which minimize credit risk and maximize marketability, and methods of protecting the proprietary component of innovative financial products. Prerequisites: COB 218 and senior standing.

BLAW 481. White Collar Crime. 3 credits.
A study of white collar crime in America, a unique type of criminal activity that primarily affects businesses. The course explores the substance of white collar crime and focuses on the unique elements of various crimes through the study of actual cases. The course also examines how white collar crimes are prosecuted and defended in state and federal courts. Students are introduced to federal and state criminal procedure, substantive defenses, and the use of sentencing guidelines. Prerequisite: COB 300.

BLAW 495. Contract Law, Sales and Secured Transactions. 3 credits.
A study of the law of contracts, Article Two of the Uniform Commercial Code, product liability, legal liability of accountants, secured transactions and bankruptcy with emphasis on the role these play in professional and personal decision making. The courts, the legislature and the interaction of these two branches of government in responding to a changing society are studies throughout. Prerequisites: COB 218 and COB 300.

BLAW 496. The Law of Business Organizations, Negotiable Property Instruments and Property. 3 credits.
A study of Article Three of the Uniform Commercial Code, agency, partnerships, corporations, securities regulations, real property, trusts and decedents estates with emphasis on the role these play in professional and personal decision making. Prerequisites: COB 218 and COB 300 or permission of the instructor.

BLAW 497. Legal Aspects of International Business. 3 credits.
Survey of legal implications of international business dealings including foreign direct sales, distributorship arrangements, licensing of technology and legal aspects of the multi-national corporation. The foreign legal environment, relevant conventions and trade regulations, and the transnational reach of regulatory law will be considered. Prerequisites: COB 218 and senior standing.

BLAW 498. Special Topics in Business Law. 3 credits.
This course is designed to allow explorations of areas of current topics in business law. Course content will vary by semester and instructor. For current content, consult the adviser. Prerequisites: COB 300 and permission of the instructor.

Business and Marketing Education
College of Education

BMED 200. Introduction to Business and Marketing Education. 3 credits.
A general survey of business and marketing principles as they relate to preparation for teaching with emphasis on the history of business and marketing in America, the basic forms of business organizations, ownership, finance, management, taxes and wages, and labor relations.

BMED 230. Document Design and Production. 3 credits.
Develops skills in managing the information of business by organizing data through the creation and use of computer spreadsheets and databases. Includes the management and organization of hard records.

BMED 300. Data and Records Management. 3 credits.
Experience in planning, designing and producing documents for the business office with focus on transferability of productivity among the genre of word processing software. Prerequisite: Keyboard in excess of 40 words per minute with at least 95 percent word accuracy without visual reference to the keyboard.

BMED 300. Data and Records Management. 3 credits.
A one-semester introduction to the fundamental principles, laws and applications of chemistry. Examples relating to the health sciences are emphasized. Not available for major or minor credit in chemistry.

CHEM 120. Concepts of Chemistry. 3 credits.
A general survey of business and marketing principles as they relate to business and education with focus on transferability of functions among the genre of desktop publishing software.

BMED 430. Desktop Publishing Design and Production. 3 credits.
Development of an instructional model incorporating demonstrations and supervised walk-throughs in planning and directing the learning of computer-related and other complex business and marketing procedures and processes.

BMED 400. Business and Marketing Communications. 3 credits.
A study of the law of contracts, Article Two of the Uniform Commercial Code, product liability, legal liability of accountants, secured transactions and bankruptcy with emphasis on the role these play in professional and personal decision making. The courts, the legislature and the interaction of these two branches of government in responding to a changing society are studies throughout. Prerequisites: COB 218 and COB 300.

BLAW 496. The Law of Business Organizations, Negotiable Property Instruments and Property. 3 credits.
A study of Article Three of the Uniform Commercial Code, agency, partnerships, corporations, securities regulations, real property, trusts and decedents estates with emphasis on the role these play in professional and personal decision making. Prerequisites: COB 218 and COB 300 or permission of the instructor.

BLAW 497. Legal Aspects of International Business. 3 credits.
Survey of legal implications of international business dealings including foreign direct sales, distributorship arrangements, licensing of technology and legal aspects of the multi-national corporation. The foreign legal environment, relevant conventions and trade regulations, and the transnational reach of regulatory law will be considered. Prerequisites: COB 218 and senior standing.

BLAW 498. Special Topics in Business Law. 3 credits.
This course is designed to allow explorations of areas of current topics in business law. Course content will vary by semester and instructor. For current content, consult the adviser. Prerequisites: COB 300 and permission of the instructor.

Chemistry
Department of Chemistry and Biochemistry

CHEM 100. Chemistry Today. 3 credits.
Provides the background necessary to understand how chemistry affects our daily lives. An enriched overview of the fundamental principles of chemistry is followed by applications to topics of current interest. A high school science background is assumed. Not available for major or minor credit in chemistry.

*CHEM 120. Concepts of Chemistry. 3 credits.
A one-semester introduction to the fundamental principles, laws and applications of chemistry. Examples relating to the health sciences are emphasized. Not available for major or minor credit in chemistry.

CHEM 120L. Concepts of Chemistry Laboratory. 1 credit.
A one-semester introduction to laboratory work which illustrates the fundamental principles, laws and applications of chemistry discussed in CHEM 120. Experiments relating to the health sciences are emphasized. Prerequisite or corequisite: CHEM 120.

*CHEM 131. General Chemistry I. 3 credits.
The first of a two-course general chemistry sequence for science majors. It is designed to introduce students to basic chemical concepts including atomic structure, periodic properties of the elements, nomenclature, basic stoichiometry, theories related to reactivity and bonding, and the behavior of materials. Corequisite: CHEM 131L or CHEM 135L.

CHEM 132. General Chemistry II. 3 credits.
A general survey of business and marketing principles as they relate to a changing society. A high school science background is assumed. Not available for major or minor credit in chemistry.

CHEM 138. Chemistry Today. 3 credits.
A calculus-based introduction to chemical concepts for engineering students designed to introduce students to basic chemical concepts including atomic structure, periodic properties of the elements, theories related to reactivity and bonding, the behavior or properties of the elements, theories related to activity and bonding, the behavior of materials, chemical reactivity, chemical equilibrium, electrochemistry, thermodynamics and kinetics. Familiarity with chemical stoichiometry and dimensional analysis is assumed.

CHEM 138L. General Chemistry Laboratory. 1 credit.
A calculus-based introduction to chemical concepts for engineering students designed to introduce students to basic chemical concepts including atomic structure, periodic properties of the elements, theories related to reactivity and bonding, the behavior or properties of the elements, theories related to activity and bonding, the behavior of materials, chemical reactivity, chemical equilibrium, electrochemistry, thermodynamics and kinetics. Familiarity with chemical stoichiometry and dimensional analysis is assumed. Prerequisite or corequisite: CHEM 138.

CHEM 135. Special General Chemistry Laboratory. 1 credit.
An enriched laboratory course designed primarily for chemistry majors. Corequisite: CHEM 131.

CHEM 135L. Special General Chemistry Laboratory. 2 credits.
An enriched laboratory course that includes special topics and experiments not presented in the regular CHEM 135 laboratory. Prerequisites: Grades of “C” or higher in CHEM 131 and either CHEM 131L or CHEM 135L.

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The major objective for this course is to teach the modern method of scientific problem solving using organic compounds as models. Emphasis will be on the chemical language (nomenclature and terminology), molecular electronic concepts, theories of organic reactions, stereochemistry and structure elucidation of organic compounds. Credit cannot be earned in both CHEM 241L and 242L. Prerequisite: Grade of “C-” or higher in CHEM 132. 
CHEM 241L. Concepts of Organic Chemistry Laboratory. 1 credit. 
Laboratory work will include training in the techniques of organic chemistry, preparation of compounds and some organic qualitative analysis. Prerequisite or corequisite: CHEM 241.

The major objective for this course is to teach the modern method of scientific problem solving using organic compounds as models. Emphasis will be on the chemical language (nomenclature and terminology), molecular electronic concepts, theories of organic reactions, stereochemistry and structure elucidation of organic compounds. Prerequisite: Grade of “C-” or higher in CHEM 241. Corequisite: CHEM 242L. It is strongly recommended that students take 242L with 242 lecture.

CHEM 242L. Organic Chemistry Laboratory. 2 credits. 
This course will present laboratory techniques and experiments associated with organic chemistry, including an introduction to synthesis, spectroscopic methods, chromatographic techniques and some qualitative organic analysis. Credit can not be earned in both CHEM 241L and 242L. Corequisite: CHEM 242. Prerequisites: Grade of “C-” or higher in CHEM 241.

CHEM 260. Concepts of Biochemistry. 3 credits. 
A brief survey of the principal constituents of living cells, proteins, carbohydrates, lipids and nucleic acids, with emphasis on their synthesis and transformations in vivo. Intermediary metabolism and protein replication will be stressed. Not available for major or minor credit. Prerequisites: CHEM 241 and either CHEM 241L or CHEM 242L.

CHEM 260L. Concepts of Biochemistry Laboratory. 1 credit. 
The laboratory work will comprise experiments demonstrating some of the important reactions including those of analytical value. Prerequisite or corequisite: CHEM 260.

CHEM 270. Inorganic Chemistry I. 3 credits. 
A survey of the chemistry of the elements and modern theories of bonding. Prerequisite: Grade of “C-” or higher in CHEM 132.

CHEM 280. An Alternative Lower-Division Chemistry Experience. 1-4 credits. 
This course will provide a mechanism for offering a nontraditional, lower-division, lecture and/or laboratory course. It will be offered only with the approval of the full-time teaching faculty. No course will be offered more than three times under the 280 designation. Students may repeat CHEM 280 for credit when course content changes.

CHEM 287L. Integrated Inorganic/Organic Laboratory. 2 credits. 
An enriched, integrated introduction to the laboratory procedures associated with inorganic and organic chemistry. Topics include apparatus design and construction, synthesis, separation methods, spectroscopic analysis and application of computers in the laboratory. Prerequisite or corequisite: CHEM 241.

CHEM 288L. Integrated Inorganic/Organic Laboratory. 2 credits. 
An enriched, integrated introduction to the laboratory procedures associated with inorganic and organic chemistry. Topics include apparatus design and construction, synthesis, separation methods, spectroscopic analysis and application of computers in the laboratory. Prerequisite: Grade of “C-” or better in CHEM 241. Corequisite or corequisite: CHEM 270.

CHEM 225. Chemical Hazards and Laboratory Safety. 1 credit. 
A brief introduction to physical and chemical hazards which may be encountered in a laboratory setting. Methods of personal protection will be emphasized.

CHEM 331. Physical Chemistry I. 3 credits. 
A study of thermodynamics, solutions, kinetics and macromolecules with applications of chemical and biological problems. Prerequisites: CHEM 132, MATH 236 and PHYS 240.

CHEM 339L. Applied Physical Chemistry Laboratory. 2 credits. 
A laboratory course which emphasizes the applied experimental aspects of physical chemistry. Prerequisite or corequisite: CHEM 331.

CHEM 351. Analytical Chemistry. 4 credits. 
The total analysis concept is introduced and developed. This framework encompasses the areas of experiment design, sample collection and treatment, and statistical evaluation of results, as well as standard analysis techniques. Prerequisite: CHEM 132.

CHEM 352. Instrumental Analysis. 3 credits. 
This course emphasizes the application of instrumental techniques to the quantitative determination of chemical composition. Both instrument theory and practical applications are presented. Prerequisites: CHEM 261 and MATH 235.

CHEM 352L. Instrumental Analysis Laboratory. 2 credits. 
This course will introduce students to the methodology and technology associated with the design and use of chemical instrumentation. Students perform experiments that illustrate the theoretical principles associated with instrument designs and the application of instruments to the solution of qualitative and quantitative analysis problems. Corequisite: CHEM 352.

CHEM 354. Environmental Chemistry Field Camp. 3 credits. 
Fundamentals of environmental chemistry with laboratory and field trip components. The basic chemical principles of environmental problems are studied. Field trips and laboratory work on real samples are integrated with lecture material. Prerequisite: CHEM 241 or permission of the instructor.

CHEM/GEOL 355. Geochemistry of Natural Waters. 3 credits. 
Study of chemical theory and reactions important in natural water systems. The role of atmospheric, geologic and biological inputs in determining the geochemistry of streams, rivers and oceans. Prerequisites: CHEM 131 and CHEM 132 or equivalent.

CHEM/BIO 361. Biochemistry I. 3 credits. 
An introduction to the molecules and chemical reactions of living systems. Structure and function of important classes of biomolecules are explored and the relationship of structure to function is stressed. Basic metabolic sequences are discussed. Prerequisites: Grade of “C-” or higher in CHEM 241 and permission of the instructor. Completion of CHEM 242 is strongly recommended.

CHEM 362. Biochemistry II. 3 credits. 
A continuation of CHEM 361 including metabolic regulation, protein biosynthesis, analytical methods and isolation of biomolecules. Prerequisite: CHEM 361 or permission of the instructor.

CHEM 366L. Biochemistry Laboratory. 2 credits. 
An introduction to laboratory techniques and experimental approaches associated with modern biochemistry. Isolation and characterization of enzymes and other biomolecules are emphasized. Prerequisites: CHEM 361 and either CHEM 241L or CHEM 242L or CHEM 287L. 

CHEM/PHYS/MATS 375. An Introduction to Materials Science. 3 credits. 
An introduction to materials science with emphasis on general properties of materials. Topics will include crystal structure, extended and point defects, and mechanical, electrical, thermal and magnetic properties of metals, ceramics, electronic materials, composites and organic materials Prerequisites: CHEM 131 and PHYS 150 or PHYS 250 or ISAT 212 or permission of the instructor.

CHEM 390A, B. Problems in Chemistry. 1-3 credits, repeatable for a total of 4 credits. 
A project is undertaken dealing with some aspect of chemistry under the guidance of a faculty advisor.

CHEM 395. Perspectives in Chemistry. 1 credit. 
A description of the technical and nontechnical capabilities expected of a university graduate who enters industry, government or academia is presented. The student is introduced to the various laws governing the chemical industry as well as to the fields of toxicology and environmental health. Experts in various disciplines discuss current topics of concern to the chemistry and biology student.

CHEM 432. Physical Chemistry II. 3 credits. 
A study of atomic and molecular energy levels and structure as interpreted by quantum theory. Prerequisites: CHEM 132 and MATH 236 and PHYS 250.

CHEM 438L. Physical Chemistry Laboratory. 2 credits. 
A laboratory course which emphasizes the application of various physical measurement techniques as a means of obtaining data to test fundamental chemical theory. Corequisite: CHEM 432.

CHEM 440. Intermediate Organic Chemistry. 3 credits. 
An advanced study of the theory of organic chemistry as applied to chemical reactions and synthetic methods. Such topics as reaction mechanisms, spectroscopy and stereochemistry will be included. Prerequisite: CHEM 242.

CHEM 445. Polymer Chemistry. 4 credits. 
A study of the synthesis and characterization of macromolecules. Polymer chemistry is discussed in a manner that focusses most attention on the properties of macromolecules that can be understood at the molecular level. Prerequisite: CHEM 242.

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CHEM 450. Nuclear and Radiation Chemistry. 3 credits. A study of the fundamentals of radioactivity in chemistry. Topics include the effects of radiation on matter, measurement of radiation, activation analysis, tracer studies and the nuclear fuel cycle. Applications of radioactive materials and radiation in industry and medicine will be described. Prerequisites: CHEM 132 and PHYS 250 or permission of the instructor.

CHEM 450L. Laboratory for Nuclear and Radiation Chemistry. 1 credit. A laboratory course designed to demonstrate the topics covered in CHEM 450. Corequisite: CHEM 450. Prerequisites: CHEM 132 and PHYS 250 or permission of the instructor.

CHEM/PHYS 455. Lasers and Their Applications to Physical Sciences. 3 credits. An introduction to both the theoretical and practical aspects of lasers and their applications in the physical sciences. Prerequisite: PHYS 270, CHEM 331 or permission of the instructor.

CHEM 470. Inorganic Chemistry II. 3 credits. A study of selected topics in the field of advanced inorganic chemistry. Prerequisite: A grade of “C-” or higher in CHEM 270. Prerequisite or corequisite: CHEM 331.

CHEM 480. Selected Topics in Chemistry. 1-4 credits each semester. This course is designed to allow an in-depth study of specific topics in chemistry selected according to student and faculty interests.

CHEM 481. Literature and Seminar I. 1 credit. Provides instruction in methods of abstracting specific information from the body of chemical literature. Attendance at regularly scheduled department seminars is required.

CHEM 482. Literature and Seminar II. 1 credit. Provides practice in preparing and presenting a literature-based seminar and paper on a chemical topic. Attendance at regularly scheduled department seminars is required. Prerequisite: CHEM 481 or permission of the instructor.

CHEM 494. Internship in Chemistry. 1-2 credits, May be repeated for a maximum of 6 credits. Students participate in research or applied chemistry outside of the university. A proposal must be approved prior to registration, and a final paper will be completed.

CHEM 497A, B, C. Undergraduate Chemical Research. 2-4 credits, repeatable for a total of 6 credits. Research in a selected area of chemistry, as arranged with and approved by a faculty research adviser the semester prior to registration.

CHEM 499. Honors. 6 credits.

Chinese

Department of Foreign Languages, Literatures and Cultures

CHIN 101. Elementary Chinese I. 3-4 credits. The fundamentals of Mandarin Chinese through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour’s work a week in the language laboratory.

CHIN 102. Elementary Chinese II. 4 credits. The fundamentals of Mandarin Chinese through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour’s work a week in the language laboratory. If student has had two or more years of the language in high school he/she will not receive credit for the course. Prerequisite: CHIN 101.

CHIN 111. Intensive Chinese I. 6 credits. The fundamentals of Chinese through intensive listening, speaking, reading and writing. This four-week course is the equivalent of CHIN 101-102.

CHIN 212. Intensive Chinese II. 6 credits. The fundamentals of Chinese through intensive listening, speaking, reading and writing at the intermediate level. This four-week course is the equivalent of CHIN 231-232. Prerequisite CHIN 212 or 111 or permission of the instructor.

CHIN 231 Intermediate Chinese I. 3 credits. A more in-depth study of grammar, vocabulary building, conversation and reading, introduction to composition. Prerequisite: CHIN 102 or permission of the instructor.

CHIN 232 Intermediate Chinese II. 3 credits. A thorough review of grammar, vocabulary building, conversation, composition and reading. Prerequisite: CHIN 231 or permission of the instructor.

CHIN 300. Chinese Grammar and Communication. 3 credits. Intensive training in grammatical structures and their applications to oral and written expression. Instruction is in Chinese. Prerequisite: CHIN 232 or CHIN 212 or permission of the instructor.

CHIN 320. Chinese Oral and Written Communication. 3 credits. Intensive training in the use of modern, everyday Chinese with emphasis on conversation and composition. Readings in Chinese will provide a context for discussion and writing. Prerequisite: CHIN 232.

CHIN 397. Intensive Reading and Writing in Chinese I. 3 credits. The major goal of this course is to help students intensively develop proficiency in reading and writing based on their competence in listening and speaking. Students are expected to appropriately express their ideas in writing on a wide range of topics and achieve reading competence in Mandarin Chinese. Prerequisite: Permission of the instructor.

CHIN 398. Intensive Reading and Writing in Chinese II. 3 credits. Continuation of intensive training in the reading and writing of modern Mandarin Chinese. Instruction is in Chinese.

Classics

Department of Foreign Languages, Literatures and Cultures

CLAS 100. Latin and Greek Roots of English Words. 3 credits. Intensive study of Latin and Greek word-roots, prefixes and suffixes in the forms they take in English words. An English vocabulary-development course for students with no knowledge of Latin or Greek. Does not count toward licensure in Latin.

CLAS 265. The Individual and Society in Ancient Greece and Rome. 3 credits. Discussion of literary and historical sources that reflect the attitudes and values of individuals in various social classes. All readings are in English.

CLAS 266. Greek and Roman Classics in Translation. 3 credits. Discussion of the writings that illustrate the cultural values and intellectual attitudes which constitute the most important legacy of Classical civilization. All readings are in English.

CLAS 337. Human Values: The Classical Tradition. 3 credits. Discussion of human values and the human condition reflected in writings from the eighth century B.C. to the present day. Does not count toward licensure in Latin. All readings are in English.

CLAS 360. Topics in Greek and Roman Culture. 3 credits. A study of selected topics in the culture of Ancient Greece and Rome. May be repeated for credit with change of topics.

College of Business

College of Business

COB 191. Business Statistics. 3 credits. The application of statistical methods to business. Introduces data presentation, descriptive statistics, probability, sampling, estimation and hypothesis testing. Emphasis is on using spreadsheet tools and functions of statistical analysis. Prerequisite: MATH 155, MATH 156 or sufficient score on the Mathematics Placement Exam.

COB 202. Interpersonal Skills. 3 credits. An applied course consisting of experiential exercises followed by class discussion. Cases are used as learning activities where the instructor acts as a facilitator to learning. Essential theory emanates from class discussions with a student-based rather than instructor-based format. Theory and application are intertwined by means of student self-assessment exercises and group discussion. Prerequisite: Open only to sophomore and junior business majors.

COB 204. Computer Information Systems. 3 credits. An introduction to computer-based information systems. Emphasis is placed on the role of computers in business and society, computer hardware and software, analysis, design and implementation of information systems, computer ethics, and collaboration using computers. Students will create databases and collaborate using computer-based tools.

COB 218. Legal Environment of Business. 3 credits. A study of the law as a means of social, economic and public change. The American legal system from the standpoint of its sources and philosophy with special emphasis on business relations and the role of government in affecting them.

COB 241. Financial Accounting. 3 credits. The role of financial data in contemporary society; the problems of measuring and reporting income, assets, liabilities and equities; interpretation of financial statements. Prerequisites: Sophomore standing and declared business major.