, and free composition. It features instruction in writing different genres and modifying writing style to accommodate specific audiences, techniques for promoting cultural and global awareness. The course includes instruction in stylistic features of writing that distinguish Spanish from English. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 304 or CFLS 335.		
CFLS 352	Composition and Translation II	3 Credits
The course discusses advanced problems in grammar and syntax, written exercises, and free composition. It features instruction in writing different genres and modifying writing style to accommodate specific audiences, techniques for promoting cultural and global awareness. The course includes instruction in stylistic features of writing that distinguish Spanish from English. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 304 or CFLS 335.		
CFLS 353	Spanish Literature of the Middle Ages	3 Credits
The course is an 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. <i>Prerequisites:</i> CFLS 325 and CFLS 326.		
CFLS 354	Literature of the Golden Age	3 Credits
The course is an analysis of conditions, which produced the Golden Age, with emphasis on the life and thought of Cervantes. It includes readings from the Quixote and Novelas Ejemplares. <i>Prerequisite:</i> CFLS 353.		
CFLS 391	Advanced Spanish Grammar and Composition I	3 Credits
The course provides instruction in advanced grammatical problems and stylistics, emphasizing the mastery of the use of nouns, pronouns, adjectives, adverbs, prepositions, and conjunctions. It also includes instruction in the formation of simple and complex sentence structures. Classes are conducted entirely in Spanish. <i>Prerequisites:</i> CFLS 303 and CFLS 304.		
CFLS 392	Advanced Spanish Grammar and Composition II	3 Credits
The course provides instruction in advanced grammatical problems and stylistics, emphasizing the mastery of the use of nouns, pronouns, adjectives, adverbs, prepositions, and conjunctions. It also includes instruction in the formation of simple and complex sentence structures. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 391.		
CFLS 411	Latin American Literature	3 Credits
The course presents main trends of Spanish-American literature from the colonial to the contemporary period. It includes lectures, commentaries, and class discussion. <i>Prerequisite:</i> 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. Classes are conducted entirely in Spanish. <i>Prerequisite:</i> CFLS 391.		
CFLS 416	Survey of Latin American Civilization	3 Credits
The course is a 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. <i>Prerequisite:</i> CFLS 415.		
CFLS 419	Spanish Linguistics	3 Credits
This course 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. <i>Prerequisites:</i> CFLS 391 and CFLS 392.		
CFLS 422	Romanticism	3 Credits
The course is a 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. <i>Prerequisite:</i> CFLS 416 or approval of instructor.		
CFLS 425	Modernism	3 Credits
The course is an intensive study of the major modernist writers of Latin America and selected modernist authors of Spain. There is a 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 Rubén Darío. <i>Prerequisite:</i> CFLS 422.		
CFLS 440	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. <i>Prerequisites:</i> Successful completion of all required 300 level courses.		
CFLS 447	Afro-Hispanic Literature I	3 Credits
This course 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. <i>Prerequisite:</i> CFLS 416 or approval of instructor. (Recommended for students interested in studying abroad in Latin America).		

CFLS 448	Afro-Hispanic Literature II	3 Credits
This course 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. <i>Prerequisite:</i> CFLS 416 or approval of instructor. (Recommended for students interested in studying abroad in Latin America).		
CFLS 461	Explicación 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. Class is conducted entirely in Spanish. <i>Prerequisites:</i> CFLS 351 or CFLS 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. <i>Prerequisite:</i> Successful completion of all required courses for the major.		
CFLS 484	Travel Study Seminar	3 Credits
Travel and independent study in a foreign country under the guidance of responsible faculty members. Strongly recommended for majors and minors. <i>Prerequisite:</i> Approval by the department chair.		
CHIS 201	U. S., Africa and the World History I	3 Credits
These courses investigate the interactions between various continental peoples of Africa, Asia, Europe, and the Americas. The first semester examines events, perspectives, experiences and ideologies up to 1500. This course critically analyzes the social, economic, political, and geographical theories that have shaped global society.		
CHIS 201H/202H	U. S., Africa, and the World History I and II	3 Credits ea.
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.		
CHIS 202	U. S., Africa and the World History II	3 Credits
These courses investigate the interactions between various continental peoples of Africa, Asia, Europe, and the Americas. The second semester continues the investigation to the present. This course critically analyzes the social, economic, political, and geographical theories that have shaped global society.		
CHIS 211	U.S. History to 1865	3 Credits
This course covers the social, political, and economic development of American life with special emphasis on the development of American nationality. The first semester covers the period from 1492 to 1865.		
CHIS 212	U.S. History since 1865	3 Credits
This course covers the social, political, and economic development of American life with special emphasis on the development of American nationality. The second semester covers the period from 1865 to the present.		
CHIS 317	Civil War and Reconstruction	3 Credits
This course critically examines the economic, social, and political causes of the Civil War. It also relates the social changes growing out of the war and the Reconstruction period to present issues.		
CHIS 319	African-American History to 1877	3 Credits
Critical analysis of the experiences of African-Americans from their African societies, enslavement and transportation to America, up to 1877. The course includes the development of North American racism, the experiences of slavery, sectionalism, the Civil War, and Reconstruction.		
CHIS 320	African-American History since 1877	3 Credits
Critical 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
An historical survey of pre-colonial African societies, from earliest times to 1800, emphasizing geography, sociocultural institutions, and politics.		
CHIS 351	History of Africa since 1800	3 Credits
An historical survey of Africa from the 19th century to the present with special emphasis on colonialism, growth of African nationalism, neo-colonialism, and contemporary issues of African nations amid globalization.		
CHIS 355	United States in the Twentieth Century-Women	3 Credits
An historical analysis of the growth of the United States as a world power in the twentieth century. It emphasizes economic, political, and social aspects of the American experience.		

CHIS 360	American Social and Intellectual History	3 Credits
A study of the effect that 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
A study of the sources utilized by historians in their attempts to re-create the past. Research papers are required.		
CHIS 404	Early Modern Europe	3 Credits
Analysis of factors that 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
A study of the social and political upheavals of the nineteenth century in Europe. Covers industrialization, nationalism, democracy, and the mass movements represented by socialism and fascism.		
CHIS 422	History of Georgia	3 Credits
A 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
Examines the development of modern urban institutions, focusing on community growth and organization, delivery of goods and services, governmental structure, and 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 1960s. Students will analyze historical readings and document oral accounts of African-Americans who experienced segregation.		
CHIS 480/483	Independent Study	3 Credits ea.
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 in which 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.		
CHON 100H/102H	Freshman Honors Seminar	1 Credit ea.
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.		
CHON 399H	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 499H	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.		
CHPE 404	Methods of Teaching early Childhood Health and Physical Education	3 Credits
This course is designed for candidates who will be teaching physical education at the elementary school level. 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. Pedagogical strategies, Multicultural approaches, technology integration and curriculum design will be emphasized. Prerequisite: Admission to Teacher Education or Educational Studies.		
CHPE 413	Health Education Curriculum and Methods	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: Admission to Teacher Education or Educational Studies.		
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.		

CHUM 228	Interdisciplinary Humanities I: Early Period – to 1914	3 Credits
This course introduces students to the rich diversity of cultural forms that flourished prior to World War I, covering the period from approximately 1500 to 1914. The course emphasizes three core areas of study: (1) basic similarities between cultures with little or no interactions; (2) non-European cultures, generally; and (3) the influence of earlier cultures on Western civilization.		
CHUM 230	Interdisciplinary Humanities II: Modern Period – World War I to Present	3 Credits
This course examines the modern developments during the twentieth century. The course focuses on major changes in aspects of human evolution in political systems; new directions in fine art and drama; novel philosophical themes; new technological inventions; new discoveries in science; and new forms of literary expression. The course will give particular attention to the emergence of cultural pride among people of the developing nations and the unlimited possibilities in an expanding world for cultural creativity or ultimate destruction.		
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, mathematics of finance, systems of linear equations and matrices, linear programming, probability and statistics.		
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. <i>Prerequisites:</i> CMAT 103 or Institutional 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. <i>Prerequisite:</i> CMAT 105 or Institutional 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. <i>Prerequisite:</i> Departmental approval required.		
CMAT 111	Calculus I	4 Credits
Real numbers, functions, limits, derivatives, definite integrals and the applications of these topics. <i>Prerequisite:</i> CMAT 106 or CMAT 108 or Institutional placement.		
CMAT 111H / 112H	Calculus I and II	4 Credits ea.
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 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. <i>Prerequisite:</i> CMAT 111.		
CMAT 209	Calculus and Analytical Geometry I	3 Credits
A course in applied calculus designed for students majoring in business. Topics covered include mathematics of finance, limits, functions, differentiation, and applications. <i>Prerequisite:</i> CMAT 105 or Institutional placement. This course is for business majors.		
CMAT 210	Calculus and Analytical Geometry II	3 Credits
This course is a continuation of CMAT 209. Topics include differentiation and integration of transcendental functions, indefinite integral, definite integral, area under curves, area between two curves, differentiation of multivariable functions and applications. <i>Prerequisite:</i> CMAT 209. This course is for business majors.		
CMAT 211	Calculus III	4 Credits
Topics include multidimensional calculus, namely partial geometry, multiple integrals, vector calculus and their applications. <i>Prerequisite:</i> CMAT 112.		
CMAT 211H	Calculus III	4 Credits
Continuation of CMAT112 and includes three-dimensional analytic geometry, partial derivatives, multiple integral, vector calculus and their applications. <i>Prerequisite:</i> CMAT 112.		
CMAT 212	Differential Equations	3 Credits
This course focuses on the 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. <i>Prerequisite:</i> 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. <i>Prerequisites:</i> CMAT 112 or CMAT 210.		

CMAT 214	Linear Algebra	3 Credits
This course is an introduction to linear algebra. Topics include vectors, matrices, linear equations, determinants, vector spaces, linear transformations, and vector spaces with an inner product. <i>Prerequisite:</i> CMAT 106 or equivalent.		
CMAT 214H	Linear Algebra	3 Credits
Introduction to linear algebra. Topics include vectors, matrices, linear equations, determinants, vector spaces with an inner product. <i>Prerequisites:</i> CMAT 105 and CMAT 106, or equivalent.		
CMAT 307	Structure of Elementary Mathematics I	3 Credits
This course is an introduction to problem solving, whole number computation, elementary set theory, numeration systems, algebraic thinking and functions, proof techniques, and number theory. <i>Prerequisite:</i> CMAT 105.		
CMAT 308	Geometry for Pre-Secondary Teachers	3 Credits
This course focuses on the cultural aspects of geometry, basic Euclidean Theorems, congruence and similarity, constructions, mensuration, symmetry, tiling, graph theory, proof techniques, and elements of Cartesian Geometry. <i>Prerequisite:</i> CMAT 105 or CMAT 307.		
CMAT 309	Structure of Elementary Mathematics II	3 Credits
This course is a 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. <i>Prerequisites:</i> CMAT 105 and CMAT 106 or CMAT 111 or CMAT 307.		
CMAT 310	Geometry for Secondary School Teachers	3 Credits
This course is a study the field of secondary school mathematics from both quantitative and qualitative viewpoints. Students learn mathematical concepts and teaching strategies. <i>Prerequisites:</i> CMAT 105 and CMAT 106 or CMAT 111 and CMAT 112.		
CMAT 311	Mathematical Logic	3 Credits
This course is a 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, reduction absurdum, propositional calculus, first order logic, and the nature of mathematical proof. <i>Prerequisite:</i> CMAT 111 or departmental approval.		
CMAT 321	Mathematical Probability and Statistics I	3 Credits
This course is an introduction to 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. <i>Prerequisite:</i> CMAT 112 or departmental approval.		
CMAT 322	Mathematical Probability and Statistics II	3 Credits
This course is a continuation of CMAT 321; 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. <i>Prerequisite:</i> CMAT 321		
CMAT 325	Modern Algebra I	3 Credits
This course includes a 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. <i>Prerequisite:</i> CMAT 311 or departmental approval.		
CMAT 326	Modern Algebra II	3 Credits
This course is a continuation of CMAT 325. This course includes a 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. <i>Prerequisite:</i> CMAT 325.		
CMAT 421	Advanced Calculus I	3 Credits
This course includes a study of sets, relations and functions, mathematical induction, equivalent and countable sets, real numbers, order and completeness, sequences, series, limits of functions, and continuity, 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. <i>Prerequisites:</i> CMAT 211 and CMAT 311.		
CMAT 422	Advanced Calculus II	3 Credits
This course is a continuation of CMAT 421. An expanded discussion of sets, functions, real numbers, order and completeness, 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. <i>Prerequisite:</i> CMAT 421.		
CMAT 423	Introduction to Complex Variables I	3 Credits
This is an introductory course in complex variables, including the complex numbers, analytic functions, elementary functions, complex integrals, series, residues, poles, and mapping by elementary functions. <i>Prerequisite:</i> CMAT 211.		
CMAT 424	Introduction to Complex Variables II	3 Credits
This course is a continuation of CMAT 423. Expanded discussion of complex numbers, analytic functions, elementary functions, complex integrals, series, residues, poles, and mapping by elementary functions is covered. <i>Prerequisite:</i> CMAT 423.		
CMAT 427	Introduction to Topology I	3 Credits
This course includes the study of limits and metric spaces, continuous functions on metric spaces and general topological spaces, completeness, product spaces. <i>Prerequisites:</i> CMAT 211 and CMAT 311 or departmental approval.		

CMAT 428	Introduction to Topology II	3 Credits
This course is a continuation of CMAT 427. This course includes the study of limits and metric spaces, continuous functions on metric spaces and general topological spaces, completeness, product spaces. <i>Prerequisite:</i> CMAT 427.		
CMAT 440	Numerical Analysis	3 Credits
This course is an introductory study of numerical algorithms for the solution of algebraic, differential and partial differential equations, error analysis. <i>Prerequisites:</i> CMAT 212 and CMAT 214.		
CMAT 443	Introduction to Operation Research	3 Credits
This course includes linear programming, duality, sensitivity analysis, integer programming and applications to various decision and management problems. <i>Prerequisites:</i> CMAT 211 and CMAT 214.		
CMAT 461	Introduction to the Theory of Numbers	3 Credits
This course includes the study of Diophantine equations, congruencies, theory of residues and indices, polynomials and partitions. The course also includes study of some classical problems in number theory. <i>Prerequisite:</i> CMAT 325 or departmental approval.		
CMAT 471	Discrete Mathematical Structures	3 Credits
This course is an introduction to finite mathematical structures and their application to computational and computer sciences. <i>Prerequisite:</i> CMAT 111 or departmental approval.		
CMAT 475	Seminar I	3 Credits
This course includes selected topics, papers, projects, and research in mathematics. <i>Prerequisite:</i> Departmental approval.		
CMAT 476	Seminar II	3 Credits
This course includes selected topics, papers, projects, and research in mathematics. <i>Prerequisite:</i> Departmental approval.		
CMAT 480	Independent Study	1 – 3 Credits
This course includes selected topics, papers and projects. <i>Prerequisite:</i> Departmental approval.		
CMAT 483	Mathematics in Community Service	3 Credits
This course is an expansion of the departmental tutorial program. This expansion is a community course in service to local school students. <i>Prerequisite:</i> Departmental approval.		
CMAT 497	Internship	3 Credits
This course offers students career-related work experiences. Although the internship does not carry credit toward the degree, mathematics majors are encouraged to participate. <i>Prerequisite:</i> Departmental approval.		
CMAT 501	Calculus and Linear Algebra	3 Credits
This is a course for non-mathematics majors who are deficient in the tools of calculus and linear algebra.		
CMAT 521	Real Analysis I	3 Credits
The course discusses limits of functions, sequences, continuity, differentiation, The Riemann Integral, sequences and series of functions, Theory of Lebesgue measure and integration.		
CMAT 522	Real Analysis II	3 Credits
This course is a continuation of CMAT 521. An expanded discussion of the Theory of Lebesgue measure and integration, Banach and Hilbert spaces, product measure and product integration.		
CMAT 523	Complex Variables I	3 Credits
The course focuses on the theory and applications of functions of a complex variable; topics include analytic functions, contour integration, harmonic functions, conformal mapping and analytic continuation.		
CMAT 524	Complex Variables II	3 Credits
This course is a continuation of CMAT 523. An expanded discussion of the theory and applications of functions of a complex variable is covered.		
CMAT 525	Algebra I	3 Credits
Using abstract algebra, the course covers the basic theory of groups, Sylow theorems, rings, integral domains, fields and modules; advanced topics include Galois theory and category theory.		
CMAT 526	Algebra II	3 Credits
This course is a continuation of CMAT 525. An expanded discussion of groups, rings, integral domains, fields and modules, Galois theory and category theory is covered.		
CMAT 527	Topology I	3 Credits
The course includes the study of topological concepts including metric and topological spaces, continuity, connectedness, completeness, compactness and product spaces.		

CMAT 528	Topology II	3 Credits
This course is a continuation of CMAT 527. An expanded discussion of topological concepts including metric and topological spaces, continuity, connectedness, completeness, compactness and product spaces are covered.		
CMAT 541	Principles of Applied Mathematics I	3 Credits
The course includes the study of various techniques of applied mathematics including Green's functions, string vibration, integral and differential operators in Hilbert spaces, spectral analysis and Laplace transform.		
CMAT 542	Principles of Applied Mathematics II	3 Credits
This course is a continuation of CMAT 541. An expanded discussion of various techniques of applied mathematics including Green's functions, string vibration, integral and differential operators in Hilbert spaces, spectral analysis and Laplace transform is covered.		
CMAT 601	Probability Theory and Stochastic Processes I	3 Credits
The course focuses on probability theory including central limit theorem and ergodic theory. Also included is study of stationary processes, independent increment processes and Gaussian processes.		
CMAT 602	Probability Theory and Stochastic Processes II	3 Credits
This course is continuation of CMAT 601. An expanded discussion of probability theory, ergodic theory, stationary processes, independent increment processes and Gaussian processes is covered.		
CMAT 605	Partial Differential Equations	3 Credits
The course is a study of techniques for solving partial differential equations, including distributions, Sobolev spaces and Hilbert space methods.		
CMAT 607	Introduction to Numerical Methods	3 Credits
The course includes a study of numerical algorithms for the solution of algebraic, differential and integral equations including error analysis.		
CMAT 608	Advanced Numerical Methods	3 Credits
The course includes a study of advanced techniques of numerical analysis including finite difference and finite element approximations for elliptic and parabolic equations. Also included are various functional analytic techniques.		
CMAT 609	Introduction to Control Theory	3 Credits
The course focuses on control theory including the calculus of variations, Hamilton-Jacobi theory and Pontryagin's maximum principle; topics include stochastic control depending on interest.		
CMAT 610	Foundations of Mathematics	3 Credits
Students study basic concepts and ideas in the philosophy and foundations of mathematical sciences, topics varying with the needs of students.		
CMAT 611	Mathematical Logic	3 Credits
Study of Boolean algebraic and logic concepts with applications to circuit design and theorem proving.		
CMAT 612	Theory of Sets	3 Credits
The course topics include the descriptive theory of sets and functions, the cartesian product, relations, counting, transfinite arithmetic, well ordered sets and cardinal numbers, and the equivalence of the axiom of choice, the well-ordering theorem and Zorn's Lemma.		
CMAT 615	Nonlinear Optimization I	3 Credits
Analytical and numerical treatment of finite dimensional nonlinear programming; Computational aspects of constrained extremum problems; current developments.		
CMAT 616	Nonlinear Optimization II	3 Credits
This is a continuation of CMAT 615. An expanded discussion of analytical and numerical treatment of finite dimensional nonlinear programming and computational aspects of constrained extremum problems is covered.		
CMAT 628	Functional Analysis	3 Credits
Linear Spaces, Normed Spaces, Banach Spaces, Hahn-Banach theorem, open-mapping theorem, closed-graph theorem, strong and weak convergence.		
CMAT 639	Differential Equations	3 Credits
Advanced coverage of Ordinary differential equations; topics varying with interest of the instructor.		
CMAT 643	Operations Research I	3 Credits
Techniques for analytical formulation of decision problems, including linear programming, convex programming, dynamic programming, queuing models, replacement models, and stochastic processes.		

CMAT 644	Operations Research II	3 Credits
This course is a continuation of CMAT 643. An expanded discussion of techniques for analytical formulation of decision problems is covered.		
CMAT 651	Topics in Mathematics	3 Credits
Study of topics of current interest in the Department of Mathematical Sciences. Students will complete and present a research-based project on a selected issue in the field of mathematics.		
CMAT 675	Thesis Seminar I	3 Credits
Students develop a research topic leading to the completion of a graduate thesis.		
CMAT 676	Thesis Seminar II	3 Credits
Students develop a research topic leading to the completion of a graduate thesis.		
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. <i>Prerequisites:</i> CENG 105, English Composition I and CENG 106, English Composition II with a final grade of "C" or better.		
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. <i>Prerequisites:</i> CENG 105, English Composition I and CENG 106, English Composition II with a final grade of "C" or better.		
CMMA 203	Multimedia Writing, Reporting and Storytelling	3 Credits
This course introduces students to the basic characteristics of writing for print, radio, television, the Internet and film. Students examine requirements for various kinds of formats and scripts including commercials, short and long form narratives, talk shows, news stories, features, documentaries, and interactive media. <i>Prerequisites:</i> CMMA 200, Basic News Writing and Reporting and CMMA 201, Survey of Media and Society.		
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. This class is designed to develop students' critical-thinking, and professional skills that are basic to an editor's job: grammar, spelling, punctuation, and style; content, editing, ethics; libel; inflammatory language; editing with speed and accuracy, etc. <i>Prerequisite:</i> CMMA 203, Multimedia Writing, Reporting and Storytelling.		
CMMA 302	News Editing II	3 Credits
This laboratory course combines theory with hands-on production activities. Students are required to produce a prototype of a newspaper or magazine. Students will follow through with skills refined in CMMA 301, News Editing I, but acquiring a solid grounding and learning layout and design and digital photography. <i>Prerequisite:</i> CMMA 301, News Editing I.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
CMMA 307	Public Relations Principles, Practices and Theory	3 Credits
An introductory concept course that surveys the principles, theories, strategies, techniques and practices of the public relations profession. <i>Prerequisites:</i> CMMA 203, Multimedia Writing, Reporting and Storytelling and CMMA 201, Survey of Media and Society; Permission of Instructor.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		

CMMA 315	Mass Communications Research Methods	3 Credits
An introduction to quantitative and qualitative research methods and procedures used to study issues and problems in mass communications. This course covers sampling, research design, observation and measurement, statistics, data analysis, documentation/reporting formats, and execution strategies/tools. <i>Prerequisites:</i> CMMA 200, Basic News Writing and Reporting; CMMA 201, Survey of Media and Society; Permission of Instructor.		
CMMA 318	Public Relations 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. <i>Prerequisite:</i> CMMA 203, Multimedia Writing, Reporting and Storytelling and CMMA 307, Public Relations Principles, Practices and Theory.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society; CMMA 301, News Editing I.		
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. <i>Prerequisite:</i> CMMA 308, Introduction to Radio-Television-Film.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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. <i>Prerequisite:</i> CMMA 308, Introduction to Radio-Television-Film.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling; Permission of Instructor.		
CMMA 348-R/TV/F	Fundamentals of Video/Radio/Film Production	3 Credits
Designed to introduce students to basic principles of effective studio and location production. The student will be taught operation of selected production equipment and how to make creative and aesthetic decisions regarding programming. <i>Prerequisite:</i> CMMA 308, Introduction to Radio-Television-Film.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society; CMMA 301, News Editing I.		
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. <i>Prerequisites:</i> CMMA 301, News Editing I; CMMA 201, Survey of Media and Society.		
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. <i>Prerequisites:</i> CMMA 201, Survey of Media and Society; CMMA 301, News Editing I.		
CMMA 418PR	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. <i>Prerequisites:</i> CMMA 203, Multimedia Writing, Reporting and Storytelling; CMMA 307, Public Relations Principles, Practices and Theory; CMMA 315, Mass Communication Research Methods.		

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: CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
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: CMMA 201, Survey of Media and Society and CMMA 203, Multimedia Writing, Reporting and Storytelling.		
CMMA 462	Media Arts and Design	3 Credits
This course offers students an opportunity to develop basic desktop publishing skills in page design, layout, and other graphic elements necessary for public relations and advertising campaigns. Prerequisite: CMMA 318, Public Relations Media Development and Copy Editing.		
CMMA 475	Radio Programming and Production I	3 Credits
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: CMMA 334, Broadcast Journalism and Editing and CMMA 348-R/TV/F, Fundamentals of Video/Radio/Film Production.		
CMMA 476	Radio Programming and Production II	3 Credits
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. Prerequisite: CMMA 475, Radio Programming and Production I.		
CMMA 477	Video Producing and Directing I	3 Credits
This course is designed to prepare students for broadcast editing using linear and non-linear systems. Students will be introduced to standard editing procedures: transition and editing strategies; audio editing, narration, music and sound effects in producing effective TV programs and news. Prerequisites: CMMA 201, Survey of Media and Society and CMMA 348-R/TV/F, Fundamentals of Video Production.		
CMMA 478	Video Producing and Directing II	3 Credits
This course provides hands-on experience in producing, directing, and editing. Students are required to utilize production skills by producing special projects and cable television productions. Prerequisites: CMMA 477, Video Producing and Directing I.		
CMMA 479/480	Cinematography I and II	3 Credits ea.
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: CMMA 306, History and Criticism of Film, and CMMA 348-R/TV/F, Fundamentals of Video/Radio/Film Production.		
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: CMMA 318, Public Relations Media Development and Copy Editing; CMMA 418PR, Public Relations Research and Evaluation.		
CMMA 486	Mass Media Arts Co-Operative Education	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 the department chair.		
CMMA 487J	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 the Instructor.		
CMMA 487PR	Media Arts Studies: Screenwriting I	3 Credits
Screenwriting I will provide a basic understanding of story structure and dramatic paradigms essential in the production of film and television formats. Students will examine the elements of screenwriting for both film and television with an emphasis on character development, plot construction, scene development, narrative structure and dialogue. Prerequisite: CMMA 203 or Permission of Instructor.		
CMMA 487-R/TV/F	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 chair.		
CMMA 488	Directed Study	3 Credits
The advanced screenwriting course is a seminar in which each student presents work, no matter what stage. Some will be starting a new screenplay based on an existing treatment, while others will be continuing or rewriting a first draft screenplay. This course emphasizes tightening plot and structure, deepening characterization, and writing dialogue. Ultimately, this course will support the student's refining and polishing of a 90-120 page feature-length screenplay. Prerequisites: CMMA 487, Media Arts Studies: Screenwriting I, Principles of Dramatic Writing or Permission of the Instructor.		

CMMA 488J	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. <i>Prerequisites:</i> Junior or senior status and permission of the department chair.		
CMMA 488PR	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. <i>Prerequisites:</i> Senior status and permission of the department chair.		
CMMA 488-R/TV/F	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. <i>Prerequisites:</i> Senior status and permission of the department chair.		
CMMA 489J	Internship	3 Credits
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. <i>Prerequisites:</i> Senior status in major and permission of the Instructor.		
CMMA 489PR	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. <i>Prerequisites:</i> Senior status and permission of the department chair.		
CMMA 489-R/TV/F	R/TV/F Internship	1, 2, or 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. <i>Prerequisites:</i> Senior status and permission of the Instructor.		
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 evaluated by a panel of faculty and industry professionals. In consultation with their advisors, students may select a topic for their research during the first semester. Research projects should reflect the career or academic interests of the students. <i>Prerequisite:</i> Graduating senior.		
CMUS 100 – 400	First – Fourth Level Ensemble	1 Credit
Faculty supervised performances designed to help students develop their own musical styles in small group settings.		
CMUS 101	Fundamentals of Music	2 Credits
This is a preparatory course in the rudiments of music theory required of music majors and minors who do not place the diagnostic examination in Theory. This course familiarizes students with scales, key signatures, notation symbols, rhythm, meter, intervals and music terminology. This course does not count toward music degree credit nor does it satisfy the General Education Core requirement in Humanities.		
CMUS 105	Sight Singing and Ear Training I	3 Credits
Practical study in sight-reading and in melodic, harmonic, and rhythmic dictation. <i>Prerequisite:</i> Passing score on the Music Theory diagnostic exam or CMUS 101 with a minimum final grade of "C".		
CMUS 106	Sight Singing and Ear Training II	3 Credits
Practical study in sight-reading and in melodic, harmonic, and rhythmic dictation. <i>Prerequisite:</i> Passing score on the Music Theory diagnostic exam or CMUS 101 with a minimum final grade of "C".		
CMUS 107/108 - 407/408	Applied Music	1 Credit ea.
Weekly private instruction for music majors and minors in the following areas of study: voice; piano; wood wind instruments; brass instruments; string instruments; percussive instruments; and organ. Voice majors or minors with limited previous voice study may be required to begin with CMUS 107C, Voice. Non-music majors must obtain permission from the applied instructor and will be considered on the basis of specific University ensemble needs and/or space availability.		
CMUS 107C	Voice Class I	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 non-majors by approval of the instructor.		
CMUS 108C	Voice Class II	1 Credit
Basic principles and methods of vocal studies for voice majors or minors who have limited vocal experience and/or vocal skills. Open to non-majors by approval of the instructor.		
CMUS 109	Instrumental Class	1 Credit ea.
Classes that teach music instrument methodologies for students to perform functionally on string, woodwind, brass and percussion instruments. Section 1: String Class. The study of basic pedagogical principles and repertoire for teaching string instruments to students. Section 2: Woodwind Class. The study of basic pedagogical principles and repertoire for teaching wood wind instruments to woodwind students. Section 3: Brass Class. The study of basic pedagogical principles and repertoire for teaching trumpet, trombone, French horn and tuba to brass students. Section 4: Percussion Class. The study of basic pedagogical principles for teaching rhythm drills, rhythmic dictation and technical proficiency and repertoire in the use of percussive instruments.		

CMUS 110 – 410	Atlanta University Symphony Orchestra	1 Credit
A consortium orchestra of students from the Atlanta University Center. Major orchestral works performed several times during the school year. Open to all CAU students by audition and permission of the director. Required for string majors.		
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 for voice 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.		
CMUS 113 – 413	Jazz Orchestra	1 Credit ea.
Performing jazz ensemble that performs a wide range of jazz repertoire from the 1920's to the present. Emphasizes instruction and performance in improvisational style. Open to all CAU students by audition and permission of the director.		
CMUS 114A/114B – 414A/ 414B	Performance Seminar	1 Credit ea.
Focuses on the development of complete musicianship for the performer. Topics include but are not limited to public performance – both solo and chamber – technique and musicianship, performers and discographies, and career development. Required 8 semesters for majors. Section 1: Voice Section; 2: Piano Section; 3: Brass; Section 4: Woodwind; Section 5: Strings Section; 6: Percussion		
CMUS 115A/115B – 415A/ 415B	Music Seminar	0 Credit ea.
Provides opportunities for formal and informal discussions on topics and problems in theory, musicology, music literature, music careers. Faculty, guest artists/consultants, and students make presentations. Enrollment and attendance required 8 semesters for music majors, 2 semesters for music minors.		
CMUS 116-416	Hand Bell Ensemble	1 Credit
A small ensemble that performs a broad repertoire of hand bell literature. Open by audition to students (music majors/minors or non-music majors). Reading treble or bass clef required. Opportunities for concert performance throughout the year.		
CMUS 117A/117B, 217A/ 217B	Piano Class	1 Credit ea.
A four-semester course sequence that provides functional keyboard skills for the Non-piano 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 non-majors by approval of the instructor. <i>Prerequisite:</i> Passing score on Music Theory Diagnostic Exam or CMUS 101 with a minimum final grade of “C”.		
CMUS 119	World Music	3 Credits
The study of representative music of world cultures. Course exams musical style, aesthetic viewpoints, and the function that music fulfills in diverse societies. Students will encounter new musical expressions, and the philosophies and world views that accompany the music. Satisfies the Humanities Core requirement.		
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, music of the African Diaspora and ethnic world cultures. Introduces the major musical eras and composers with an emphasis on aural perception of works.		
CMUS 201	Music Theory I	3 Credits
The first of a four-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. <i>Prerequisite:</i> Passing score on the Music Theory Diagnostic Exam or completion of CMUS 101 with a minimum final grade of “C”.		
CMUS 202	Music Theory II	3 Credits
The second of a four-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. <i>Prerequisite:</i> Passing score on the Music Theory Diagnostic Exam or CMUS 201 with a minimum final grade of “C”.		
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. Required for all music majors.		
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.		
CMUS 218A	Music Technology I	1 Credit
An introduction to computers, electronic keyboards and their uses. Basic categories of music software and their uses will be explored in a hands-on approach.		
CMUS 218B	Music Technology II	1 Credit
More advanced concepts related to electronic keyboards, music software, and their uses in the music industry. Designed for the Composition Concentration major. <i>Prerequisite:</i> CMUS 218A with a minimum grade of “C”.		

CMUS 221	Elementary Music Methods and Practicum	3 Credits
Elementary methods and teaching techniques for music education majors. This 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 the 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 non-music majors as an elective.		
CMUS 301	Music Theory III	3 Credits
The third course of a four-course 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, Music Theory II or permission of the instructor based on previous cognate studies.		
CMUS 302	Music Theory IV	3 Credits
The fourth course of a four-course 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 301, Music Theory III 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: CMUS 301 and CMUS 302 with minimum final grades of "C". Not required for music education majors.		
CMUS 304	Form and Analysis	3 Credits
Analysis of small and large musical forms of the Baroque, Classical, Romantic and Twentieth-century periods. Prerequisite: CMUS 301 and CMUS 302 with minimum final grades of "C".		
CMUS 305A	Jazz Theory and Improvisation I	3 Credits
Theoretical aspects of jazz – including harmonic and formal characteristics – and their application in the art of improvisation. Focusing on analysis, aural recognition, transposition, chord substitution, altered chords, scales, and modes. Prerequisite: CMUS 301.		
CMUS 305B	Jazz Theory and Improvisation II	3 Credits
A continuation of CMUS 305A, featuring more advanced chord, scale, mode, form, composition and improvisational study and techniques. Prerequisite: CMUS 305A with a minimum final grade of 'C'.		
CMUS 307R or 308R	Junior Recital	1 Credit
Junior Recitals are presented by music majors who must satisfy curriculum requirements for a performance concentration. Appropriate repertoire for the instrument or voice is required; recital must be no less than 30 minutes in length; and must be approved by the department faculty in a pre-recital hearing. Minors and other applied students may present junior recitals upon the approval of their instructors.		
CMUS 316	Music History and Literature I	3 Credits
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. Prerequisites: CMUS 203, CMUS 204, CMUS 205, and CMUS 206.		
CMUS 317	Music History and Literature II	3 Credits
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. Prerequisites: CMUS 203, CMUS 204, CMUS 205, and CMUS 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 non-majors with the consent of the instructor.		
CMUS 320	African 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 non-music majors as an elective.		
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.		
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. Open to music majors as an elective.		
CMUS 323	Band Organization, Methods	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.		

CMUS 324	Choral Organization, Methods	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.		
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.		
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. Includes discussions on copyright; performance and mechanical licenses; and performing rights organizations. Guest speakers and field excursions are included.		
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 330	Piano Repertoire	3 Credits
This course is a survey of the standard repertoire for the piano from the Baroque period to the present. Scheduled during fall semesters during odd years only (e.g., 2013, 2015, etc.).		
CMUS 331	Piano Music from the African Diaspora	3 Credits
This course is a survey of piano repertoire by composers from the African Diaspora from the late 19th century to the present. Scheduled during spring semesters during even years only (e.g., 2012, 2014, etc.).		
CMUS 340	Vocal Diction I	1 Credit
This course is intended for those students with a concentration in vocal studies. Areas of study include English and Italian lyric diction and literature via the International Phonetic Alphabet (IPA) System. Must be taken concurrently with applied voice instruction.		
CMUS 342	Vocal Diction II	2 Credits
This course is intended for those students with a concentration in vocal studies. Areas of study include German and French lyric diction and literature via the International Phonetic Alphabet (IPA) System. Must be taken concurrently with applied voice instruction. <i>Prerequisite:</i> CMUS 341 with a minimum final grade of "C".		
CMUS 344	Opera Workshop I	2 Credits
This course presents an overview of opera performance from the various historical periods. Areas of study include solo and ensemble singing from operatic and musical theater literature, stage management, set design, movement, prop building, and lighting.		
CMUS 345	Opera Workshop II	2 Credits
This course is a continuation of Opera Workshop I with more advanced repertoire and dramatic interpretation added to the sequence. <i>Prerequisite:</i> CMUS 344.		
CMUS 351	Songwriting, Arranging and Recording	3 Credits
Course designed for students with commercial composition concentration. It combines songwriting in an analytical workshop atmosphere with the rudiments of multi-track, hard-drive recording using ProTools (laboratory). Students will be required to produce several projects during the course of the semester. <i>Prerequisite:</i> CMUS 301 with a minimum final grade of "C".		
CMUS 370	Introduction to Church Music	1 Credit
This course provides an overview of church music from biblical era to contemporary era. Music traditions of psalmody, hymnody, anthems, spirituals, gospel music, contemporary Christian and praise are studied. Scheduled during fall semesters, even years only (e.g., 2012, 2014, etc.).		
CMUS 372	Hymnody	3 Credits
A study of the history of hymnody, composers, tunes and textual settings. The course also includes a detailed study of common hymnals and how the hymnal is used in worship. Scheduled during spring semesters, odd years only (e.g., 2013, 2015, etc.).		
CMUS 402	Introduction to Composition	1 Credit
Study of basic scoring, notation, and intermediate compositional techniques. Students are required to set up and copy selected manuscripts from various genres as a pre-requisite to creating lead sheets and writing compositions for voice and piano, choral, solo piano, chamber groupings and orchestra.		
CMUS 403	Orchestration and Arranging	3 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. <i>Prerequisite:</i> CMUS 301.		
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.		

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.		
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. <i>Prerequisite:</i> CMUS 301		
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 407R	Senior Recital	1 Credit
The capstone public recital for the senior music major is required in partial fulfillment for the music degree. Recital will consist of diverse repertoire, representing the breadth of literature for the instrument or voice, and will be at least 50 minutes in length. Recital must be approved by the department faculty in a pre-recital hearing.		
CMUS 408R	Senior Recital	1 Credit
The capstone public recital for the senior music major is required in partial fulfillment for the music degree. Recital will consist of diverse repertoire, representing the breadth of literature for the instrument or voice, and will be at least 50 minutes in length. Recital must be approved by the department faculty in a pre-recital hearing.		
CMUS 417	Senior Project	1 Credit
A specialized project or research paper required in lieu of a Senior Recital. <i>Prerequisite:</i> Recommendation by the applied teacher with approval by the department chair.		
CMUS 430	Piano Pedagogy I	3 Credits
This course is an introduction to the strategies and procedures for successful piano teaching, with emphases on teaching philosophy, pedagogical resources, basic technique and musicianship, lesson plans, and observation of piano teaching. Scheduled during fall semesters, odd years only (e.g., 2012, 2014, etc.).		
CMUS 431	Piano Pedagogy II	3 Credits
This course is a continuation of strategies and pedagogical procedures for successful piano teaching, with emphases on methods and materials, curriculum design, the intermediate student, observation of piano teaching, and business procedures for running a studio. Scheduled during spring semesters, odd years only (e.g., 2013, 2015, etc.).		
CMUS 440	Vocal Pedagogy	3 Credits
This course is intended for vocal music majors and minors who wish to enhance their understanding of the science of vocal technique. Students will learn how the vocal mechanism works. Attention will be given to the following techniques: formants, breath management, resonance, registration, vowel formation, acoustics, the aesthetics of vocal timbre, and healthy singing.		
CMUS 442	Vocal Literature	3 Credits
This course presents an overview of music for solo voice. Areas of study include English, French, Italian, and German literature from the major musical eras, including art songs, French Melodie, and German Lieder.		
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 practicum, the student spends two-four weeks in observing and working with children at various grade levels in general music and band/choral/hand bell ensemble classes. Student teachers are required to attend campus-based seminars once per week and other teaching-related workshops and activities. <i>Prerequisite:</i> completion of all required major and professional education courses and successful pass on the PRAXIS examinations (general and music).		
CMUS 450	Recording Studio Internship	3 Credits
An internship for commercial composition students in an active recording studio, submitting regular, brief written reflections to the supervising instructor about recording equipment, techniques, and procedures used. <i>Prerequisite:</i> CMUS 351 with a minimum final grade of "C".		
CMUS 451	Senior Composition Project	3 Credits
This "capstone" course will culminate in a senior composition project, both a CD recording and a live performance that showcases music in a variety of media in different styles composed by the student. <i>Prerequisite:</i> CMUS 403 with a minimum final grade of "C".		
CMUS 470	Music in the African American Church	3 Credits
The study of literature and performance practices found in the worship experience of African American Churches.		
CMUS 472	Church Music Methods	2 Credits
A study of church music organization and planning, program development, performance techniques and rehearsal management skills required of church musicians.		
CMUS 472C	Church Music Methods Internship	3 Credits
Internship for music majors with a concentration in Church Music. Internship opportunity is provided for student to function in a supervised music ministry environment. <i>Co-requisite:</i> CMUS 472.		

CMUS 480	Independent Study	0-6 Credits
Directed study 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. <i>Prerequisite:</i> Approval of department chair.		
CPED 101or CPED 102	Physical Education	1 Credit ea.
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 and wellbeing.		
CPHI 105	Critical Thinking	3 Credits
Focuses on the development of intellectual skills for all areas of study, the organization of ideas, identification of common errors in reasoning, and critical analysis of editorials, speeches and articles.		
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 221	Introduction to Philosophy	3 Credits
Includes the basic issues studied by philosophers. Topics for discussion 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 analyses of selected moral philosophers and various approaches to value theory in conjunction with specific contemporary ethical issues are examined.		
CPHI 241	Philosophy of Religion	3 Credits
A critical examination of selected contemporary and classical issues of religion. 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. Includes applications of science to technology and industry.		
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 331	History of Western Philosophy	3 Credits
The first of a 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. Students may take either CPHI 331 or CPHI 332 independently or both in sequence.		
CPHI 332	History of Western Philosophy	3 Credits
The second of a two-semester survey of the major figures in western philosophy, beginning with the antecedents to Greek philosophy in Africa. CPHI 332 includes modern and contemporary philosophers. Students may take either CPHI 331 or CPHI 332 independently or both in sequence.		
CPHI 353	Representative Problems of Philosophy	3 Credits
Classic philosophical problems explored in more depth than that 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 362H	Social and Political Philosophy	3 Credits
Examination of philosophical assumptions underlying different political systems. Satisfies General Education Core requirement for religion or philosophy.		
CPHI 375	Existentialism and Phenomenology	3 Credits

CPHI 401/402	Off-Campus Study	3 Credits ea.
For students who wish to take courses at institutions other than those offered at 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. Discussions center on specific historical figures and philosophic and religious traditions, including Islamic mysticism.		
CPHI 421	Philosophies of the African Continent	3 Credits
An 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 - 454	Special Topics in Philosophy	3 Credits ea.
Upper-division students explore issues with present-day philosophical significance. Open to both majors and non-majors.		
CPHI 482/483	Independent Study	3 Credits ea.
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 - 487	Para-Curricular Study in Philosophy	3 Credits ea.
Students with approval of their advisors may select internships that prepare them for their prospective career choices.		
CPHY 102/102L	Physical Science and Laboratory	3 Credits
Basic course in physical science which satisfies the core science requirement for all non-science majors. Topics include concepts of motion, space sciences, chemical processes, conservation of energy, and properties of heat, electricity and light. The laboratory is part of the course, and students are required to attend one (1) two-hour laboratory each week.		
CPHY 104/104L	Introduction to Earth System Science and Laboratory	4 Credits
This course 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 non-science 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 Laboratory	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, dry land, 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 I and Laboratory	4 Credits
Lecture and laboratory course for students who desire a basic background in physics. This course is required for biology and chemistry majors. 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 II and Laboratory	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 laboratory per week. Prerequisite: CPHY 111.		
CPHY 121/121L	Physics I: Mechanics and Laboratory	4 Credits
An introductory physics course for students with a background in basic calculus. Topics include resolution of forces, static equilibrium, laws of conservation of momentum and energy, rectilinear motion at constant acceleration, rotational motion, and oscillatory motion. CPHY 121 and CPHY 121L are separate courses. Three (3) lecture hours and one (1) three-hour laboratory per week. Pre- or Co-requisite: CMAT 111.		
CPHY 122/122L	Physics II: Electricity and Magnetism and Laboratory	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. CPHY 122 and CPHY 122L are separate courses. Three (3) lecture hours and one (1) three-hour laboratory per. Prerequisite: CPHY 121. Pre- or Co-requisite: CMAT 112.		

CPHY 123/123L	Physics III: Optics and Modern Physics and Laboratory	4 Credits
A continuation of CPHY 121 and CPHY 122. Topics include wave propagation, sound, heat, and principles of thermodynamics, geometric optics, physical optics, atomic physics and nuclear physics. CPHY 123 and CPHY 123L are separate courses. Three (3) lecture hours per week for the CPHY 123 course, and one (1) three-hour laboratory per week for the CPHY 123L laboratory course. <i>Prerequisite:</i> CPHY 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. <i>Prerequisites:</i> CPHY 123.		
CPHY 301	Co-Operative Education 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) three-hour laboratory per week. <i>Prerequisite:</i> CPHY 123.		
CPHY 321	Mathematical Physics I	3 Credits
Application of mathematical techniques to physical systems. Course surveys 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. <i>Prerequisite:</i> CPHY 123.		
CPHY 322	Mathematical Physics II	3 Credits
Continuation of CPHY 321. Topics include partial differentiation, multiple integral, first- and second-order ordinary differential equations, and numerical methods of solving differential equations, vector algebra, vector analysis, probability, and statistics. <i>Prerequisite:</i> CPHY 321.		
CPHY 331	Classical Mechanics	3 Credits
A rigorous development of the concepts of classical physics and the mathematical techniques used therein. Students study 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. <i>Prerequisite:</i> CPHY 123.		
CPHY 332	Electromagnetic Theory	3 Credits
Physical and mathematical foundations of electromagnetism. Students explore electrostatic fields and potentials, electric fields around conductors, electric current, fields 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. <i>Prerequisite:</i> CPHY 123.		
CPHY 341L	Advanced Physics Laboratory	3 Credits
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. <i>Prerequisite:</i> 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. <i>Prerequisites:</i> 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. <i>Prerequisites:</i> 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. <i>Prerequisites:</i> 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; pressures coordinates; geostrophic and gradient flow; thermal wind; trajectories; circulation and vorticity. <i>Prerequisite:</i> 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. <i>Prerequisites:</i> CCIS 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. <i>Prerequisites:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CPHY 332.		
CPHY 421	Undergraduate Research I	3 Credits
Individual exposure to the methodology of experimental and theoretical research in physics. Experiments emphasize modern physical techniques and require considerable independent reading and investigation. Individual schedules are arranged at the beginning of the term, depending on the student's interest and experience. <i>Prerequisite:</i> Permission of department chair required.		
CPHY 422	Undergraduate Research II	3 Credits
Individual exposure to the methodology of experimental and theoretical research in physics. Experiments emphasize modern physical techniques and require considerable independent reading and investigation. Individual schedules are arranged at the beginning of the term, depending on the student's interest and experience. <i>Prerequisite:</i> Permission of department chair required.		
CPHY 441	Internship I	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 442	Internship II	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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisites:</i> 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. <i>Prerequisite:</i> CPHY 360.		
CPHY 501	Classical Mechanics	3 Credits
Dynamics of particles and rigid bodies; the Lagrangian and Hamiltonian formulation; Poisson brackets, Hamilton-Jacobi Theory, classical scattering theory, theory of small oscillation.		

CPHY 503	Electrodynamics	3 Credits
Maxwell's equations and applications; electrostatics, dielectrics, magnetostatics, scalar and vector potentials; conservation laws; multiple moments and multiple radiation; dispersion; special relativity.		
CPHY 504	Modern Optics	3 Credits
Concepts of Modern Optics starting with Maxwell's equations including topics such as reflection and refraction, wave propagation in anisotropic media diffraction, interference, lasers, holography, and the theory of optical wave-guides. <i>Prerequisite:</i> CPHY 322, Electromagnetic Theory.		
CPHY 515	Quantum Mechanics I	3 Credits
Non-relativistic quantum mechanics; representation of dynamical variables as operators or matrices; theory of angular momentum; motion in a centrally symmetric field; perturbation theory; identical particles and spin; theory of classic collisions; semi-classical treatment of radiation.		
CPHY 516	Quantum Mechanics II	3 Credits
Non-relativistic quantum mechanics; representation of dynamical variables as operators or matrices; theory of angular momentum; motion in a centrally symmetric field; perturbation theory; identical particles and spin; theory of classic collisions; semi-classical treatment of radiation.		
CPHY 520	Thermodynamics and Statistical Mechanics	3 Credits
Review of first, second, and third laws; irreversible processes; microcanonical, canonical and grand canonical ensembles; the density matrix; Bose and Fermi systems. Kinetic theory and the Boltzmann transport equation.		
CPHY 531	Mathematical Methods I	3 Credits ea.
Vector analysis, orthogonal curvilinear coordinates; the calculus of variations; functions of a complex variable; ordinary and partial differential equations, hypergeometric functions; orthogonal functions; integral transform methods; Green's functions and integral equations.		
CPHY 532	Mathematical Methods II	3 Credits
Vector analysis, orthogonal curvilinear coordinates; the calculus of variations; functions of a complex variable; ordinary and partial differential equations, hypergeometric functions; orthogonal functions; integral transform methods; Green's functions and integral equations.		
CPHY 540	Solid State Physics	3 Credits
Brillouin zone treatment of metals, semiconductors and insulators; approximation methods of determining properties of real solids; comparison between theory and experiment for selected solid state phenomena.		
CPHY 545	Atomic and Nuclear Physics	3 Credits
Quantum theory of atomic and nuclear processes. Hartee-Fock approximation, fine and hyperfine structure, atomic collision; nucleon-nucleon potentials and scattering, shell and collective models, correlation in nuclear matter.		
CPHY 550	Physics of Fluids	3 Credits
Basic processes in liquids, gases, magneto-fluids and plasmas; Navier-Stokes equation, non-Newtonian fluids, compressible and incompressible flow, shock structure, kinetic theory, classical transport, turbulence.		
CPHY 565	Physics of Surfaces	3 Credits
Fundamentals of physical methods for studying the structures, compos vibrational and electronic properties of solid surfaces, including the verification of principles in laboratory experiments.		
CPHY 570	Radiation Physics	3 Credits
Radioactivity, interaction of electromagnetic radiation with matter, radiation quantities and units; x-rays, gamma rays, neutron activation, interaction of charged particles with matter, stopping power, range-energy relations, counting statistics shielding, dosimetry, waste disposal, critical prevention, radiation biology and ecology.		
CPHY 585	Applied Quantum Mechanics I	3 Credits
Application of quantum mechanical principles to the solution of selected problems in atomic, molecular, nuclear and solid-state physics.		
CPHY 586	Applied Quantum Mechanics II	3 Credits
Application of quantum mechanical principles to the solution of selected problems in atomic, molecular, nuclear and solid-state physics.		
CPHY 601	Departmental Seminar I	0 Credit
Required of all graduate students in the Department.		
CPHY 602	Departmental Seminar II	0 Credit
Required of all graduate students in the Department.		
CPHY 603	Thesis Research	6 Credits
Designed to assist students in the development and writing of the thesis research project.		

CPHY 604	Non-Thesis Research	6 Credits
Designed for students who are in the final stage of non-thesis research project writing, which requires minimal supervision and assistance.		
CPHY 605	Optical Fiber Measurements I	3 Credits
Introduction to the hands-on experience needed to master the basic concepts and laboratory techniques of optical fiber technology; includes a wide range of applications in both optical communications and sensors, using both multimode and single-mode fibers.		
CPHY 606	Modern Optical Measurements II	3 Credits
Continuation of Optical Fiber Measurements I with emphasis on more complex measurements and calibration on topics such as polarization-maintaining fibers, communication sources and detectors and communication systems.		
CPHY 607	Advanced Optics	3 Credits
Surveys topics in advanced optics such as electromagnetic wave scattering and propagation in unperturbed, perturbed and nonlinear dielectric media. <i>Prerequisite:</i> CPHY 504 (Modern Optics).		
CPHY 610	Philosophy of Science	3 Credits
Treatment of ontological, epistemological, and methodological presuppositions underlying physical theory and experiment; problems of demarcation, verification and evolution of scientific knowledge; social implications of scientific research.		
CPHY 615	Special Topics in Physics	3 Credits
Special topics of current interest such as general relativity, quantum field theory, scattering theory, elementary particle theory, astrophysics, etc.		
CPHY 620	Introduction to Atmospheric Sciences	3 Credits
Dynamics of atmospheric processes; spectroscopy of atomic and molecular species; photodynamics and photokinetics of photochemical processes; instrumental techniques, including infrared, atomic emissions, and atomic absorption.		
CPSC 106	Politics and Global Issues	3 Credits
This course is offered as part of the General Education Core. The course introduces students to the discipline of Political Science and surveys the various fields of Political Science and comparative politics, political theory, and international relations. The course emphasizes 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, and the 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 interwar 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. <i>Prerequisite:</i> CPSC 219.		

CPSC 337	Statistics I	3 Credits
Introduction to descriptive statistics, including associational measures and probability. <i>Prerequisite:</i> General Education mathematics requirements.		
CPSC 338	Statistics II	3 Credits
This course is an introduction to inferential statistics, hypothesis testing, simple use of analysis of variance, and correlation coefficients. <i>Prerequisite:</i> CPSC 337.		
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	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	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. <i>Prerequisite:</i> CPSC 374 or permission of the instructor.		
CPSC 387	Scope and Methods of Research	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	3 Credits
This course provides an overview of government and politics of modern Africa. It examines the ongoing dynamic relationship between modern and traditional political beliefs and institutions and identifies major issues, problems, and proposed solutions.		
CPSC 479	Senior Thesis	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. <i>Prerequisites:</i> CPSC 361, CPSC 362, and CPSC 387.		
CPSC 480	Independent Study	3 Credits
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. <i>Prerequisite:</i> Permission of the department chair required.		
CPSC 483	Independent Study	3 Credits
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. <i>Prerequisite:</i> Permission of the department chair required.		
CPSC 484	Internship	3 Credits
Varied internship placement programs are made available to juniors and seniors majoring in Political Science at all levels of government and in public interest organizations. Activities include attending seminars and completing research papers. <i>Prerequisite:</i> Approval by the department chair required.		

CPSC 486	Internship	3 Credits
Varied internship placement programs are made available to juniors and seniors majoring in Political Science at all levels of government and in public interest organizations. Activities include attending seminars and completing research papers. Prerequisite: Approval by the department chair required.		
CPSC 487	Internship	3 Credits
Varied internship placement programs are made available to juniors and seniors majoring in Political Science at all levels of government and in public interest organizations. Activities include attending seminars and completing research papers. Prerequisite: Approval by the department chair required.		
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.		
CPSY 211	General Psychology	3 Credits
Psychology is defined as the scientific study of mental processes and behavior. This course is designed to give the student an overview of the field in terms of its evolution, theories and theorists (e.g., psychoanalytic, behavioral, humanistic, cognitive, etc.) specialties in the field (e.g., Clinical, Experimental, Engineering, Forensics, Industrial/Organizational, Physiological, School, Social, etc.), and research methods (e.g., data collection, data analysis, research design). General Psychology provides the foundation for more advanced study in psychology for its majors and introduces non-majors to human behavior from a psychological perspective.		
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.		
CPSY 218	Human Growth and Development	3 Credits
This course discusses issues, theories, and research on the cognitive, social, personality, and physical development of humans throughout the lifespan from a behavioral analytic perspective with emphasis on the influences of gender and culture.		
CPSY 301	Educational Psychology	3 Credits
Educational Psychology is described as the scientific study of human learning in educational settings. Topics discussed in this class include: Classroom management, curriculum development, educational intervention strategies, educational technology, gifted students, instructional design, learning styles, organizational learning, school culture, special education students, teaching styles, testing, etc. The course is taught from two perspectives, namely teachers and students. For example, for prospective teachers it provides an overview of the basic principles, theories, and techniques from a psychological perspective as related to learning; and for students the course is designed to help students identify common problems teachers confront in the classroom and to then apply course material to develop a plan to resolve typical problems in classroom situations.		
CPSY 313	Statistics I	3 Credits
This course introduces students to 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. It also covers probability and introduces students to one sample T-Test and Chi-Square. Prerequisites: CMAT 105 and CPSY 211.		
CPSY 314	Statistics II	3 Credits
Students are introduced to inferential statistics, non-parametric statistics, and hypothesis testing in this course. Students learn how to use a variety of statistical tests, both parametric and nonparametric, for example, regression analysis, T-Tests, complex Chi-Square, independent and repeated analysis of variance tests, and Mann-Whitney U and Wilcoxon signed-ranks tests. Prerequisites: CPSY 211, CPSY 313, and CMAT 105.		
CPSY 315	Social Psychology	3 Credits
Social Psychology is described as the scientific study of the effects of both the individual on society (e.g., cognitions, perceptions, attitudes, social and personality characteristics, etc.) and society on the individual (e.g., social norms, stereotypes, prejudice, discrimination, social influences—compliance, obedience, conformity, etc.). The course will: (1) give students the opportunity to acquire a basic awareness of this subfield in psychology, that is, theories and research, (2) allow students to gain experience in the application of the principles of Social Psychology, and (3) enable students to develop an empirically sound research proposal under the guidance of the instructor. Prerequisite: CPSY 211 and CPSY 313.		
CPSY 316	Introduction to Psychological Testing	3 Credits
This course is designed to help foster an appreciation of theory and practical applications regarding psychological tests. In addition, students will learn about the basic types of tests used in schools, forensics, as well as medical and clinical settings. The construction, standardization, reliability and validity, scoring, administration, use, and interpretation of group and individual psychological tests are topics discussed in the class. Prerequisites: CPSY 211 and CPSY 313.		
CPSY 318	Industrial/Organizational Psychology	3 Credits
Industrial/Organizational Psychology is also referred to as Applied Psychology. It is the subfield of psychology that focuses on behavior in the workplace. For example, topics discussed in the class include: Employee behavior, motivation, performance, compensation, leadership, management systems, job satisfaction, personnel recruitment and selection, organizational effectiveness, organizational culture, professional development and training, how to manage change, etc. Prerequisites: CPSY 211 and CPSY 313.		

CPSY 320	Social and Personality Development	3 Credits
The Social and Personality course is a subfield of Social Psychology and is designed to cover theories of social and personality development from conception through adolescence. Classic theories and research as well as modern theories in the field will be examined. Different aspects or influences on a person's social and personality development will be discussed (e.g., emotions, attachments, achievement, sex differences and gender roles, altruism, aggression, cognitive and moral development, individuality, culture, environment, family, peers, school, television, etc.). Prerequisite: CPSY 211.		
CPSY 330	African-Centered Psychology	3 Credits
This course provides a thorough overview of topics that go beyond western-oriented approaches to psychology. It will provide students with information about the major approaches to the psychology of African people with particular emphasis on the experiences of African Americans. The Afrocentric and Eurocentric approaches to the understanding of African people will be examined extensively. Theoretical papers, research, and philosophical discussions about what Black/African Psychology is, how it should be studied, and how it can be utilized as a tool for empowerment and psychological liberation are also considered. Prerequisite: CPSY 211.		
CPSY 358	Human Sexuality	3 Credits
Human Sexuality examines the theoretical aspects, current practices and future research directions of sexuality. It also serves as an exposure agent in deciphering commonly held beliefs about sexuality. Through an empirical lens, this course provides a forum for discussing issues relevant to interpersonal and intimate relationships. Historical and different cultural views of sexuality, along with biological, social, religious, ethical, legal and personal issues on sexual expressions, perceptions, cognitions and attitudes are also explored. Students are also given an opportunity to engage in an assigned research project.		
CPSY 371	Experimental Psychology	3 Credits
Experimental Psychology is used to help students acquire skills in the use of the scientific method, investigative methods, data collection and data analysis. Students learn about experimental, correlational, and quasi-experimental research designs. In addition, they will learn how to: (1) differentiate between scientific and non-scientific research methods, (2) identify different types of research designs, and (2) implement different research designs in the laboratory. Students must enroll in the Experimental Psychology Lab at the same time that they enroll in this course. Prerequisites: CPSY 211 and CPSY 313.		
CPSY 371L	Experimental Psychology Laboratory	1 Credit
The Experimental Psychology Lab is used to enable students to apply the knowledge they obtained in the Experimental Psychology course. It provides a structured research setting in which students are guided through the research process by the instructor. Students will be able to collect and analyze data in a variety of ways in a series of assigned experiments.		
CPSY 377	History and Systems of Psychology	3 Credits
This course is essentially the history of psychology. It presents information on the philosophical, scientific, social, and religious antecedents that led to the development of Psychology as an independent, scientific field of study. The evolution of the different paradigms in the field at different times (e.g., structuralism, functionalism, gestalt, psychoanalytic, behavioral, cognitive, humanistic, etc.) are examined in detail. That is, classic and modern theories and theorists will be explored. Individuals who made significant contributions to the field will be examined as well. Students are also introduced to the contributions of individuals from different cultures and women to the field of psychology. Prerequisite: CPSY 211.		
CPSY 385	Abnormal Psychology	3 Credits
This course introduces the student to the scientific study of psychopathology, including history, demography, etiology, diagnosis, symptoms, and treatment. It is essentially an undergraduate's overview of Clinical Psychology. Students are introduced to research and factual knowledge in the area of abnormal psychology, especially diagnosis (e.g., DSM) and treatment (e.g., psychoanalytic, behavioral, cognitive, humanistic, etc.). In addition, students will be able to: (1) identify common flaws in psychological research and practice, (2) understand ethical and legal considerations in the practice of psychology, and (3) assess the validity and reliability of psychological sources. This class also looks at relatively new content areas in the field such as the impact of culture, gender, and race on abnormal behavior. Prerequisite: CPSY 211.		
CPSY 410	Organizational Behavior	3 Credits
Organizational Behavior is a subfield in the area of Industrial/Organizational Psychology and also has its roots in the area of Social Psychology (e.g., group dynamics). This course is designed to introduce the student to the many different ways that individuals, groups and structures in the organization impact the behavior in the work place as well as the effectiveness of the organization and the employees. Different theories are presented to help the student understand organizational development, management, and performance. Prerequisite: CPSY 211.		
CPSY 413	Learning	3 Credits
The Learning course presents information about the classic and current theories and research on the processes of learning and memory. Topics examined include: Instinctive (i.e., emitted) and learned (i.e., elicited) behaviors, classical and operant conditioning, reinforcement and punishment, discrimination and generalization, as well as social, observational, and insight learning, and the various stages of the human memory system. Prerequisite: CPSY 211.		
CPSY 415	Physiological Psychology	3 Credits
This course is designed to introduce the student to the scientific study of the 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
Independent Research is the course that is used to provide the student with guidance through the implementation of the scientific method (i.e., conducting research) under the tutelage of the instructor; that is, application of knowledge learned. Students work on individual or group projects as specified and agreed upon by both the student and instructor. A student could also be given an opportunity to work on research that the professor is already engaged. Normally the culmination of the research will result in an oral or poster presentation at a local, state, regional, national or international conference, and/or a publication. Independent Research can be taken twice for a total of six (6) credit hours. Time and place for the course will be provided from the instructor. Prerequisites: CPSY 211, CPSY 313, CPSY 314, CPSY 371, and permission of the instructor.		
CPSY 418	Senior Seminar	3 Credits
This course provides the students with opportunities to integrate their knowledge of psychology with current and professional issues in the field. Diverse topics in psychology, such as job opportunities, test preparation, graduate school opportunities, and current events with psychological implications are also explored. Students will be guided through the process for graduation, preparations for careers in the field of psychology or related fields, job placement, and/or professional schools. Prerequisites: CPSY 211 and senior standing (at least 88 credits completed).		
CPSY 419	Behavior Genetics	3 Credits
Behavior Genetics is an interdisciplinary science involving psychology, statistics, genetics, biology, etc. In this course students will learn about the influence of genetics on behavior. They will study genetic (and therefore non-genetic) influences and contributions to individual and group differences relating to psychological phenomenon including personality, psychopathology, intelligence, addiction, language, learning, sexuality, and related medical conditions. Prerequisite: CPSY 211.		
CPSY 420	Special Topics in Psychology	3 Credits
Special Topics is the course used by faculty members in the Department to explore their interests or the interests of their students in the classroom. Faculty may also decide to present a course based on his/her area of expertise (e.g., Forensics, Social and Personality Development, African Centered Psychology, Psychopharmacology, etc.) or a specific need of the students (e.g., APA writing style). This course could serve as a psychology elective for majors and as a general elective for all other majors. As long as the content of the course differs, there is no limit on the number of times a student can take the course for credit since majors are required to have five psychology electives. Prerequisite: CPSY 211.		
CPSY 421	Psychochemistry	3 Credits
Psychochemistry is a science that examines the relationship between chemicals, behavior and psychological processes. It is the study of the influence of chemistry on behavior. In this course students will study and learn neurochemical, pharmacological, and endocrinological changes affecting or accompanying emotional, motivational, and learned behaviors. Prerequisite: CPSY 415.		
CPSY 480	Independent Study	3 Credits
This course is developed to provide students with an opportunity to individualize their plan of study. Independent Study is done in consultation with a supervising faculty member, and the student is required to follow detailed plans of self-directed study on topics of the students' choice. Prerequisite: Permission of the instructor.		
CPSY 483	Independent Study	3 Credits
This course can be taken after the student has successfully completed CPSY 480. It is developed to provide students with an opportunity to individualize their plan of study. Independent Study is done in consultation with a supervising faculty member, and the student is required to follow detailed plans of self-directed study on topics of the students' choice. Prerequisites: CPSY 480 and permission of the instructor.		
CPSY 488	Internship	3 Credits
This is an experiential learning course. It provides the student with a semester of firsthand experience working in a psychological setting that would provide them with practical experience in the subfield of psychology in which they are interested. Interns work at least three (3) hours each week under the direct supervision of a professional within a designated agency (e.g., school, mental health facility, research center, private practice, hospital, business, etc.) and a faculty member of the Department of Psychology; students must complete at least sixty (60) hours in the field. Students are placed in the Internship by the faculty member and are expected to obtain the evaluation from the supervisor as well as return their evaluations of the site to the faculty member. Both forms are provided by the instructor of the course. Students are also exposed to ethical practices in the field and required to make a formal presentation of their work to their peers and instructor which will be evaluated by the instructor. This course is required for its majors and also satisfies the University-wide service requirement. Prerequisites: CPSY 211 and junior or senior standing.		
CPSY 491	Internship	3 Credits
This course can be taken after the student has successfully completed CPSY 488. This is an experiential learning course. It provides the student with a semester of firsthand experience working in a psychological setting that would provide them with practical experience in the subfield of psychology in which they are interested. Interns work at least three (3) hours each week under the direct supervision of a professional within a designated agency (e.g., school, mental health facility, research center, private practice, hospital, business, etc.) and a faculty member of the department of Psychology; students must complete at least sixty (60) hours in the field. Students are placed in the Internship by the faculty member and are expected to obtain the evaluation from the supervisor as well as return their evaluations of the site to the faculty member. Both forms are provided by the instructor of the course. Students are also exposed to ethical practices in the field and required to make a formal presentation of their work to their peers and instructor which will be evaluated by the instructor. This course is required for its majors and also satisfies the University-wide service requirement. Prerequisites: CPSY 211, CPSY 488, and junior or senior standing.		

CPSY 492	Cooperative Education Experience	3 Credits
This course presents an 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. <i>Prerequisites:</i> CPSY 211 and approval by the department chair.		
CPSY 495	Cooperative Education Experience	3 Credits
This course can be taken after the student has successfully completed CPSY 492. This course provides an 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. <i>Prerequisites:</i> CPSY 211, CPSY 492, and approval by the department chair.		
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 examines selected readings from the Old and New Testaments noting their contributions to the understanding of human existence.		
CREL 103	African-American Religious Experiences I	3 Credits
Provides analysis of the origin, development and social significance of African-American religious beliefs and practices from a historical perspective.		
CREL 104	African-American Religious Experiences II	3 Credits
Emphasizes the contemporary period, including the latest developments in black liberation theologies.		
CREL 211	Introduction to Religious Studies	3 Credits
An 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 241	American Religious Tradition I	3 Credits
CREL 242	American Religious Tradition II	3 Credits
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
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.		
CREL 351	History of Christian Thought I	3 Credits
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	History of Christian Thought II	3 Credits
Examines major Christian thinkers of the modern period, including the latest developments in black and feminist theology. Students may take either 351 or 352 course independently or both in sequence.		
CREL 361	Culture and Religion	3 Credits
A 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
An 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	Religion and the Media I	3 Credits
The first of a two-semester survey of historical and philosophical interpretations of religion in the media, including religious drama, evangelism, and other art forms. CREL 375 focuses on theory. Students may take either CREL 375 or CREL 376 independently or both in sequence.		
CREL 376	Religion and the Media II	3 Credits
The second of a two-semester survey of Historical and philosophical interpretations of religion in the media, including religious drama, evangelism, and other art forms. CREL 376 focuses on media techniques. Students may take either CREL 375 or CREL 376 independently or both in sequence.		
CREL 383	Religions of Africa	3 Credits
Examines representative religious traditions of Africa, including African tribal religions and adaptations of non-indigenous ones.		

CREL 401/402	Off-Campus Study	3 Credits ea.
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 - 454	Special Topics in Religion	3 Credits ea.
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. Students may be repeated for credit under a different topic. Open to Religion and Philosophy majors and non-majors.		
CREL 482/483	Independent Study	3 Credits ea.
In order to further develop their analytical and interpretive skills, students in consultation with their instructor may select an appropriate subject for study. Independent Study requires extensive reading and written work.		
CREL 484 - 487	Internship	3 Credits ea.
In consultation with their advisors, students may select an internship that articulates with their prospective career choices.		
CSB 5606	Advanced Auditing and Analytical Procedures	3 Credits
Utilization of analytical procedures to understand a client's business; identify unusual trends, relationships, and variations in financial statements; evaluate the reasonableness of the numbers in financial statements; identify potential risks associated with the audit; and plan the nature, timing, and extent of audit procedures. Students utilize available research materials, databases, personal auditing experience, and practitioner sources to address relevant issues. Emphasis is on analysis, teamwork, writing, and presentation skills.		
CSB 5690	Governmental and Nonprofit Accounting	3 Credits
Provides a working knowledge of govern and nonprofit accounting and financial reporting, and prepares students for professional certification in these areas. Governmental accounting is studied using the textbook and incorporating real-world examples. Nonprofit accounting instruction gives students the knowledge needed to work with nonprofits as auditors, board members, or volunteers.		
CSB 6618	International Accounting	3 Credits
Identifies the primary issues in the area of global financial reporting with a focus on multinational business risks and accounting implications, regulation of accounting and attestation in different countries, and reporting financial performance in a global context. The class considers how international reporting requirements help or hinder access to capital markets and examines the current state of convergence toward global reporting standards.		
CSB 6620	Cost Management Systems	3 Credits
Focuses on the analysis and reporting of resources costs and resource consumption explicitly directed at strategic management. The key elements to be study are cost structure, value chain analysis, strategic cost management, and cost driver analysis in support of strategic and operational decisions.		
CSB 6621	Current Accounting Theory and Practice	3 Credits
Examines the financial reporting problems that arise from mergers and acquisitions and from complex, multinational entities. The focus includes fair value accounting for business acquisitions, consolidation of financial statements, and cross-currency translation of financial statement. Class time will include lecture, discussion, and problem-solving.		
CSB 6623	Advanced Accounting Information Systems	3 Credits
Study of accounting system data security, fiduciary and reliability risks and mitigating internal controls. Emphasis is on the revenue and expense cycles and computer assisted audit techniques.		
CSB 6628	Forensic Accounting	3 Credits
Overview of fraud prevention and detection techniques, and an in-depth discussion of how to assist an audit committee and legal counsel with fraud investigations. Topics examined include investigating theft and concealment, conversion investigation methods, inquiry methods, and fraud reports.		
CSB 6630	Professional Accounting Internship	3 Credits
Professional accounting field work, under the direction of a faculty member, in a public accounting firm, corporate enterprise, or not-for-profit organization. Students gain relevant practical experience which builds on prior coursework and provides an experiential knowledge base for their remaining graduate coursework. <i>Prerequisite:</i> Approval by the department chair.		
CSCJ 105	Culture and Society	3 Credits
This course explores social forces that affect behavior and values. Students consider among others, issues such as male/female relationships within institutions and society, racial and sexual inequality and the interaction between culture and institutions.		
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.		

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 215H	Introduction to Sociology	3 Credits
Basic concepts and principles of human society. Students examine the social structure, group interaction, and processes of social arrangements. Satisfies General Education Core requirement for social science.		
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. <i>Prerequisite:</i> CSCJ 201 or permission of Instructor.		
CSCJ 305	Criminal Investigation	3 Credits
A coverage of the fundamentals of investigation; duties and responsibilities of the investigator; 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CSCJ 201 or permission of Instructor.		
CSCJ 337	Statistics I	3 Credits
Introduction to descriptive statistics, including associational measures and probability. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> CSCJ 337 or simultaneous enrollment in CSCJ 337.		
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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisites:</i> 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. <i>Prerequisite:</i> 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. <i>Prerequisite:</i> Approval of the department chair.		
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, and effective listening techniques, and the preparation and delivery of oral presentations.		
CSTA 103	Fundamentals of Theatre and Dance Movement	1 Credit
Study of the basic principles and forms of movement for dance and theatre.		
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. <i>Prerequisites:</i> CSTA 101, CENG 105 and CENG 106.		
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.		
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. <i>Prerequisite:</i> CSTA 201.		

CSTA 213	Public Address	3 Credits
Advanced course; offers experience in the composition, delivery, and criticism of public speeches. <i>Prerequisite:</i> CSTA 101 and permission of the instructor.		
CSTA 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.		
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. <i>Prerequisite:</i> CSTA 201.		
CSTA 252	Theatre Appreciation	3 Credits
Course examines how theatre functions as an art form through the exploration of the interrelationships of the audience, performer and space. Designed to study the nature of the theatre experience by analyzing principles and practices that govern contemporary theatre. Attendance at several professional theatrical performances is required.		
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. <i>Prerequisite:</i> CSTA 201.		
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.		
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.		
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.		
CSTA 303	Argumentation and Debate	3 Credits
Introduction to theories and practices of formal public debate. <i>Prerequisites:</i> CSTA 213, CSTA 200 and CSTA 201.		
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. <i>Prerequisites:</i> CSTA 101, CSTA 200, CSTA 201 and CSTA 213 for majors in speech communication; CSTA 101 and permission of the instructor for other concentration areas.		
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.		
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. <i>Prerequisites:</i> CSTA 101, CSTA 200 and CSTA 201.		
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 (6) credits. <i>Prerequisite:</i> Junior or senior status and permission of the instructor.		
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. <i>Prerequisites:</i> CSTA 101, CSTA 200 and CSTA 201.		
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.		
CSTA 321	Lighting and Design	3 Credits
Introduction to theories, techniques and art of the stage electrician and lighting designer. <i>Prerequisite:</i> CSTA 255.		
CSTA 351	Development of Drama I	3 Credits
Study of the origins and development of drama through the survey of principal plays, playwrights, and theatre arts through the ages. Encourages and aids students in developing appreciation for drama and theatre as art forms and as factors in the changing civilizations of the world. <i>Prerequisite:</i> CSTA 251.		

CSTA 352	Development of Drama II	3 Credits
A continuation of CSTA 351. <i>Prerequisite:</i> CSTA 351.		
CSTA 353	Play Production Methods	3 Credits
Approach to understanding the fundamental principles of preparing a play for public presentation.		
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. <i>Prerequisite:</i> CSTA 254.		
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.		
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. The course explores topics such as organizational culture and climate, superior-subordinate communication, leadership, conflict management, and group decision-making processes.		
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. <i>Prerequisite:</i> Junior or senior status.		
CSTA 452	Theatre Arts Management	3 Credits
Study of the theatrical producing and managing in contemporary American theatre. Providing historical background and current practice, methods used in professional managerial systems. <i>Prerequisite:</i> Senior standing and permission of instructor.		
CSTA 453	Directing	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. <i>Prerequisites:</i> CSTA 352, CSTA 353, and CSTA 354.		
CSTA 454	Children's Theatre	3 Credits
History of the development and function of children's theatre. Also explores the approaches to and mounting of a performance for youth. This course meets the General Education Core and community service requirement.		
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. <i>Prerequisite:</i> Senior status.		
CSTA 456	African-American Theatre	3 Credits
Study of plays, playwrights and contributions of African-Americans to the theatre.		
CSTA 482	Directed Study	3 Credits
Speech communication theatre arts majors, in consultation with an instructor, develop specialized research projects on topics of interest to critically examine theatre or communication issues. <i>Prerequisite:</i> Junior or senior status and permission of the instructor.		
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. <i>Prerequisite:</i> Junior or senior status and permission of the instructor.		
CSTA 490	Speech Communication and Theatre Arts Seminar	3 Credits
Provides speech communication and theater arts majors with opportunities to apply theories and techniques to practical experiences in their areas of study. It is a skill seminar for graduating seniors. Research projects should reflect the academic and career interests of the students. <i>Prerequisite:</i> Senior status.		
CUSW 200	Introduction to Social Work	3 Credits
This course is the first prerequisite course for students interested in social work. The course traces the development of social work from early volunteer efforts to the present organizations in social welfare and includes various fields of social work practice and career opportunities.		
CUSW 202	Introduction to Professional Helping	3 Credits
This course is a study in self-assessment, personal values clarification, problem solving and interviewing skills for career choices in social services. A directed field observation experience of at least 50 clock hours is required. (CUSW 200 must be completed prior to or <i>co-requisite</i> with CUSW 200.)		
CUSW 300	Social Welfare Policies and Services	3 Credits
This course is designed to familiarize students with social welfare policy formation and how corresponding organizational structures that impact programs, services and clients. The course also explores and analyzes select historical and current perspectives in developing policy to address societal issues. <i>Co-requisites:</i> CUSW 302, CUSW 412, and CUSW 413.		

CUSW 301	Social Research Methods for Social Work Practice I	3 Credits
This course introduces students to methods for social work research. The course takes students through research problem formulation, methods for answering research questions (qualitative and quantitative methods and interviews, surveys, case studies, practice effectiveness, etc.), and the major components of research design (sample, measurement, design, and procedures). Prerequisites: Co-Requisites: CUSW 350, CUSW 360 and CUSW 411.		
CUSW 302	Statistics for Social Work Practice II	3 Credits
This course introduces students to descriptive and inferential statistics. In addition to learning about the use of statistics, students will learn to analyze, present, and interpret data based on the methodologies learned in the prerequisite course using the Statistical Package for Social Sciences (SPSS) computer application for data analysis. Co-requisites: CUSW 300, CUSW 412 and CUSW 413.		
CUSW 350	Issues of Health Disparities among Minority Populations	3 Credits
This course introduces students to select issues regarding health disparities that are dominant among minority populations. The course is divided into three modules: (1) current major health disparities (2) community-based health programs; and (3) a review of research methodologies and best-practice approaches to address the issues of health disparities in the United States. Co-requisites: CUSW 301, CUSW 360 and CUSW 411.		
CUSW 360	Interpersonal Skills Laboratory	3 Credits
This course is designed 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 effective communication and problem solving skills applicable to micro and mezzo systems. Co-requisites: CUSW 301, CUSW 350 and CUSW 411.		
CUSW 401	Human Behavior and the Social Environment I	3 Credits
This course focuses on the life stages from conception through adolescence and introduces students to multiple factors that influence the reciprocal relationship between the person and their environment. Students explore theoretical frameworks and, analyze and synthesize a range of behavioral constructs and contemporary social problems. Prerequisite: All required junior level courses. Co-requisites: CUSW 403, CUSW 405 and CUSW 415.		
CUSW 402	Human Behavior and the Social Environment II	3 Credits
This course focuses on the life stages of young adulthood through late adulthood and introduces students to multiple factors that influence reciprocal relationships between the person and their environment. Students explore theoretical frameworks and, analyze and synthesize a range of behavioral constructs and contemporary social problems. Co-requisites: CUSW 404, CUSW 406 and CUSW 416.		
CUSW 403	Practice Competencies I	3 Credits
This course is designed to provide students with a synthesis of generalist social work knowledge, values, skills, and roles for integration into appropriate and effective helping strategies for professional practice with individuals, families, groups, communities, and organizations. Prerequisite: All required junior level courses. Co-requisites: CUSW 401, CUSW 405 and CUSW 415.		
CUSW 404	Practice Competencies II	3 Credits
This course is designed to provide students with knowledge and skills to apply supervision, consultation, into generalist social work practice. Emphasis is placed on teamwork in agencies and organizations, and techniques for interpreting and applying organizational policies and mandates, resource identification, and select methods for conducting community assessments. Co-requisites: CUSW 402, CUSW 406, and CUSW 416.		
CUSW 405	Field Instruction I	6 Credits
This course is an educationally directed practicum offered in a social service setting, emphasizing assessment and planning, and their relationships to improve social services delivery. Students complete 196 clock hours and participate in bi-monthly seminars designed to provide students opportunities to discuss their experiences, bridging theories and real-life practice. Prerequisite: All required junior level courses. Co-requisites: CUSW 401, CUSW 403 and CUSW 415. Students are in the field for two (2) days a week for Field Instruction I. Only Declared Social Work Seniors may enroll in this Course.		
CUSW 406	Field Instruction II	6 Credits
This course is an educationally directed practicum offered in a social service setting, emphasizing evaluation and research, and their relationships to improve social services delivery. Students complete a minimum of 204 clock hours and participate in bi-monthly seminars. Seminars are designed to integrate and synthesize theories of social service administration with practice. Prerequisite: Satisfactory Completion of USW 405. Co-requisites: CUSW 402, CUSW 404, and CUSW 416. Only Declared Social Work Seniors may enroll in this Course.		
CUSW 411	Social Work Theory and Practice	3 Credits
This course introduces the relationship of theory and practice skills needed to practice with all systems. Primary focus is placed on structural rather than personal explanations of social problems with concern for inequality and oppression. The course integrates social work values and ethics, diversity, promotion of social and economic justice, and empowerment of human beings. Prerequisites: CUSW 200, CUSW 202. Co-requisites: CUSW 301, CUSW 350 and CUSW 360.		
CUSW 412	Mental Health of Diverse Groups	3 Credits
This course provides students with knowledge of mental health services and its application for diverse groups: i.e. African Americans, Hispanics, Native Americans, physically handicapped, migrant workers, women, and the elderly. Life situations impacting the behavior of these populations are examined from an ecosystems perspective in an effort to understand the mental health problems that may emerge. Co-requisites: CUSW 300, CUSW 302, and CUSW 413.		

CUSW 413	Child Welfare Programs and Services	3 Credits
This course covers knowledge, concepts and tools associated with contemporary child welfare practice focusing on micro, mezzo, and macro considerations in providing child welfare services. Emphasis will be placed on the identification of child maltreatment, reporting procedures, and continuing professional interaction with children and families from a community-based and multidisciplinary perspective. <i>Co-requisites:</i> CUSW 300, CUSW 302, and CUSW 412.		
CUSW 415	Issues in Child Welfare	3 Credits
This course provides students with knowledge and information regarding how to assess and identify cases of child abuse and neglect. Students will gain general knowledge and understanding of the types of abuse and neglect, methods of investigations, interviewing techniques, as well as, knowledge of available community resources to both prevent and treat child abuse. <i>Co-requisites:</i> CUSW 402, CUSW 404, and CUSW 416.		
CUSW 416	Social Work Practice with the Aged	3 Credits
This course is designed to assist students with the development of competence in the delivery of services to older adults and their families. Students will explore social work practice with the elderly in various service settings. Students will acquire the skills required for interdisciplinary collaboration and intervention and the application of the problem solving process with all systems. <i>Co-requisites:</i> CUSW 402, CUSW 404, and CUSW 406.		
HBIO 240*	Introduction to Public Health	3 Credits
This course is designed to give students a strong foundation in the administration and practice of public health; to provide an understanding of the technical, social, and political parameters surrounding public health research and practice. The course includes a lecture series; field trips to local, state, and federal agencies and services; and a research project.		
HBIO 330*	Introduction to Epidemiology	3 Credits
This course is a study of the distributions and determinants of health related states and events in populations with a view toward identifying the etiology (the study of the causes and origin of diseases) of diseases. It includes fundamental strategies for epidemiological research; the framework for assessing valid statistical associations and making judgments of causality; measures of disease frequency and association; detailed discussions of the various types of study designs, analysis, and interpretation of epidemiological data; and methods of the evaluation and control of chance, bias, and confounding in assessing the presence of a valid statistical association.		
HBIO 340*	Biostatistics	3 Credits
This course is designed for applications of statistics in the biomedical and health sciences. It introduces parametric and non-parametric statistical methodology, including descriptive measures, elementary probability, estimation and hypothesis testing, correlation, regression and single factor analysis of variance. Underlying theory is empirically demonstrated utilizing biomedical applications. Computer-based statistical analysis is used throughout the course. (Electives from any of the AUC schools that have a similar course description may substitute for this course)		
HBIO 450*	Public Health Sciences Seminar and Practicum	3 Credits
This course is designed to provide students with a forum for discussion and critical analysis of contemporary health care issues while providing practical experience in a health service agency. * Courses for Public Health Minor offered at Morehouse College.		
SART 141**	History of Art I	3 Credits
This course will explore the art and architecture of Egypt, the Near East, the classical Greek and Roman world and Medieval Europe from about 2000BC to 1400AD. It will examine a wide range of art, architecture and objects, designed for various functions, from the standpoints of style, content and how they express political and religious ideas of the societies that created them. Open to non-art majors as an elective or fine arts credit.		
SART 142**	History of Art II	3 Credits
This course will explore major artistic traditions from the Renaissance to the Modern era in Western Europe and America. Focusing primarily on painting, sculpture and selected examples of architecture, it will examine art style and content with reference to historical background, patronage, nationality, personality, gender influence and artistic production. Open to non-art majors as an elective or fine arts credit.		

* Offered on Morehouse College Campus

** Offered on Spelman College Campus