



COURSES OF INSTRUCTION

Sections of courses are listed in alphabetical order, by the prefix of the academic discipline. Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number is the number of semester hours credit. The suffix K designates courses in which a laboratory is included; the suffix L designates a lab course that is separate.

ACCT: ACCOUNTING

ACCT 7200 Accounting Theory and Advanced

Financial Reporting Problems

3-0-3

Prerequisite: Undergraduate foundations in accounting. A critical review, analysis, and evaluation of current accounting thought relating to the nature, measurement, and reporting of business income and financial position.

ACCT 7400 Advanced Cost and Managerial Accounting

3-0-3

Prerequisite: Undergraduate foundations in accounting. A study of advanced cost and managerial accounting topics such as the ramifications of variable and fixed costs, activity-based cost and management systems, the theory of constraint, planning and control, and decentralization and performance measurement. The students will learn to analyze accounting data for problem solving and decision making.

ACCT 7510 Corporate Taxation

3-0-3

Prerequisite: Undergraduate foundations in accounting. An examination of the tax aspects of the formation and operation of a business in the corporate form. Limited coverage of the Subchapter-S corporation is included. Case law and research will be heavily utilized to illustrate the compliance and litigation aspects of the corporate entity.

ACCT 7520 Partnership, Estate, and Trust Taxation

3-0-3

Prerequisite: Undergraduate foundations in accounting. An in-depth study of Federal law as it relates to the income taxation of partnerships, limited liability corporations, estates, and trusts. An introduction to the Federal Transfer Tax is also included. Case law and research will be heavily utilized to illustrate the compliance and litigation aspects of these entities.

- ACCT 7810 Advanced Auditing Problems and Cases** **3-0-3**
Prerequisite: Undergraduate foundations in accounting. An in-depth study of audit issues including attestation engagements, statistical auditing, and fraud and forensic accounting. Emphasis will be placed on problem solving and communication skills.
- ACCT 7910 International Accounting and Reporting** **3-0-3**
Prerequisite: Undergraduate foundations in accounting. An examination of accounting for international transactions, currency translation methodology, foreign exchange risk management, the accounting systems of international firms, financial planning and control within multinationals, and international auditing and taxation. Students will research accounting practices of multinational companies, accounting principles of foreign countries, and international accounting harmonization efforts.
- ACCT 7990 Directed Study in Accounting** **3-0-3**
Prerequisite: Faculty approval. A special project undertaken by the student. The project is guided by a faculty member and culminates in a research project.

ARED: ART EDUCATION

- ARED 6150 Stimulating Creative Behavior** **3-0-3**
 The study of theories of creativity, visual thinking, creative problem finding and problem solving strategies, identifying external and internal blocks to creativity, testing for creativity, the relationships between creativity, cognition, and visual thinking, and creative thinking challenges and stimuli. An emphasis is placed on methods to elicit creative behavior.
- ARED 7150 Research Problems In Art Education** **3-0-3**
Prerequisites: RSCH 7100 and ARED 7500. Analysis of selected studies in the field of Art Education. Students will prepare a research proposal.
- ARED 7450 Art Education Curricula** **3-0-3**
Prerequisite: Art Education major or permission of the department head. The study of art curricula, philosophies, rationales, purposes and goals in American schools, K-12. Field applications and observations are required.
- ARED 7500 Issues And Trends In Art Education** **3-0-3**
 The study of selected issues and current trends in the field of Art Education. A research paper and /or project and field applications are required.
- ARED 7670 Aesthetic Inquiry And Art Criticism** **3-0-3**
Prerequisites: Nine semester hours of art history or equivalent background. This course will focus on aesthetics and critical methods for art and Art Education. Field applications of critical methods and/or issues related to aesthetics are required.
- ARED 7930 Terminal Project** **1-0-1 to 3-0-3**
Prerequisite: RSCH 7100. A capstone course wherein students will develop, with departmental approval, applied research projects based on research findings, curriculum issues, or methodological studies relevant to Art Education contexts. Field applications are required. For students not selecting the thesis

option.

ARED 7999 Thesis

1-0-1 to 3-0-3

Prerequisite: RSCH 7100. A capstone research course resulting in the proposal and preparation of a thesis in APA style. A thesis defense is required. For students not selecting the terminal project option.

ART: ART APPRECIATION

ART 6510 Special Topics in Art History and Criticism 1-0-1 to 3-0-3

Prerequisite: ART 1100 or equivalent undergraduate art history/appreciation course. A seminar course for the study of special topics or contemporary trends in art, art history, and art criticism. Research, analysis, and short essays will be emphasized. Course may be repeated for credit.

ART 7670 Late Twentieth Century Art 3-0-3

Prerequisite: nine semester hour credits of art history at the undergraduate or graduate level. This course examines the art and theories of art from 1970 to the present. Students will identify, classify, and place in theoretical context selected works of late twentieth century art..A critical essay and presentation a selected contemporary issue or theory is expected.

ART: ART STUDIO

ART 6000 Watercolor 0-6-3

A course designed for the student who is experienced with aqueous media and has demonstrated success as a self-directed watercolor painter. Students are expected to provide a portfolio for review by the instructor. The student will develop and resolve artistic problems relevant to the media. Works produced will undergo analysis and critical reviews. This course may be repeated for credit.

ART 6100 Ceramics 0-6-3

Prerequisite: Three semester hours credit of intermediate ceramics at the undergraduate level or permission of the instructor. This course emphasizes wheel throwing techniques, decorative processes, ceramic materials formulation, and firing strategies.

ART 6200 Drawing And Composition 0-6-3

Prerequisite: Three semester hour credits of intermediate drawing at the undergraduate level or permission of the instructor. The study of drawing in various media with an emphasis on individual stylistic development. The production of a thematic portfolio and solo or group exhibition is expected.

ART 6450 Painting 0-6-3

Prerequisite: Three semester hour credits of intermediate painting at the undergraduate level or permission of the instructor. This course requires the student, under the guidance of the instructor, to develop individualized problems in painting using a variety of media and techniques. The emphasis is on the

development of a personal stylistic approach to painting. A solo or group exhibition is expected.

ART 6510 Special Topics In Art **1-0-1 to 3-0-3**

Prerequisite: ART 2000 or equivalent undergraduate art history/appreciation course. A seminar course for the study of special topics or contemporary trends in art, art history, and art criticism. Research, analysis, and short essays will be emphasized. Course may be repeated for credit.

ART 6650 Technical Problems in Art **0-2-1 to 0-6-3**

Prerequisite: Permission of the instructor. A course for advanced students capable of independent research and study in the production of a body of related works in selected media. A problem statement and procedural plan will be developed. A solo or group exhibition is required.

ART 6950 Workshop in Art **0-2-1 to 0-6-3**

Selected topics presented in an intensive workshop setting for studio production of art works. Critical reviews and the exhibition of art works produced are expected. May be repeated for credit under different topic headings.

ART 7070 Electronic Imaging **0-6-3**

Prerequisite: Three semester hours credit at the undergraduate level or permission of the instructor. This course emphasizes the application of computer graphics processes to visual arts problems. Students will demonstrate an understanding of the range of computer graphics applications, a working knowledge of selected graphics software, and will prepare still or animated work for presentation. Specific assignments will be developed in relation to the student's professional goals.

ART 7900 Directed Study in Art **0-2-1 to 0-6-3**

Prerequisite: Approval of the instructor and Department Head. Individual problems in art selected and defined with approval of the supervising instructor. May be repeated for credit.

ASTR: ASTRONOMY

ASTR 5101-5102 Principles of Astronomy I, II **3-2.5-4 each**

A calculus-based course covering astronomical observations, analysis of celestial motions, and a study of the solar system in 5101, and covering the physics of the sun and stars, stellar evolution, galactic structure and the universe in 5102.

ASTR 6100 Observational Techniques **2-2-3**

Aspects of instrumental and observational astronomy including the optics of the telescope, spectroscopy, photography, photometry, electronics, CCDs, astrometrical problems, the operation of the observatory, and mathematical methods of data reduction.

ASTR 6400 Physics of the Solar System **3-0-3**

Celestial mechanics; physical features of the sun, planets, moons, and other material in the solar system.

- ASTR 6410 Astrophysics** **3-0-3**
 Radiative transfer in the stellar atmosphere, the interior structure of stars, stellar evolution, physical processes in gaseous nebulae, cosmology.
- ASTR 6800 Internship in Astronomy** **0-6-3 to 0-12-6**
 Active participation in research in astronomy, or in some field of science closely allied with astronomy, or work with a planetarium or museum which involves planetarium operations and programs. A daily log of activities, a report on the work done, and a research paper relating the work done to the field of astronomy are required.
- ASTR 6900 Special Topics in Astronomy** **1-0-1 to 4-4-6**
 Topics to be assigned by instructor; may be taken more than once if topics are different; up to a total of 6 credit hours.
- ASTR 6950 Directed Study in Astronomy** **1-0-1 to 4-4-6**
 Study in area or subject not normally found in established courses offered by the department; may also allow student to explore in more detail and/or depth an area or subject covered by the department in astronomy; up to a maximum of 6 credit hours.

BIOL: BIOLOGY

- BIOL 5000 Biostatistics** **2-4-4**
Prerequisite: MATH 1113, BIOL 2230 and BIOL 2270. An introduction to univariate and multivariate analysis of data. Laboratory work will allow students to collect data typical of the diverse disciplines in biology and subject those data to appropriate biometrical analyses, using a calculator or computer. Students will be required to keep a detailed lab notebook of the statistical methods studied and also complete a term project and a scientific report. Two 2-hour laboratory periods per week.
- BIOL 5100 Microbiology** **3-3-4**
Prerequisite: BIOL 2010; CHEM 1212K. **Recommend CHEM 3402.** Survey of microbiology covering eubacteria, archaebacteria, protozoa, fungi, algae, and viruses. Includes fundamental techniques, microbial physiology and genetics, biotechnology, medical applications, and applied microbiology. Two 1.5 hour laboratory periods per week.
- BIOL 5200 Genetics** **3-3-4**
Prerequisite: MATH 1113, BIOL 2230; BIOL 2270. A survey of modern genetics including: Mendelian and molecular genetics, as well as selected topics in population and quantitative genetics and genetic engineering. Laboratory will emphasize genetic analysis using live *Drosophila* and computer simulated crosses, chi-square analysis of progeny data, and application of these principles to laboratory analysis of genetic variation at the DNA level.
- BIOL 5300 Ecology** **3-3-4**
Prerequisite: BIOL 2230; BIOL 2270; CHEM 1212K with a grade of “C” or better. **Corequisite:** BIOL 3200, or consent of instructor. Basic ecological principles including behavior of individuals, populations, and communities in the context of their physical and biotic environments. Reviews population genet

ics and basic evolution; emphasizes scientific method, including the role of theory, hypothesis testing, statistical analysis and scientific writing. Observation and data collection mostly in the field within a variety of local ecosystems. One weekend field trip required.

BIOL 5400 Plant Physiology 3-3-4

Prerequisite: BIOL 2230; CHEM 1211K. An introduction to basic principles of plant function including physical processes occurring in plants, water relations in whole plants and plant tissues, cell physiology and biochemistry, and growth and development.

BIOL 5450 Vertebrate Physiology 3-3-4

Prerequisite: BIOL 2270; CHEM 1212K or permission of Instructor. Study of general physiological processes of vertebrates; emphasis at organ and organ system levels.

BIOL 5500 Mycology 3-3-4

Prerequisite: BIOL 2230; **Recommended:** BIOL 3100. Biology of fungi with emphasis on morphology, taxonomy, physiology, and ecology, includes the roles of fungi as both beneficial organisms and as causal agents in plant and animal diseases.

BIOL 5550 Phycology 3-4-4

Prerequisite: BIOL 2230. An introduction to the study of the algae, including taxonomy, phylogeny, physiology, and ecology. Laboratories will focus on the examination of live material, and will include methods for the isolation and culture of algae.

BIOL 5600 Local Flora 3-3-4

Prerequisite: BIOL 2230. A field-oriented study emphasizing identification, distribution, and ecology of locally occurring seed-bearing plants. Two or three weekend field trips are routinely scheduled.

BIOL 5650 Taxonomy of Seed Plants 3-3-4

Prerequisite: BIOL 2230. A survey of the principles of plant taxonomy that includes identification, nomenclature, evolution, and classification of seed-bearing plants. A systematic survey of plant families will be used with emphasis on local representatives.

BIOL 5800 Invertebrate Zoology 3-3-4

Prerequisite: BIOL 2270. A study of the morphology, phylogeny, and ecology of invertebrates.

BIOL 5840 Entomology 3-3-4

Prerequisite: BIOL 2270. Introduction to the study of insect biology including ecology, behavior, and taxonomy. Laboratory includes field observation, sampling and identification of local fauna.

BIOL 5870 Parasitology 3-3-4

Prerequisite: BIOL 2270. A study of the morphology, life cycles, and host-parasite relationships of representative protozoan and metazoan parasites. Human parasites are emphasized.

- BIOL 5900 Ichthyology** 3-3-4
Prerequisite: BIOL 2270. A study of the taxonomy, distribution, ecology, behavior and evolution of freshwater and marine fishes. One or two overnight field trips on weekends will be scheduled, with emphasis placed on the collection and preservation of specimens and the identification of habitats occupied by various species. Other field trips scheduled during normal laboratory periods.
- BIOL 5920 Herpetology** 3-3-4
Prerequisite: BIOL 2270. Introduction to the study of amphibians and reptiles, including anatomy, physiology, ecology, behavior, and classification coordinated with field study of local species.
- BIOL 5950 Ornithology** 3-3-4
Prerequisite: BIOL 2270. Lectures on morphology, evolution, ecology, behavior, and distribution of birds of the world. Lab emphasizes gross anatomy and identification of local species by sight and sound; mostly in the field. Five-day field trip to south Florida required; other Saturday trips offered.
- BIOL 5980 Mammalogy** 3-3-4
Prerequisite: BIOL 2270. Lectures emphasize morphology, evolution, ecology, zoogeography and classification of mammals of the world. Lab emphasizes gross anatomy and identification of mammal specimens, especially those found in North America. Four-day field trip to Blue Ridge Mountains. (NC) required; Manatee dive (FL) offered.
- BIOL 6000 Topics in Biology I** 3-0-3
Prerequisite: BIOL 2230; BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course does not include a laboratory
- BIOL 6010 Topics in Biology II** 3-3-4
Prerequisite: BIOL 2230; BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course includes a laboratory.
- BIOL 6100 Morphology of Land Plants** 3-3-4
Prerequisite: BIOL 2230; BIOL 2270 or equivalent. Study of vegetative organization and reproductive cycles of bryophytes, pteridophytes and seed plants, which incorporates phylogenetic and ecological relationships.
- BIOL 6200 Plant Anatomy** 3-3-4
Prerequisite: BIOL 2230. Origin and development of tissues and organs of vascular plants. The laboratory stresses microtechnique including preparation of plant tissues in paraffin and plastic resins, sectioning, staining for specific components of plant tissues, and use of different optical methods.
- BIOL 6300 Comparative Vertebrate Anatomy** 3-3-4
Prerequisite: BIOL 2270, or with approval of Instructor. Anatomical and phylogenetic survey of representative vertebrate animals.
- BIOL 6350 Vertebrate Embryology** 3-3-4
Prerequisite: BIOL 2270. A study of the fertilization process and embryology of selected vertebrates with the greatest emphasis placed on chick development.

- BIOL 6400 Vertebrate Histology** 3-4-4
Prerequisite: 8 semester hours of senior college biology courses. Study of vertebrate histology with emphasis on the four primary tissues (epithelium, connective, muscle, and nerve). Laboratory work consists primarily of detailed microscopic study and drawings of tissues from prepared slides. Two 2-hour laboratory periods per week.
- BIOL 6500 Cell Biology** 3-3-4
Prerequisite: CHEM 3601 and CHEM 3601L. The organization and function of cellular structures in animal, plant, and microbial systems. Emphasis on the molecular basis of metabolism, transport, mobility, nerve conduction, and the cell cycle.
- BIOL 6550 Immunology** 3-3-4
Prerequisite: BIOL 3100. Basic concepts of immunology, including antigen and antibody structure, the generation of diversity, the nature of T cell and B cell receptors, cellular cooperation, and the down regulation of immune responses.
- BIOL 6580 Molecular Biology of DNA** 3-3-4
Prerequisite: BIOL 2230; BIOL 2270; CHEM 1212K or consent of the instructor. A study of current principles of DNA structure and function. Laboratory emphasis will focus on modern techniques in DNA isolation, modification, and electrophoretic characterization.
- BIOL 6600 Evolution** 3-0-3
Prerequisite: BIOL 3300. Study of the theoretical aspects and the patterns and processes of micro-and-macro evolutionary change.
- BIOL 6650 Animal Behavior** 3-3-4
Prerequisite: BIOL 2270. Introduction to the major concepts of causation, development, evolution, and ecology of animal behavior, emphasizing the behavior of social animals.
- BIOL 6700 Limnology** 3-3-4
Prerequisite: BIOL 3300. A study of the physical, chemical, and biological aspects of fresh waters.
- BIOL 6950 Directed Study** 0-12-4
Prerequisite: completion of all required upper-division biology courses with distinctly superior academic records and the consent of the instructor. Limited to selected students with approval of instructor and Department Head. A specific problem to include supervised investigation and a report in format of biological journals

BVED: BUSINESS AND VOCATIONAL EDUCATION

- BVED 7000 Foundations and Trends in Business Education** 2-0-2
An overview of the history and development of the field of business education. Emphasis on the various components of the business education profession; federal and state legislative implications for business education; current trends, issues, and problems in business education; and contributions of various leaders in the field of business education.
- BVED 7200 Improvement of Instruction in Keyboarding** 3-0-3
Development of strategies for teaching keyboarding. Emphasis on course objectives, equipment, materials, skill development, standards, and evaluative criteria.
- BVED 7220 Improvement of Instruction in Computer Technology** 3-0-3
An analysis of methods, strategies, and problems associated with teaching computer technology courses. Also included are the selection and acquisition of state-of-the-art hardware and software and the design and maintenance of a technology lab in an educational setting.
- BVED 7230 Improvement of Instruction in Accounting and Basic Business Subjects** 3-0-3
Strategies for teaching accounting and basic business subjects. Emphasis is placed on examining the use of computers in the teaching/learning process; motivation techniques; evaluation tools; and application of research to the instructional process.
- BVED 7240 Improvement of Instruction in Office Education** 3-0-3
Competencies needed by students preparing for office work are analyzed; teaching methods, course content, and evaluation procedures are discussed.
- BVED 7300 Practicum in Business/Vocational Education** 3-0-3
Prerequisite: Major in appropriate specialization; permission of the advisor must be obtained before registration.
- BVED 7310 Practicum in Business/Vocational Education** 3-0-3
Prerequisite: Major in appropriate specialization; permission of the advisor must be obtained before registration.
- BVED 7400 Computer Technology for the Workplace** 3-0-3
Introductory, hands-on computer applications for development of workplace skills. Topics include word processing, databases, spreadsheets, communication, and presentation software.
- BVED 7500 Applied Computer Technology** 3-0-3
Prerequisite: BVED 2400/BVED 7400 or consent of instructor. Development of instructional materials for specific teaching areas using the advanced features of word processing, spreadsheets, databases, communication, and presentation software. Designed for in-service teachers and will require the development of practical computer-related projects which can be used in the teachers' respective classrooms.
- BVED 7900 Seminar in Business Education** 3-0-3
Study of current problems in business education.

- BVED 7950 Directed Study in Business Education** **1-0-1 to 3-0-3**
Prerequisite: Consent of the department head. An opportunity for intensive individual study on an approved topic.
- BVED 7990 Evaluation and Analysis of Research in Business Education** **3-0-3**
 Develop and enhance students' ability to analyze relevant research in business education. Emphasis placed on research methodology, research findings, and implementations and implications for business education.
- BVED 8000 Office Technology** **3-0-3**
 Development of state-of-the-art office technology skills.
- BVED 8150 Cooperative Work Experience** **3-0-3**
 Designed to give the sixth-year student a summer's internship in business or industry which will be beneficial in planning curricula and in teaching. Student will secure the position and have it approved by the coordinator. A research problem, approved by the employer and supervising faculty member, will be completed by the student.
- BVED 8310 Communication Theory** **3-0-3**
 Focus on the development of communication theory. An examination of organizational culture, perception and communication, interpersonal patterns, communication barriers, and nonverbal communication.
- BVED 8350 Administrative Support Systems** **3-0-3**
 Focus will be on the examination of new technology utilized in the business environment. Topics include the improvement of productivity through technology and systems, ergonomics issues, ethics, and trends.
- BVED 8450 Multimedia Authoring and Design** **3-0-3**
 Provides skills in designing and authoring multimedia courseware for education and training environments. Emphasis placed on using multimedia authoring and presentation software to design dynamic materials for individualized and group instruction.
- BVED 8900 Seminar in Business Education** **3-0-3**
 Study of current problems in business education.
- BVED 8995 Practicum in Business/Vocational Education** **3-0-3**
Prerequisite: Consent of the department head; to be taken at or near the end of the Ed.S. coursework.

CHEM: CHEMISTRY

- CHEM 5801 Physical Chemistry I** **3-0-3**
Prerequisites: CHEM 3402, MATH 2262, and PHYS 2212K with a grade of C or better. A theoretical and mathematical treatment of the fundamental theories and laws of chemistry with an emphasis on thermodynamics. Permission for graduate credit must be arranged with the instructor prior to enrolling in the course and will involve the completion of a significant project.

- CHEM 5802 Physical Chemistry II** **3-0-3**
Prerequisite: CHEM 5801. **Corequisite:** CHEM 5802L. A theoretical and mathematical treatment of the fundamental theories and laws of chemistry with an emphasis on quantum mechanics, kinetics, and statistical mechanics. Permission for graduate credit must be arranged with the instructor prior to enrolling in the course and will involve the completion of a significant project.
- CHEM 5802L Physical Chemistry Laboratory** **0-5-1**
Corequisite: CHEM 5802. Experimental investigations which supplement the study of thermodynamics, kinetics, quantum mechanics, and statistical mechanics as applied to systems of interest to chemists. Permission for graduate credit must be arranged with the instructor prior to enrolling in the course and will involve the completion of a significant project.
- CHEM 6420 Physical Organic Chemistry** **3-0-3**
Prerequisites: CHEM 3402, CHEM 3802 and CHEM 3802L. A study of the methods used to elucidate organic reaction mechanisms. Topics covered include: reaction kinetics, isotope effects; linear free energy relationships; general acid and base catalysis and the acidity functions; reactive intermediates including free radicals, carbenes, carbanions, and carbocations; symmetry controlled reactions; photochemistry. Permission for graduate credit must be arranged with the instructor prior to enrolling in the course and will involve the completion of a significant project.
- CHEM 6810 Computational Chemistry** **0-6-2**
Prerequisites: CHEM 3802, CHEM 3802L. Computational and modeling software will be introduced through projects involving systems in physical chemistry and spectroscopy as well as organic chemistry, inorganic chemistry, and biochemistry. Computational predictions will be correlated with laboratory experiments. Permission for graduate credit must be arranged with the instructor prior to enrolling in the course and will involve the completion of a significant project.

CIED: CURRICULUM AND INSTRUCTION

- CIED 7200 Curriculum Issues P-16** **3-0-3**
An exploration of curriculum issues and trends, curriculum development, integration of technology into the curriculum, implementation of innovative instructional techniques, and legal/ethical issues across content areas and grade levels.
- CIED 7410 Techniques For Instructional Support** **3-0-3**
A study of techniques and models for the observation, analysis, and supervision of the teaching process. Includes communication and conferencing; self-analysis; mentoring; peer coaching; cooperative planning; and roles and responsibilities.
- CIED 7420 Internship In Instructional Support** **3-0-3**
Prerequisite: CIED 7410 or permission of instructor. A field-based demonstration of instructional supervision competencies. The student will be monitored by a university supervisor and graded on the basis of satisfactory (S) or unsatisfactory (U).
- CIED 7430 Research In Instructional Support** **3-0-3**
Prerequisites: CIED 7410 and CIED 7420; or TSS Certification. An advanced study of individual and group problems arising from experiences in

supporting preservice teachers.

- CIED 7440 Teaching and Curriculum in Higher Education** 3-0-3
Design, development and implementation of postsecondary instruction, with an emphasis on practical teaching strategies, curriculum and course development, implementation of innovative instructional technologies and intergration of technology in both course content and delivery.
- CIED 9100 Curriculum and Instructional Systems** 3-0-3
Study of concepts, theories, and trends for curriculum, instructional systems, and the change process. Includes a current review of related literature and reflective analntsis of practice.
- CIED 9200 Curricular amd Instructional Needs Assessment** 3-0-3
Prerequisite: CIED 9100. Assessment of curricular and instructional needs in educational organizations and agencies through a study of relationships among models of learning, learner characteristics, learning environments and society.
- CIED 9300 Needs-Based Curriculum and Instruction Proposal Dev** 3-0-3
Prerequisite: CIED 9200. Design and development of a proposal for an innovative curriculum and instruction project based on needs.
- CIED 9400 Implementation and Evaluation of C & I** 3-0-3
Prerequisite: CIED 9300. Planning for the implementation and evaluation of a curriculum and instruction innovation in an educational setting. Includes design, development, and evaluation of project materials.
- CIED 9500 Field Testing of C & I Innovations** 3-0-3
Prerequisite: CIED 9400. Field implementation and evaluation of the innovative curriculum and instruction project
- CIED 9600 Dissertation Topic Conceptualization** 3-0-3
Seminar for the development of the doctoral topic.
- CIED 9900 Special Topics in Curriculum and Instruction** 1-0-1 to 3-0-3
Advanced Study of specific contemporary issues in curriculum and instruction. Course may be repeated under different topics.
- CIED 9999 Dissertation in Curriculum and Instruction** 3-0-3 to 9-0-9
Development and defense of the dissertation prospectus and the dissertation. May be repeated.

COMD: COMMUNICATION DISORDERS

- COMD 5010 Language Disorders in Young Children** 3-0-3
Prerequisites: Completion of undergraduate CD course sequence. An advanced study of the nature and treatment of language disorders in young children through age 5. Focus is placed on the role of the communication environment and intervention planning and implementation. This course may be taken by non-CD majors with the addition of a lab component.
- COMD 5020 Diagnostics (lab arranged)** 3-1-3
Prerequisites: Completion of undergraduate CD course sequence. An in-depth study of the evaluation and assessment processes for communication disorders. Content encompasses appraisal planning, interviewing, ecological observation, instrumentation, informal and standardized procedures appropriate for determination of eligibility and program planning.

- COMD 5030 Phonological Disorders** **3-0-3**
Prerequisites: Completion of undergraduate CD course sequence. Advanced study of assessment and treatment of speech sound disorders. Emphasis placed on motor based as well as cognitive-linguistic based analyses and treatment strategies.
- COMD 5040 Fluency Disorders** **3-0-3**
Prerequisites: Completion of undergraduate CD course sequence. Advanced course in differential diagnosis and treatment of stuttering in adults and children. Additional topics include cluttering and stuttering behaviors associated with acquired neuropathies.
- COMD 5050 Beginning Practicum** **0-1-1**
Prerequisites: Completion of undergraduate CD course sequence. A supervised experience in a university or community based setting requiring application of assessment and treatment procedures to individuals with mild to moderate articulation and language disorders.
- COMD 5060 Language Disorders of School Age Children** **3-0-3**
Prerequisites: COMD 5010. A continuation of the study of language disorders with focus on children from elementary school through adolescence. Topics include advanced language development, school curriculum, impact of communicative and linguistic deficiencies on academic progress, collaborative models of intervention, narratives and discourse analysis. May be taken by non majors with a lab component.
- COMD 5070 Traumatic Brain Injury, Dementia, and Progressive Neurological Disorders** **3-0-3**
Prerequisites: COMD 5030. Application of diagnostic and therapeutic principles related to persons with traumatic brain injury, dementia, and progressive neurological disorders.
- COMD 5080 Dysphagia and Dysarthria** **3-0-3**
Prerequisites: COMD 5030. **Co-requisite:** COMD 5070. Application of diagnostic and therapeutic principles to communication problems associated with dysphagia and dysarthria.
- COMD 5090 Aural Rehabilitation** **0-3-3**
The study of hearing rehabilitation methods, materials and amplification/assistive devices for the adult hearing impaired.
- COMD 5100 Intermediate Practicum** **0-1-1**
Prerequisites: COMD 5050. A supervised experience in a university or community based setting requiring application of assessment and treatment procedures to individuals with mild to moderate articulation, language, fluency, voice and hearing communication disorders.
- COMD 5110 Science in Communication Disorders** **3-0-3**
Advanced theoretical and applied experimental design and implementation in communication disorders.
- COMD 5120 Aphasia** **3-0-3**
Prerequisites: COMD 5060. Application of diagnostic and therapeutic principles related to aphasia and associated communication problems.
- COMD 5130 Oro-Facial/ Syndrome Disorders** **2-0-2**
Prerequisites: COMD 5080. Advanced study of communication disorders asso-

ciated with oral-facial anomalies. Specific emphasis on cleft palate/cleft lip and various syndromes or disorders in which oral-facial anomalies are present.

COMD 5140 Advanced Practicum 0-1-1

Prerequisites: COMD 5100. A practicum experience which emphasizes test administration, scoring, and interpretation for client services. Treatment of moderate to severe articulation, language, fluency, voice, hearing, and neurogenic communication disorders is emphasized.

COMD 5150 Advanced Audiology 3-0-3

Advanced study of audiometric diagnostic procedures and interpretation. Students will participate in a variety of experiences designed to provide a working knowledge of the audiometric test battery.

COMD 5160 Voice Disorders 3-0-3

Prerequisites: COMD 5110, COMD 5020, COMD 5130. A theoretical and applied study of the diagnosis and treatment of vocal disorders.

COMD 5170 Issues and Trends in Communication Disorders 2-0-2

Addresses current professional issues in speech-language pathology and audiology which affect service delivery including the code of ethics of the profession addressed in light of changing social, economic and political arenas.

COMD 5180 Cultural and Dialectical Issues in Communication Disorders 1-0-1

Prerequisites: COMD 5010, COMD 5060. Seminar on the interrelation of sociological variables and linguistic performance with special emphasis on communication differences and disorders among culturally and linguistically diverse populations.

COMD 5190 Applied Practicum in the Public School 3-0-3

Prerequisites: 3.0 GPA, minimum of 100 client contact hours, completion of or concurrent enrollment in all graduate course work and consent of instructor. Supervised practicum consisting of full-time off-campus placement in public schools under the direct supervision of a speech-language pathologist holding the certificate of clinical competence. Students participate in client management, diagnosis, scheduling, staffing and other activities specific to the setting. May be repeated with instructor's consent.

COMD 5200 Augmentative/Alternative Communication 3-0-3

Study of communication options, techniques, and strategies for persons with severe communication disorders resulting from a variety of conditions.

COMD 5210 Externship in Communication Disorders 0-6-6

Prerequisites: 3.0 GPA; minimum of 100 client contact hours; completion of all graduate course work; an on-site interview and consent of instructor. Supervised practicum consisting of full-time, off-campus placement in clinical settings such as hospitals, clinics, rehabilitation centers and private practice sites under the direct supervision of a speech-language pathologist holding the certificate of clinical competence. Students participate in supervised client management, diagnosis, staffing, scheduling and other activities specific to the setting.

COMD 5220 Directed Study in Communication Disorders 3-0-3

Prerequisites: with prior approval of instructor, advisor and Department Head. This course enables the student to explore in depth a topic relevant to his/her special interest in communication disorders. This course may be repeated.

- COMD 5230 Thesis** **1-0-1 to 3-0-3**
Prerequisites: RSCH 7100, COMD 5170. Research project resulting in the completion of a thesis.
- COMD 5811 Language Disorders in Young Children** **2-1-3**
 An advanced study of the nature and treatment of language disorders in young children through age 5. Focus is placed on the role of the communication environment and intervention planning and implementation. This course was designed to be taken by non-CD majors with the addition of a lab component.
- COMD 8010 Contemporary Issues and Trends in Communication Disorders** **3-0-3**
 A course designed for presentation and discussion of current issues of local, state, and national importance related to the prevention or solution of problems which impact the field of communication disorders.
- COMD 8020 Seminar in Theory and Applied Intervention** **1-0-1**
 Seminar presentations regarding in-depth exploration of problems, theories, treatments, and research in specific areas of communication disorders and state of the art interventions based on theoretical conceptualizations. Students will complete 4 one-hour seminars. This course may be repeated for credit when the topic(s) covered is different. Individual topics to be announced with suffix and title.
- COMD 8030 Professional Communication and Collaboration** **3-0-3**
 A seminar designed to help the speech-language pathologist organize programs, prepare and administer budgets, supervise professional personnel and physical plant facilities, and provide in-service training.
- COMD 8080 Thesis** **0-0-6**
 This course is for the development and defense of the thesis prospectus.

CRIMINAL JUSTICE

- CRJU 7000 Seminar in The Criminal Justice System** **3-0-3**
 A critical overview of the system as a whole and of its subsystems, with a focus on philosophical underpinnings, policy, and change,
- CRJU 7010 Advanced Comparative Criminal Justice Systems** **3-0-3**
 A seminar on crime, law, and criminal justice systems of major legal systems allowing for cross-cultural comparisons
- CRJU 7100 Seminar in Law Enforcement** **3-0-3**
 A seminar in which administrative issues pertinent to policing are examined. These include ethics, rural policing, and community policing, among others.
- CRJU 7300 Seminar in Criminal Law And Procedure** **3-0-3**
 A seminar in which rapidly changing controversial legal issues which have a major impact on criminal justice are explored.
- CRJU 7400 Applied Statistics for Criminal Justice Research** **3-0-3**
Prerequisite: Proficiency in basic statistical methods as demonstrated by undergraduate or graduate course work. A study of advanced statistical techniques applied in criminal justice research.

- CRJU 7401 Advanced Research Methods for Criminal Justice** 3-0-3
Prerequisite: CRJU 7400. Advanced research methodology used in criminal justice. Requires the use of CRJU 7400 statistics.
- CRJU 7500 Seminar in Criminal Behavior and Personality** 3-0-3
 An advanced study of specific criminal behavior types emphasizing violent offenders, sexual deviants, the anti-social personality, and the criminally insane.
- CRJU 7510 Advanced Correctional Therapies** 3-0-3
Prerequisite. CRJU 7500. Study and practice in the development and application of theoretically based correctional treatment plans.
- CRJU 7600 Advanced Criminological Theory** 3-0-3
Prerequisite: Undergraduate or graduate credit for criminological theory or its equivalent as supported by documentation, or permission of the instructor. An intensive overview of each of the major criminological perspectives regarding the etiology of crime.
- CRJU 7700 Special Topics in Criminal Justice** 3-0-3 to 6-0-6
 A variable topics course that may be taken for 3 to 6 semester hours.
- CRJU 7710 Seminar in Juvenile Justice** 3-0-3
 A seminar on the Juvenile Justice System and major issues related to the administration of juvenile justice. These include administrative issues, legal issues, and issues revolving around theory and rehabilitative goals.
- CRJU 7900 Directed Independent Study In Criminal Justice** 3-0-3
 Independent study or research under the guidance of a criminal justice graduate faculty member. The study plan must be determined in advance and approved by the Coordinator of the Criminal Justice Graduate Program as well as the instructor of record.
- CRJU 7910 Criminal Justice Internship** 3-0-6
 The internship involves placement in a work/observer situation in a criminal justice agency requiring academic performance and supervision as described in the *Criminal Justice Internship Guidelines*, or a research internship in which the student works with a criminal justice graduate faculty member to obtain knowledge of special research applications including data collection and organization, analysis, and publication. The internship plan must be determined in advanced and approved by the Coordinator of the Criminal Justice Graduate Program as well as the instructor of record.
- CRJU 7999 Thesis** 6-0-6
 The completion and defense of the Thesis. The student must be registered for CRJU 7999 each term in which the thesis is in progress. The student must also be registered for CRJU 7999 the term in which the degree is earned.

CS: COMPUTER SCIENCE

- CS 6140 Data Communications and Computer Networks** 3-0-3
Prerequisite: CS 3410. Basic concepts of data communications and computer networks architectures: including OSI and TCP/IP models, packet switching, local area and high speed networks. Error control, routing, and transmission media.
- CS 6321 Software Engineering I** 3-0-3
Prerequisite: CS 3410. Early stages of the software-development process, with

emphasis upon analysis and specification. Also, life-cycle definition, software project management, the computer as a system component, and object-oriented approaches. CASE tools will be used as appropriate.

CS 6322 Software Engineering II **3-0-3**

Prerequisite: CS 3410 (note that CS 4321/6321 is not a prerequisite). The later stages of the software-development process with emphasis upon design, implementation, verification/ validation, and maintenance. Also, human factors, object-oriented techniques, reliability, and quality-assurance issues.

CS 6330 Theory of Programming Languages **3-0-3**

Prerequisite: CS 3410 or consent of instructor. Formal description of programming languages, standard and advanced features of modern programming languages, complexity.

CS 6335 Principles of Compiler Design **3-0-3**

Prerequisites: CS 3102 and CS 3410. Introduction to programming language structure, lexical analysis, syntax analysis, code generation, and optimization. A large programming project will be required.

CS 6340 Systems Programming **3-0-3**

Prerequisite: CS 3410. Implementation of concepts pertaining to the UNIX environment: process control and interprocess communication, job control, file and directory structures, and client/server processes.

CS 6500 Foundations of Computer Science **3-0-3**

Prerequisites: CS 2620 and CS 3410. The course covers concepts pertaining to regular expressions, finite state machines, regular languages, regular grammars, non regular languages, decidability, context-free grammars, and Turing machines.

CS 6720 Database Design **3-0-3**

Prerequisite: CS 3410. Examines the logical organization of databases: the entity-relationship model; the hierarchical model, network, and relational models. Hardware characteristics; file organization and evaluation. Functional dependencies and normal forms. Query optimization, concurrency control, and distributed database systems.

CS 6820 Artificial Intelligence **3-0-3**

Prerequisites: CS 2620 and CS 3410. Definition of artificial intelligence, Common Lisp, logic programming, search techniques, knowledge representation including schemas and scripts, ART-enterprise as an expert system, and principles of expert systems.

CS 6825 Neural Networks **3-0-3**

Prerequisites: MATH 2150 and MATH 2262. Concepts pertaining to neural networks including: definition of neural intelligence, basic neural computational models, learning: supervised and unsupervised, knowledge bases neural networks, back-propagation neural networks, radial basis neural networks.

CS 6830 Computer Graphics **3-0-3**

Prerequisites: CS 3410 and MATH 2150. A survey of graphics systems and graphics programming. topics include output primitives, transformations and viewing, modeling, user interfaces, and interactive methods. Both 2-D and 3-D concepts are discussed.