

ET 6322–FIN 4324

- ET 6302** **Thesis. (3 0 0)** Fall, spring, summer I, summer II. Formerly ET 5502.
- ET 6305** **Geographic Information Systems. (3 2 2)** Prerequisite: approval of instructor. Use of computers to generate maps and associated data bases. Analysis and applications of Geographic Information Systems. Same as ENVR 6305. Spring. Formerly ET 5505.
- ET 6321** **Industrial Supervision and Management. (3 3 0)** Instructions related to the first-line supervision of employees in an industrial setting. Communication, personality interaction, discipline and other relevant problems which affect the work environment. Formerly ET 5521.
- ET 6322** **Industrial Automation and Cybernetics. (3 3 0)** Development and evolution of automation and cybernetic principles and their influence on modern industrial processes. Formerly ET 5522.
- ET 6323** **Advanced Industrial Processes. (3 3 0)** Advanced study of conventional and non-conventional industrial processing methods used in modern manufacturing. Flexible manufacturing systems, JIT, CNC, CIM and current research and application of non-conventional processing techniques. Formerly ET 5523.
- ET 6324** **Design for Research and Development. (3 3 0)** Methods of analyzing and solving engineering problems and systems through application of scientific and mathematical principles. Formerly ET 5524.
- ET 6326** **Quality Assurance. (3 3 0)** Organization and management techniques for product assurance, inspection, principles and practices, control charts and reliability testing. Formerly ET 5526.
- ET 6327** **Ergonomics. (3 3 0)** Human factors engineering as it applies to people as they interact with equipment, work places and their environment. Emphasis on designs that reduce potential for human error. Formerly ET 5527.
- ET 6328** **Robotics Implementation. (3 3 0)** Comprehensive study of industrial robots, applications, fundamentals of design, physical mechanisms and programming techniques. Formerly ET 5528.
- ET 6370** **Evaluation and Control of the Occupational Environment. (3 3 0)** Detection and evaluation of chemical, physical and biological occupational hazards affecting health and safety. Emphasis on Williams-Steiger Occupational Safety and Health Act (OSHA). Formerly ET 5570.
- ET 6375** **Industrial CADD Systems. (3 3 0)** Prerequisite: approval of instructor. Current mainframe and microcomputer-based, computer-aided design and modeling systems; software, hardware and their applications. Summer I. Formerly ET 5575.
- ET 6392** **Seminar in Engineering Technology. (3 3 0 or 3 0 0)** Study and research on specific topics within the engineering technology discipline. Offered as both an organized class and as independent instruction. May be repeated once. Fall, spring, summer I. Formerly ET 5599.
- ET 6396** **Readings and Research. (3 0 0)** Prerequisite: approval of department head. Directed individual and group readings in technical areas appropriate to one's field of study not otherwise covered in available courses. Offered both as an organized class and as independent instruction. May be repeated once. Fall, spring, summer I, summer II. Formerly ET 5525.

FIN—Finance (FIN)

(Offered through the Department of Accounting, Economics and Finance.)

- FIN 1307** **Introduction to Personal Finance. [BUSI 1307] (3 3 0)** Problems related to financing family and individual needs. Topics include budgeting, banking, real estate, saving, investing, insurance and personal taxes. Open to business and non-business majors. Fall. Formerly FIN 120.
- FIN 2374** **Real Estate Fundamental and Practices. (3 3 0)** Economic and social impact of real estate, real estate market, titles to property, contracts, deeds and conveyances, mortgages and deeds of trust, leases, liens, home ownership, tax factors in real estate, sources of funds and title closing. Formerly FIN 214.
- FIN 3310** **Real Estate Appraisals. (3 3 0)** Various approaches to valuation; market, cost and income; appraisal process, capitalization of income, gross-rent multipliers, replacement-cost method and the market-comparison method. Formerly FIN 310.
- FIN 3311** **Real Estate Finance. (3 3 0)** Legal nature of real estate mortgages, kinds of mortgages, second liens, real estate bonds, land contracts, lease-back, savings and loan associations, bank finance, mortgage banking, loan applications, title analysis, financing forms, FHA and conventional loans. Formerly FIN 311.
- FIN 3320** **Business Finance. (3 3 0)** Prerequisite: ACC 2301, 2302. Organization, financing and management of a business organization. Topics covering financial instruments, optimum capitalization mixes, leverage, capital budgeting and cost of capital are developed. Fall, spring, summer. Formerly FIN 320.
- FIN 3335** **Processes of Risk Management. (3 3 0)** Prerequisite: 3320. Comprehensive overview of financial, legal and operational aspects of commercial risk management and insurance process as practiced in business and industrial settings. Formerly FIN 335.
- FIN 3350** **Personal Financial Planning. (3 3 0)** Prerequisite: 3320 or consent of instructor. Strategies and methods of effective financial planning for the practitioner. Cash and credit management procedures; risk management; retirement, estate and investment planning techniques. Fall, spring. Formerly FIN 350.
- FIN 4096** **Supervised Readings in Finance. (1-6 0-6 0)** Prerequisite: 12 semester hours of advanced work in a business major, junior standing, approval of department head. Current problems in finance through reading business periodicals, government publications and books which have had a profound influence in the financial world. Formerly FIN 412.
- FIN 4320** **Investments. (3 3 0)** Prerequisite: 3320 or consent of instructor. Emphasizing the commitment of funds to various security forms such as common stocks, bonds, warrants, convertible bonds, liquid assets and other securities. Industry analysis is also required. Fall, spring. Formerly FIN 420.
- FIN 4321** **Portfolio Management. (3 3 0)** Prerequisite: 4320. Methods of modern portfolio analysis and management. Topics include selection of assets, investment styles, portfolio performance evaluation, efficient markets, diversification, international investing and risk analysis. Students will design and implement investment strategies. May be repeated once for credit with consent of instructor. Spring, summer. Formerly FIN 421.

- FIN 4323 International Finance. (3 3 0)** Prerequisite: 3320 or consent of instructor. Financial management concepts and practices unique to multi-national firms with cases and lectures on risk analysis, financing methods, long-range planning and other topics. Emphasis on pragmatic handling of topical problems in international finance. Fall, alternate summers. Formerly FIN 423.
- FIN 4324 Management of Financial Services. (3 3 0)** Prerequisite: 3320 or equivalent. Management of financial intermediaries of both depository and non-depository form. Consideration of institutional objectives; environmental, legal and regulatory constraints; changing trends in the development and provision of financial services to both commercial and individual sectors. Fall. Formerly FIN 424.
- FIN 4326 Financial Management. (3 3 0)** Prerequisite: 3320. Responsibility of the chief financial officer of the firm with regard to short-term, intermediate-term and long-term financial planning. Decision-making function within realities of the financial world. Spring. Formerly FIN 426.
- FIN 4328 Futures and Options. (3 3 0)** Theory and practical trading application for agricultural, financial and petroleum futures and options markets. Same as AGBE 4328. Spring, summer. Formerly FIN 428.
- FIN 4398 Internship in Finance. (3 0 0)** Prerequisite: junior standing, approval of department head. On-the-job experience in a phase of the finance profession. Must be first-time experience on a full-time basis. Fall, spring, summer. Formerly FIN 497.
- FIN 5320 Investments. (3 3 0)** Prerequisite: 6300 or consent of instructor. Emphasizing commitment of funds to various security forms such as common stocks, bonds, warrants, convertible bonds, liquid assets and other securities. Industry analysis is required. Fall, spring. Formerly FIN 5420.
- FIN 5321 Portfolio Management. (3 3 0)** Prerequisite: 4320. Methods of modern portfolio analysis and management. Selection of assets, investment styles, portfolio performance evaluation, efficient markets, diversification, international investing and risk analysis. Students will design and implement investment strategies. May be repeated once with permission of instructor. Spring, summer. Formerly FIN 5421.
- FIN 5323 International Finance. (3 3 0)** Prerequisite: 6300 or consent of instructor. Financial management concepts and practices unique to multi-national firms. Cases and lectures on risk analysis, financing methods, long-range planning and other topics. Emphasis on pragmatic handling of topical problems in international finance. Fall, alternate summers. Formerly FIN 5423.
- FIN 5324 Management of Financial Services. (3 3 0)** Prerequisite: 3320 or equivalent, and ECON 4312. Management of financial intermediaries of both depository and non-depository form. Consideration of institutional objectives; environmental, legal and regulatory constraints; changing trends in the development and provision of financial services to both commercial and individual sectors. Fall. Formerly FIN 5424.
- FIN 5326 Financial Management. (3 3 0)** Prerequisite: 6300 or 3320. Responsibility of the chief financial officer of the firm with regard to short-term, intermediate-term and long-term financial planning. The decision-making function within realities of the financial world. Spring. Formerly FIN 5426.
- FIN 5328 Futures and Options. (3 3 0)** Theory and practical trading application for agricultural, financial and petroleum futures and options markets. Same as AGBE 5328. Spring, summer. Formerly FIN 5428.
- FIN 6096 Supervised Readings in Finance. (1-3 0-3 0)** Prerequisite: graduate standing and approval of department head. Current problems in finance through reading business periodicals, government publications and books which have had a profound influence on the financial world. Formerly FIN 5516.
- FIN 6300 Managerial Finance. (3 3 0)** Prerequisite: ACCT 6300 or equivalent, graduate standing. Review of instruments used in financing business. Institutions that allocate funds to money and capital markets and the financial manager's role which includes capital investment and cost of capital decisions. Spring. Formerly FIN 5500.
- FIN 6320 Seminar in Finance. (3 3 0)** Prerequisite: 6300 or equivalent and ACC 6305. Case problems that deal with financing current operations, financing long-run needs and dividend policies. Cost of capital, valuation, mergers and risk. Spring, alternate summers. Formerly FIN 5520.
- FIN 6322 Security Analysis. (3 3 0)** Prerequisite: 6300 or equivalent. Fundamental approach to security analysis. Financial statements restated and analyzed with the primary goal to include a measurement of intrinsic values. Alternate Falls, alternate summers. Formerly FIN 5522.
- FIN 6326 Seminar in Finance Theory. (3 3 0)** Prerequisite: 6300 or equivalent. Theory underlying financial activities of the firm. Financial engineering, optimization models, economic value creation, risk management and other current topics. Alternate falls. Formerly FIN 5526.
- FIN 6330 Money and Capital Markets. (3 3 0)** Evaluation of foreign and domestic financial markets. Interest-rate determination, money markets, capital markets, mortgage markets, derivative markets, mergers, insurance and international investing. Alternate summers. Formerly FIN 5530.
- FIN 6350 Seminar in Financial Planning. (3 3 0)** Financial planning strategies for effective decision-making for individuals and practitioners. Topics include cash and credit management, tax strategies, risk management, durable and housing purchases, retirement and estate planning, investment techniques and client assessment. Alternate falls. Formerly FIN 5550.
- FIN 6370 Financial Management of Biotechnology and Healthcare. (3 3 0)** Prerequisite: 3320 or 6300 or consent of instructor. Analysis of financial strategies for biotechnology and healthcare organizations. Topics include financial environment of biotechnology and healthcare institutions, financial statement analysis, project management, resource allocation, profitability valuation, cash flow analysis, venture capital financing and performance evaluation.
- FIN 6392 Special Topics. (3 3 0)** Prerequisite: 12 hours of finance. Topics of special graduate interest. May be repeated for credit when topics change. Formerly FIN 5599.

FREN—French

(Offered through the Department of English and Modern Languages.)

- FREN 1411 Elementary French I. (4 3 2)** Intensive practice in understanding, speaking, reading and writing French. Fall. Formerly FREN 106.
- FREN 1412 Elementary French II. (4 3 2)** Prerequisite: 1411 or equivalent. Continuation of 106. Functional French. Spring. Formerly FREN 107.

GEOG 3302–GERM 1412

FREN 3094 Independent Study. (1-3 0 0) Individual study designed to meet needs and interests of the student. Formerly FREN 390.

GEOG—Geography

(Offered through the Department of History, Political Science and Criminal Justice.)

- GEOG 1302 Cultural Geography. (3 3 0)** Analysis of the world's culture regions. Population characteristics, settlement patterns, economic activity and politico-geographic problems. Formerly GEOG 202.
- GEOG 3302 United States and Canada. (3 3 0)** Cultural and physical geography of the United States and Canada emphasizing population, agriculture, mining and manufacturing. Formerly GEOG 302.
- GEOG 3308 Environment and Man. (3 3 0)** Efficient utilization and development of resources with topical consideration of water, energy, minerals, soil, forests, grassland and wildlife, and the relationship between population and resource use and management. Case studies emphasize Texas and the Texas Panhandle area. Same as GESC 3308. Formerly GEOG 308.
- GEOG 3313 Meteorology. (3 3 0)** Systematic study of weather elements and control of atmosphere. World regional study of climate. Same as GESC 3313. Formerly GEOG 313.
- GEOG 3350 World Regional Geography. (3 3 0)** Analysis of physical and human geography of the world, its regions and subregions, with emphasis on globalization, contemporary issues and inter- and intra-regional relationships. Formerly GEOG 350.
- GEOG 4095 Problems in Geography. (1-6 0 0)** Independent study of a selected geographic problem. Formerly GEOG 421.
- GEOG 4305 Introduction to Geographic Information Systems. (3 2 2)** Research tool combining mapping and databases to provide combinations of spatial information and modeling capabilities in a multi-disciplinary format. Introduction of basic concepts of geographic information systems (GIS), GIS data sources including global positioning systems and basic output products. Same as ENVR 4305. Formerly GEOG 405.
- GEOG 4331 Texas. (3 3 0)** Physical, demographic, social and economic geography of Texas. Formerly GEOG 431.
- GEOG 4392 Special Topics in Geography. (3 3 0)** Prerequisite: 1302 or consent of instructor. Advanced study of issues and problems in cultural geography. Topics will vary by semester. May be repeated once. Formerly GEOG 415.

GEOLOG—Geology

(Offered through the Department of Life, Earth and Environmental Sciences.)

- GEOLOG 1401 Earth Science I. (4 3 2)** Solar system, stars, earth-sun relations and earth materials, processes, landscapes, structures, resources and history with selected laboratory exercises and experiments to demonstrate earth science principles. Students may not receive degree credit for both GEOLOG 1401 and 1403 or NSCI 2371. Fall, spring. Formerly GESC 111.
- GEOLOG 1402 Earth Science II. (4 3 2)** Introductory study of atmosphere, oceans, weather and climate, vegetation and soils with selected laboratory exercises and experiments to

demonstrate earth science principles. Fall, spring. Formerly GESC 112.

- GEOLOG 1403 Physical Geology. (4 3 2)** Natural environment of man including materials, structure and processes of the earth with selected exercises and experiments to demonstrate principles of physical geology. Students may not receive degree credit for both GEOLOG 1401 and 1403 or NSCI 2371. Fall. Formerly GEOLOG 101.
- GEOLOG 1404 Historical Geology. (4 3 2)** History of the earth and its life with selected exercises and experiments to demonstrate principles of historical geology. Spring. Formerly GEOLOG 102.
- GEOLOG 2471 Mineralogy. (4 3 2)** Prerequisite: 1403 or concurrent enrollment, CHEM 1411 or concurrent enrollment. Classification, composition, structure, origin, occurrence, properties, identification and uses of minerals. Fall of even years. Formerly GEOLOG 201.
- GEOLOG 2475 Petrology. (4 3 2)** Prerequisite: 2471. Introduction to origins, characteristics and associations of igneous, sedimentary and metamorphic rocks. Spring of odd years. Formerly GEOLOG 205.
- GEOLOG 3092 Special Topics. (1-6 0-6 1-12)** Prerequisite: consent of instructor. Consideration of recent advances in geology. Formerly GEOLOG 399.
- GEOLOG 3311 Structural Geology. (3 2 2)** Prerequisite: 1403, 1404 or consent of instructor. Descriptive and interpretive study of rock structure. Spring of odd years. Formerly GEOLOG 311.
- GEOLOG 3312 Geomorphology. (3 3 0)** Prerequisite: 1403, 1404 or consent of instructor. Descriptive and interpretive study of land forms. Fall of even years. Formerly GEOLOG 312.
- GEOLOG 3325 Environmental Geology. (3 3 0)** Prerequisite: 1403, 1404. Characteristics and limitations of earth materials. Geologic processes, cycles and associated geologic hazards. Land use and environmental planning. Fall. Formerly GEOLOG 325.
- GEOLOG 3350 Hydrogeology. (3 2 2)** Prerequisite: 1403, 1404; CHEM 1411; MATH 1314, 1316; or consent of instructor. Principles of run-off and stream transport, basin analysis, groundwater flow and water chemistry. Fall. Formerly GEOLOG 350.
- GEOLOG 3406 Paleontology. (4 3 2)** Prerequisite: 1404 or BIOL 1413 or permission of instructor. Origin, classification, morphology, evolution, paleoecology, and limitations of earth materials. geologic occurrences of fossil animals. Field collecting. Identification and museum preparation of fossils in the laboratory. Same as BIOL 3406. Spring of even years.. Formerly GEOLOG 306.
- GEOLOG 4095 Problems in Geology. (1-6 0 0)** Prerequisite: instructor's permission. Library, field and laboratory research on geologic problems. Fall, spring. Formerly GEOLOG 421.
- GEOLOG 4305 Field Methods. (3 2 2)** Prerequisite: 1403, 1404. Introduction to geologic mapping techniques and geologic reconnaissance. Introduction in uses of Brunton compass, hand level, aerial photography and topographic maps. Taught during six weekends and an eight-day field trip during spring break. Spring of even years. Formerly GEOLOG 405.
- GEOLOG 4350 Computer Applications in Hydrogeology. (3 2 2)** Solving hydrogeological problems using real data and utilizing commercially available software. Examples of problems include direction and velocity of groundwater flow, contaminant transport, and volume and depletion calculations of confined and unconfined aquifers. Same as ENVR 4350.

GERM—German

(Offered through the Department of English and Modern Languages.)

- GERM 1411 Elementary German I. (4 3 2)** Grammar, reading and conversation. Fall. Formerly GERM 106.
- GERM 1412 Elementary German II. (4 3 2)** Prerequisite: 1411 or equivalent. Continuation of 1411. Spring. Formerly GERM 107.
- GERM 3094 Independent Study. (1-3 0 0)** Individual study designed to meet needs and interests of the student. Formerly GERM 390.

GESC—Geoscience

(Offered through the Department of Life, Earth and Environmental Sciences.)

- GESC 3303 Oceanography. (3 3 0)** Prerequisite: six to eight hours of introductory lab science including a three- or four-hour course in geology or earth science, or permission of instructor. History of oceanography; origin and distribution of oceans; geology of the sea floor and coastal land forms; physical and chemical characteristics of seawater; currents, waves and tides; coastal waters; biology of marine environments; marine resources and pollution. Spring of odd years. Formerly GESC 303.
- GESC 3308 Environment and Man. (3 3 0)** Efficient utilization and development of resources with topical consideration of water, energy, minerals, soil, forest, grasslands and wildlife, and the relationship between population and resource use and management. Case studies emphasize Texas and the Texas Panhandle area. Same as GEOG 3308. Fall. Formerly GESC 308.
- GESC 3310 Minerals and Rocks. (3 2 2)** Prerequisite: GEOL 1403, GEOL 1401 or NSCI 2371 or consent of instructor. Origin, occurrence, distribution and identification of common minerals and rocks. Laboratory and field studies included. Fall of odd years. Formerly GESC 310.
- GESC 3313 Meteorology. (3 3 0)** Systematic study of weather elements and control of atmosphere. World regional study of climate. Same as GEOG 3313. Formerly GESC 313.
- GESC 4095 Problems in Earth Science. (1-3 0-3 0-6)** Library, field and laboratory research of an earth science problem. Fall, spring. Formerly GESC 421.

HIST—History

(Offered through the Department of History, Political Science and Criminal Justice.)

- HIST 1301 America, 1492–1877. (3 3 0)** Survey in American history: discovery, exploration and colonization; establishment of independence and the new nation, and problems of new government in securing respect at home and abroad; expansion; economic and social development; nationalism versus sectionalism; Civil War and Reconstruction. Fall, spring. Formerly HIST 201.
- HIST 1302 America Since 1877. (3 3 0)** Settlement of the last West; economic revolution; social, economic and political consequences of industrialism; emergence of the United States as a world power; development of American culture. Fall, spring. Formerly HIST 202.
- HIST 2311 Western Civilization. (3 3 0)** Chief political, social and intellectual developments of Western civilization from decline of the Roman empire to the present. Fall, spring. Formerly HIST 110.
- HIST 2321 Comparative World History to 1500. (3 3 0)** Survey of global history from a balanced point of view beginning with inception of civilized life some 6,000 years ago and ending just prior to the age of European expansion. Formerly HIST 251.
- HIST 2322 Comparative World History Since 1500. (3 3 0)** Survey of global history from a balanced point of view, beginning with the age of western expansion in the 16th century and ending with our contemporary world. Formerly HIST 252.
- HIST 2370 Greco-Roman History to A.D. 300. (3 3 0)** Origins, development and significance of Greco-Roman civilization to A.D. 300. Institutions, society, economy, and culture/religion for providing a gateway to advanced courses in European history and a foundation for comparison with other world civilizations. Formerly HIST 309.
- HIST 2371 Modern East Asia, 1600 to Present. (3 3 0)** Survey of East Asian history from 1600 to the present, focusing on China, Japan and Korea. Topics include the transition from early modern society an d institutions (Oing Dynasty in China and Tokugawa shogunate in Japan), impact of the West on East Asia, transformation of East Asian society and politics through reforms and revolutions, the rise of Japanese imperialism and the remaking of East Asia in the late 20th century. Formerly HIST 354.
- HIST 2372 Contemporary World in Perspective. (3 3 0)** Contemporary world situations in their historical perspective. Fall, spring. Formerly HIST 210.
- HIST 2373 Colonial Latin America. (3 3 0)** Political, cultural and economic history of Latin America from the region's pre-Columbian origins to the 19th century independence movements, with emphasis on the implications of contact between European and American civilizations. Formerly HIST 436.
- HIST 3301 Historical Methods. (3 3 0)** Prerequisite: six semester hours of history. Basic skills necessary for study of history: historical research, historical writing and critical reading. History majors are encouraged to take this course before they begin other advanced work (300–400 level). Formerly HIST 390.
- HIST 3310 American Colonial History. (3 3 0)** Exploration of the New World, settlement of English colonies and social, economic and political developments. Causes and consequences of the American Revolution and formation of the nation. Formerly HIST 465.
- HIST 3311 United States, 1789–1860. (3 3 0)** Social, economic and political developments in the United States from establishment of government under the Constitution to the Civil War. Formerly HIST 466.
- HIST 3312 United States, 1877–1914. (3 3 0)** Political, economic and social developments in the United States from the post Reconstruction era to World War I including the Gilded Age society, the Last Frontier, the Industrial Revolution, the Farmers' Revolt, Urbanization and Progressivism movement. Formerly HIST 467.
- HIST 3313 United States, 1914–1945. (3 3 0)** Major events and issues in American history from World War I through World War II, growth of the United States as a world leader, development of an urban society, the Great Depression and New Deal. Formerly HIST 469.
- HIST 3314 United States Since 1945. (3 3 0)** United States in post World War II period, Cold War, Korea and Vietnam and economic, political and social problems of American society since 1945. Formerly HIST 470.

HIST 3320-4352

- HIST 3316 Mexican American History. (3 3 0)** Culture, social, political and economic development of Mexican Americans from 1848 to the present. Formerly HIST 330.
- HIST 3318 Native American History. (3 3 0)** Cultural, social, political and economic development of Native Americans of North America. Formerly HIST 340.
- HIST 3320 U.S. Women's History. (3 3 0)** History of women in the United States from colonial times to the present.
- HIST 3332 Medieval World, 300-1350. (3 3 0)** Prerequisite: six hours of history. Political, cultural, social and economic history of western and central Europe from 300-1350. Formerly HIST 401.
- HIST 3333 Early Modern Europe, 1350-1789. (3 3 0)** Political, cultural, social and economic history of Western Europe from the aftermath of the Black Death to the eve of the French Revolution. Formerly HIST 402.
- HIST 3334 Modern Europe, 1789-1900. (3 3 0)** Revolution and nationalism in Europe; Revolutionary and Napoleonic Wars; Vienna settlement and reaction; Revolutions of 1848; Socialism and socialist thought; comparative nationalisms. Formerly HIST 405.
- HIST 3336 Contemporary Europe, 1900 to Present. (3 3 0)** Place of Europe in the world in the 20th century; nationalism, fascism, totalitarianism; origins and consequences of the First World War; the interwar years; origins and consequences of the Second World War and the Cold War; the revolutions of 1989; comparative East-West Europe; the European Union. Formerly HIST 407.
- HIST 3361 Modern Latin America. (3 3 0)** Political, cultural and economic history of Latin America since independence, with emphasis on the relationship between the region's internal dynamics and those of the Americas and the world. Formerly HIST 437.
- HIST 4096 Readings. (1-3 0 0)** Prerequisite: minimum of three advanced hours work in the area the student will be doing readings; consent of instructor under whom the student will be working and consent of department head. Intensive readings in history selected to meet needs and interest of the student. Students may enroll for one, two or three hours credit. May be repeated for a maximum of six hours when topics vary. Formerly HIST 498.
- HIST 4301 Senior Seminar in History. (3 3 0)** Prerequisite: 21 semester hours of history or consent of department head. Senior-level required course for all history majors and teacher education students with a history teaching field. Intensive study of historical methodology, research and historiography by focusing on selected historical problems. Emphasis on analytical and communication skills relating to study and practice of history. Formerly HIST 490.
- HIST 4303 Film and History. (3 3 0)** The use of film as a source of studying diverse historical topics. Emphasis on cinema's role in preserving and popularizing history, as well as the extent to which film documents not only the events chronicled but the historical context in which the film was produced. Formerly HIST 475.
- HIST 4310 Age of the American Revolution. (3 3 0)** American people on the eve of and during the American Revolution, formation of several states and Confederation and making of the U.S. Constitution. Formerly HIST 476.
- HIST 4312 The Old South. (3 3 0)** Economic, political and social development of the American South to 1865. Colonization of the South, slavery and plantation system, rise of sectionalism and the Civil War. Formerly HIST 481.
- HIST 4313 The Civil War and Reconstruction, 1860-1876. (3 3 0)** Secession crisis; military strategies on the war fronts; political, economic and social developments on the home fronts; diplomacy of the war; Union victorious and the South under Reconstruction. Formerly HIST 480.
- HIST 4315 Hispanic Frontier in North America, 1513-1821. (3 3 0)** Exploration, colonization and development of the Southwest under Spanish rule. Formerly HIST 428.
- HIST 4316 Texas. (3 3 0)** Anglo-American colonization, Revolution and Republic; annexation, statehood and Civil War; Reconstruction; end of Texas frontier; 19th-century politics and reform; oil, industrialization, urbanization and ethnicity of 20th-century Texas. Formerly HIST 412.
- HIST 4317 The New American West, 1877-Present. (3 3 0)** Course will cover the major social, political and economic changes that have occurred in the post-frontier American west. Focus upon commonalities and conflicts within the region. Formerly HIST 413.
- HIST 4319 U.S. Environmental History: 1607-Present. (3 3 0)** Course examines human interactions with the American environment, focusing upon how perceptions of the "proper" relationship between humanity and nature have shifted over time, and the political, social and cultural agendas that have driven these transformations. Formerly HIST 482.
- HIST 4321 Civil Rights Movements in the United States. (3 3 0)** Civil rights limitations faced by various groups in American history and the struggle of these groups to better their circumstances. Formerly HIST 301.
- HIST 4330 History of Christianity to 1564. (3 3 0)** Prerequisite: six hours of history. Doctrinal, cultural, political and social history of Christianity from first century A.D. to the end of the Council of Trent in 1564, which marked the end of the first phase of Reformation. Formerly HIST 411.
- HIST 4332 East European History, Culture and Society. (3 3 0)** Introduction to Eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, former Yugoslavia, former Soviet Union) using film, literature and original documents. Focus on themes of nationalism, ethnic conflict, state-building and center-periphery relations. Investigation of how depictions of the past reflect identity and refer to present circumstances in Eastern Europe. Formerly HIST 320.
- HIST 4333 Modern Russia: Peter the Great to Present. (3 3 0)** Imperial Russia, the Soviet Union and the Russian Federation; modernization of Russia; Imperial expansion; Bolshevik Revolution; Cold War; collapse of communism; cycle of reform and reaction; culture and politics; development of institutions in Russia and the Soviet Union; nationalities and ethnic minorities. HIST 2311 or 2372 recommended. Formerly HIST 420.
- HIST 4335 Origins and Conduct of World War I. (3 3 0)** Prerequisite: six semester hours of history. Origins, conduct and significance of World War I. Formerly HIST 406.
- HIST 4337 Nazi Germany. (3 3 0)** Germany from 1918-1945 with emphasis on the rise of Adolf Hitler, Nazi Revolution, World War II and fall of the Third Reich in 1945. Formerly HIST 415.
- HIST 4350 Modern China, 1800 to Present. (3 3 0)** In-depth study of modern Chinese history from 1800 to the present. Topics include China's response to the West, political and social change after 1919, rise of communism in China and globalization and development since the 1980s. Formerly HIST 451.

- HIST 4352 Modern Japan, 1868 to Present. (3 3 0)** Japan's history since the Meiji Restoration, trends in Japanese modernization, Imperial Japan, World War II, the Occupation, the "miracle economy" and current issues. Formerly HIST 452.
- HIST 4354 World War II in Asia. (3 3 0)** Investigation of origins, strategies and conduct of World War II in Asia. Considers elements of Japan's prewar culture that encouraged the rise of militarism; the Japanese invasion of China; the attack on Pearl Harbor; Japanese, Chinese and American strategies during the war; strategic bombing, the use of atomic weapons; the Allied occupation of Japan; and how residents of East Asia remembered World War II. HIST 210 and 252 recommended. Formerly HIST 456.
- HIST 4357 Age of the Samurai. (3 3 0)** Investigation of major political, cultural, religious and military events in medieval Japan, 1185-1868. Topics include elements of Japanese society which allowed for the rise of military dominance, evolution and maintenance of military institutions, *Bushido* ethic, Mongol invasions, warlord era, end of samurai dominance and influence of the samurai era on modern Japan.
- HIST 4360 History of Mexico. (3 3 0)** Political, economic, social and cultural development of Mexico from pre-Columbian times to present. Emphasis on development in the 20th century. Formerly HIST 430.
- HIST 4393 Honors Practicum in History. (3 0 0)** Prerequisite: senior status and honors standing. Designed to provide advanced honors history students with opportunity for original research and/or field research and/or internship in history. Students work closely with professor in preparation and presentation of work to a scholarly/professional audience. Formerly HIST 495.
- HIST 5301 Historical Methods. (3 3 0)** Prerequisite: graduate standing. Basic skills necessary for study of history: historical research, historical writing and critical reading. History majors are encouraged to take this course before they begin other advanced work. Formerly HIST 5390.
- HIST 5310 Age of the American Revolution. (3 3 0)** American people on the eve of and during the American Revolution, formation of several states and Confederation and making of the U.S. Constitution. Formerly HIST 5476.
- HIST 5313 United States, 1914-1945. (3 3 0)** Major events and issues in American history from the beginning of World War I through World War II, growth of the United States as a world leader, development of an urban society, the Great Depression and New Deal. Formerly HIST 5469.
- HIST 5314 United States Since 1945. (3 3 0)** United States in post World War II period, Cold War, Korea and Vietnam; economic, political and social problems of American society since 1945. Formerly HIST 5470.
- HIST 5315 Hispanic Frontier in North America, 1513-1821. (3 3 0)** Exploration, colonization and development of the Southwest under Spanish rule. Formerly HIST 5428.
- HIST 5316 Texas. (3 3 0)** Anglo-American colonization, Revolution and Republic annexation, statehood and Civil War; Reconstruction; end of Texas frontier; 19th-century politics and reform; oil industrialization, urbanization and ethnicity of 20th-century Texas. Formerly HIST 5412.
- HIST 5317 The New American West, 1877-Present. (3 3 0)** Course will cover the major social, political and economic changes that have occurred in the post-frontier American west. Focus upon commonalities and conflicts within the region. Formerly HIST 5413.
- HIST 5319 U.S. Environmental History: 1607-Present. (3 3 0)** Course examines human interactions with the American environment, focusing upon how perceptions of the "proper" relationship between humanity and nature have shifted over time, and the political, social and cultural agendas that have driven these transformations. Formerly HIST 5482.
- HIST 5320 U.S. Women's History. (3 3 0)** History of women in the United States from colonial times to the present.
- HIST 5330 History of Christianity to 1564. (3 3 0)** Doctrinal, cultural, political and social history of Christianity from first-century A.D. to the end of the Council of Trent in 1564, which marked the end of the first phase of the Reformation. Formerly HIST 5411.
- HIST 5333 Modern Russia: Peter the Great to Present. (3 3 0)** Imperial Russia, the Soviet Union and the Russian Federation; modernization of Russia; Imperial expansion; Bolshevik Revolution; Cold War; collapse of communism; cycle of reform and reaction; culture and politics; development of institutions in Russia and the Soviet Union; nationalities and ethnic minorities. HIST 2311 or 2372 recommended.
- HIST 5335 Origins and Conduct of World War I. (3 3 0)** Origins, conduct and significance of World War I. Formerly HIST 5406.
- HIST 5337 Nazi Germany. (3 3 0)** Germany from 1918-1945, emphasis on the rise of Adolph Hitler, Nazi Revolution, World War II and fall of the Third Reich in 1945. Formerly HIST 5415.
- HIST 5350 Modern China, 1800 to Present. (3 3 0)** In-depth study of modern Chinese history from 1800 to the present. Topics include China's response to the West, political and social change after 1919, rise of communism in China and globalization and development since the 1980s.
- HIST 5352 Modern Japan, 1868 to Present. (3 3 0)** Japan's history since the Meiji Restoration, trends in Japanese modernization, Imperial Japan, World War II, the Occupation, the "miracle economy" and current issues.
- HIST 5354 World War II in Asia. (3 3 0)** Investigation of origins, strategies and conduct of World War II in Asia. Considers elements of Japan's prewar culture that encouraged the rise of militarism; the Japanese invasion of China; the attack on Pearl Harbor; Japanese, Chinese and American strategies during the war; strategic bombing, the use of atomic weapons; the Allied occupation of Japan; and how residents of East Asia remembered World War II. Formerly HIST 5456.
- HIST 5357 Age of the Samurai. (3 3 0)** Investigation of major political, cultural, religious and military events in medieval Japan, 1185-1868. Topics include elements of Japanese society which allowed for the rise of military dominance, evolution and maintenance of military institutions, *Bushido* ethic, Mongol invasions, warlord era, end of samurai dominance and influence of the samurai era on modern Japan.
- HIST 5360 History of Mexico. (3 3 0)** Political, economic, social and cultural development of Mexico from pre-Columbian times to present. Emphasis on development in the 20th century. Formerly HIST 5430.
- HIST 6096 Readings. (1-3 0 0)** Intensive readings in history selected to meet needs and interests of the student. May be repeated once for credit. Formerly HIST 5500.
- HIST 6301 Thesis. (3 0 0)** Formerly HIST 5501.
- HIST 6302 Thesis. (3 0 0)** Formerly HIST 5502.

HIST 6311—IDS 3399

- HIST 6310 Seminar in U.S. History Before 1900. (3 3 0)** Problems developed around a central theme of definite scope on topics before 1900. May be repeated once. Formerly HIST 5550.
- HIST 6311 Seminar in U.S. History Since 1900. (3 3 0)** Topics in U.S. history since 1900 of definite scope will be developed and intensely investigated. May be repeated once. Formerly HIST 5551.
- HIST 6312 The American West. (3 3 0)** Lectures, readings and directed research on the westward movement; American Indians; frontier institutions; pioneer lifestyles; environmental problems and conservation; and other selected aspects of the North American frontier experience. May be repeated once. Formerly HIST 5541.
- HIST 6330 Seminar in European History Before 1648. (3 3 0)** Topics in European history before 1648 of definite scope will be developed and investigated. May be repeated once. Formerly HIST 5560.
- HIST 6331 Seminar in European History Since 1648. (3 3 0)** Topics in European history since 1648 of definite scope will be developed and investigated. May be repeated once. Formerly HIST 5561.
- HIST 6360 Seminar in Latin American History. (3 3 0)** Topics in Latin American history of definite scope will be developed and investigated. May be repeated once. Formerly HIST 5530.
- HIST 6370 Seminar in Comparative World History. (3 3 0)** Topics in world history will be developed and researched around comparative themes of defined scope. May be repeated once with approval of department head if course content changes significantly. Formerly HIST 5570.
- HIST 6392 Seminar in Special Topics. (3 3 0)** Topics developed around a specific theme chosen by the instructor. With consent of department head, may be repeated once for credit. Formerly HIST 5599.

HNRS—Honors

- HNRS 2073 Honors Colloquia. (0 0 0)** Required each semester of all honors students enrolled in six or more hours. Attendance at a minimum of one colloquium each semester is required. A grade of "S" or "F" will appear on the student's transcript. Formerly HNRS 201.
- HNRS 2373 Honors Seminar. (3 0,3 0)** Interdisciplinary, team-taught course. Topics vary by semester. Open only to students admitted to the Honors Program. May be repeated once for credit. Formerly HNRS 202.
- HNRS 3302 Honors Seminar. (3 3 0)** Prerequisite: Honors Program membership. Interdisciplinary, team-taught course. Topics vary by semester. Open only to students admitted to the Honors Program. May be repeated once for credit. Formerly HNRS 302.

HUMA—Humanities

- HUMA 1315 Art, Dance, Music, Theatre Interaction. [HUMA 1315] (3 3 0)** Selected topics from visual and performing arts and how, through their diversity, they interact, promoting an understanding of creativity. Live performance and studio experience. Formerly FA 101.

IDS—Interdisciplinary Studies

(Offered through the Department of English and Modern Languages.)

- IDS 1071 Elementary Group Dynamics. (1-3 1-3 0-2)** Broad interdisciplinary introduction (with contributions from psychology, anthropology, linguistics, mass communications and speech communication) to a communication model effective for sending and receiving information in group situations. Emphasis on responding to individuals and groups in various environments. Development of listening skills and recognition and response to verbal and nonverbal communication. Fall, spring. Formerly IDS 101.
- IDS 3098 Cooperative Education. (1-3 0 0)** Supervised, paid work experience related to student's educational objectives. Formerly FA 386.
- IDS 3301 Women's Studies I: Introduction. (3 3 0)** Survey of women's issues from an interdisciplinary perspective. Formerly IDS 101. Formerly IDS 301.
- IDS 3302 Women's Studies II: The World of Women. (3 3 0)** Studies in the role of women in history, society, the behavioral sciences, the health care field, literature and the arts. May be repeated once with permission of major adviser and dean. Formerly IDS 302.
- IDS 3330 Foundations of Leadership. (3 3 0)** Explores and develops the theory component of leadership studies to the practical process of leadership. Designed to serve as an initial examination of issues and concepts in the study of leadership. Topics include contemporary and historical leadership concepts, credibility, leadership definitions, risk taking, vision, collaboration, values and commitment. Formerly IDS 330.
- IDS 3340 Ethics and Leadership. (3 3 0)** Includes the role of values in determining the moral obligations of leaders and followers in decision making in a changing world of competing values. Emphasizes the application of ethical principles for self-development and organizational effectiveness. Formerly IDS 340.
- IDS 3392 Topics in International Studies. (3 3 0)** Topics of current interest from an international interdisciplinary perspective. May be repeated once for credit when subject matter varies. Formerly IDS 398.
- IDS 3394 Leadership Independent Study. (3 0 0)** Prerequisite: consent of instructor. Individual study designed to meet needs and interests of the student. Formerly IDS 390.
- IDS 3396 Leadership Readings and Case Studies. (3 3 0)** Topics address a wide variety of issues in leadership. Seminar class allows for optimum discussion of case studies. Self-assessments allow students to understand and evaluate themselves within the leadership process. Formerly IDS 350.
- IDS 3398 Group Leadership. (3 0 0)** Prerequisite: consent of instructor. Students will advance communication skills, use leadership skills/theories and training/development theories, and enhance leadership and group communication skills to make a positive impact upon Buff Branding new student orientation and its participants. Students will gain practical experience through developing, implementing and evaluating the orientation program. Formerly IDS 360.
- IDS 3399 Teen Leadership. (3 0 0)** Prerequisite: consent of instructor. Students serve as trainers for the Teen Leadership Amarillo/Canyon program. Skills-based course relies on experiential learning to develop understanding of

- leadership theory and of training and development of theory. Formerly IDS 380.
- IDS 5301 Women's Studies I: Introduction. (3 3 0)** Survey of women's issues from an interdisciplinary perspective.
- IDS 5302 Women's Studies II: The World of Women. (3 3 0)** Role of women in history, society, the behavioral sciences, the health care field, literature and the arts. May be repeated once with permission of major adviser and dean.
- IDS 5330 Foundations of Leadership. (3 3 0)** Explores and develops the theory component of leadership studies to the practical process of leadership. Designed to serve as an initial examination of issues and concepts in the study of leadership. Topics include contemporary and historical leadership concepts, credibility, leadership definitions, risk taking, vision, collaboration, values and commitment.

IPM—Integrated Pest Management

(Offered through the Division of Agriculture.)

- IPM 2313 Economic Entomology. [AGRI 2313] (3 3 0)** Life history, habits and management of the most common insects of farm crops, farm animals and local insect pests. Practice in collecting, preserving and identifying insects, preparing insecticides and spraying harmful insects. Formerly PSES 251.
- IPM 3343 Weeds and Weed Control. (3 2 2)** Prerequisite: junior standing. Identification, distribution, characteristics and methods of controlling weeds. Formerly PSES 343.
- IPM 4094 Directed Studies in Pest Management. (3,4 0 0)** Prerequisite: junior standing and consent of instructor. Readings and directed individual studies in subjects related to integrated pest management. May be repeated once for credit.
- IPM 4343 Pest Management. (3 3 0)** Current management practices used to control agricultural pests such as insects, weeds, plant diseases and nematodes. Chemical nature of various pesticide groups and their ecological effects. Formerly PSES 443.
- IPM 4351 Plant Pathology. (3 2 2)** Prerequisite: BIOL 1413, 1411 or 1406, 1407. Fundamental principles of plant diseases, diagnosis, cause and control. Formerly PSES 451.
- IPM 4361 Agricultural Chemicals. (3 3 0)** Prerequisite: CHEM 2573, junior standing. Pesticide application theory. Chemicals used to manage crop pests, including insects, weeds, pathogens and vertebrates. Defoliation, desiccation and plant-growth regulators as management tools, biological control, pesticide resistance, toxicity and hazards, laws and regulations, and of pesticide use for the future. Formerly PSES 461.
- IPM 4371 Field Crop Entomology. (3 2 2)** Prerequisite: 2313 or BIOL 3510. Harmful and beneficial insects that affect major field crops. Biology, identification, economic importance and management of insect pests. Formerly PSES 471.
- IPM 4398 Pest Management Internship. (3 0 0)** Supervised internship in an approved discipline of the agricultural pest management industry or research activity. IPM students receive on-the-job training under supervision of faculty and industry or research personnel. May be repeated once for credit.
- IPM 5343 Pest Management. (3 3 0)** Current management practices used to control agricultural pests such as insects,
- weeds, plant diseases and nematodes. Chemical nature of various pesticide groups and their ecological effects. Formerly PSES 5443.
- IPM 5351 Plant Pathology. (3 2 2)** Prerequisite: BIOL 1413, 1411, or 1406, 1407. Fundamental principles of plant diseases, diagnosis, cause and control. Formerly PSES 5451.
- IPM 5361 Agricultural Chemicals. (3 3 0)** Prerequisite: CHEM 2573, junior standing. Pesticide application theory. Chemicals used to manage crop pests, including insects, weeds, pathogens and vertebrates. Defoliation, desiccation and plant-growth regulators as management tools, biological control, pesticide resistance, toxicity and hazards, laws and regulations, and of pesticide use for the future. Formerly PSES 5461.
- IPM 5371 Field Crop Entomology. (3 2 2)** Prerequisite: 2313 or BIOL 3510. Harmful and beneficial insects that affect major field crops. Biology, identification, economic importance, and management of insect pests. Formerly PSES 5471.
- IPM 6096 Directed Studies in Pest Management. (3-4 0 0)** Prerequisite: consent of instructor. Readings and directed individual studies in integrated pest management specifically related to the student's interest and needs. May be repeated for a maximum of six hours of credit.
- IPM 6097 Research. (1-6 0 0)** Prerequisite: consent of instructor. Investigation into current problems related to management of agricultural pests. May be repeated for a maximum of six hours of credit.

LEGL—Legal Program

(Offered through the Department of History, Political Science and Criminal Justice.)

- LEGL 1373 Legal Research and Terminology. (3 3 0)** Introduction to legal research and terminology; familiarization with primary and secondary sources of law and how each may be found. Formerly LEGL 103.
- LEGL 1374 Advanced Legal Research and Writing. (3 3 0)** Prerequisite: 1373. Development of research skills through use of case analysis, legal citation, legal bibliography and computer-assisted legal research. Development of advanced legal-writing skills through preparation of legal documents and memoranda. Formerly LEGL 104.
- LEGL 3350 Legal Ethics. (3 3 0)** Code of professional responsibility, regulation of the legal assistant profession and other ethical considerations relating to the legal profession. Formerly LEGL 350.
- LEGL 3352 Introduction to American Legal System. (3 3 0)** Basic legal concepts and terminology, essential role of the courts in American society, criminal justice system, substantive civil law, legal ethics, federal court system, Texas court system and interviewing techniques. Formerly LEGL 352.
- LEGL 3355 Real Estate and Mortgages. (3 3 0)** Basic principles of document preparation and recording for real property; ownership, sale, leasing, financing and government regulations; reading surveys and preparing legal descriptions; when and where to record documents; settlements and closings. Formerly LEGL 355.
- LEGL 3356 Estates and Trusts. (3 3 0)** Estate planning procedures. Principles of collecting and delivering assets during administration. Preparing, indexing and filing documents through payment of all taxes and closing of the estate. Formerly LEGL 356.

LEGL 3357–MATH 3331

LEGL 3357 Family Law. (3 3 0) Document preparation and research for routine procedures involving divorce, separation, custody, legitimacy, adoption, change in name, guardianship and support. Formerly LEGL 357.

LEGL 3358 Civil Litigation. (3 3 0) Procedures and techniques for assisting attorneys in collecting information, document preparation and organizing and indexing materials for civil litigation cases. Formerly LEGL 358.

MATH—Mathematics

(Offered through the Department of Mathematics, Physical Sciences and Engineering.)

MATH 0001 Beginning Algebra. (1-3 1-3 0) Prerequisite: test score guidelines for placement—205 or below on THEA math section or 62 or below on Accuplacer Elementary Level Algebra or 15 or below on Enhanced ACT math section or 370 or below on SAT I math section. Real numbers, equations, inequalities, problem solving, basic graphing, exponents and polynomials at a beginning-algebra level. Course serves as preparation for 0302. May not be counted toward baccalaureate degree requirements. Fall, spring. Formerly MATH 098.

MATH 0302 Intermediate Algebra. (3 3 0) Prerequisite: 0001 or test score guidelines for placement—206–269 on THEA math section or 63–69 or below on the Accuplacer College Level Math or 16–18 on Enhanced ACT math section or 371–440 on SAT I math section. Real numbers, equations, inequalities, problem solving, graphing, exponents, polynomials, factoring, rational expressions and radicals at an intermediate algebra level. Course serves as preparation for 1214 or 1324. Intended for students who did not have Algebra I and II in high school. May not be counted toward baccalaureate degree requirements. Fall, spring. Formerly MATH 099.

MATH 1314 College Algebra. (3 3 0) Prerequisite: 0001 or score of 70 or above on departmental math-placement test to be given at first class meeting. Relations, functions, equations and inequalities, exponents and radicals, logarithms, binomial theorem and probability. Fall, spring. Formerly MATH 110.

MATH 1316 Plane Trigonometry. (3 3 0) Prerequisite or concurrent enrollment in 1314. Trigonometric functions, identities, trigonometric equations, logarithms and inverse trigonometric functions. Fall, spring. Formerly MATH 111.

MATH 1324 Mathematics for Business and Economics I. (3 3 0) Prerequisite: 0302 or score of 70 or above on departmental math placement test to be given at first class meeting. Linear and quadratic equations and inequalities, systems of equations, functions and graphs, mathematics of finance, probability, exponents and logarithms. Fall, spring. Formerly MATH 115.

MATH 1325 Mathematics for Business and Economics II. (3 3 0) Prerequisite: 1314 or 1324. Derivatives, curve sketching and optimization, techniques of derivatives, logarithmic and exponential functions with applications, techniques and applications of integrals. Fall, spring. Formerly MATH 116.

MATH 1332 Modern Mathematics I. (3 3 0) Prerequisite: 0302 or two years of high school algebra and one year of high school geometry. Methods of problem solving set theory, numeration systems and number theory. Formerly MATH 0302.

MATH 1333 Modern Mathematics II. (3 3 0) Prerequisite: 1332 or concurrent enrollment in 1332. Combinatorics,

probability, descriptive statistics, Euclidean and non-Euclidean geometry, and methods of problem solving. Formerly MATH 102.

MATH 1348 Pre-Calculus. (3 3 0) Prerequisite: two years of high school algebra, one year of high school geometry and one semester of high school trigonometry. Coverage of algebraic and trigonometric concepts necessary for calculus. Fall, spring. Formerly MATH 140.

MATH 1350 Fundamentals of Math I. [MATH 1350] (3 3 0) Prerequisite: 1314 or 1324. Elementary concepts of sets, functions, numeration systems, number theory and properties of natural numbers, integers, rational and real number systems with emphasis on problem solving and critical thinking. Fall, spring. Formerly MATH 220.

MATH 1351 Fundamentals of Math II. (3 3 0) Prerequisite: 1350. Elementary concepts of geometry, probability and statistics, as well as applications of algebraic properties of real numbers to concepts of measurement with emphasis on problem solving and critical thinking. Fall, spring. Formerly MATH 221.

MATH 2375 Discrete Structures and Logic Design. (3 3 0) Prerequisite: 1314 or 1324. A theoretical foundation for computer science, including sets, counting techniques, functions, relations, ordering and equivalences, propositional logic, Boolean algebra, graph theory with applications to trees and network models, probability and statistics. Spring. Formerly MATH 215.

MATH 2413 Calculus I. (4 4 0) Prerequisite: 1316 or 1348. Limits, continuity, differentiation of algebraic and trigonometric functions, applications of derivative, differentials, indefinite and definite integrals. Fall, spring. Formerly MATH 240.

MATH 2414 Calculus II. (4 4 0) Prerequisite: 2413. Differentiation and integration of transcendental functions, techniques of integration and applications, infinite series, power series. Fall, spring. Formerly MATH 241.

MATH 3305 Computer Mathematics I. (3 3 0) Prerequisite: 1351 and demonstrated computer competency. Application and use of technology especially computers and calculators in elementary and middle school mathematics. Emphasis on mathematics of finance, informal geometry, pre-algebra, algebra, number theory, statistics, probability, introduction to use of the internet and software evaluation. Fall, spring. Formerly MATH 305.

MATH 3306 Computer Mathematics II. (3 3 0) Prerequisite: 1314; 1316 or 1348; demonstrated computer competency. Application and use of technology especially computers and graphing calculators in secondary mathematics. Emphasis on algebra, trigonometry, analytic geometry, probability, statistics and geometric constructions. Fall. Formerly MATH 306.

MATH 3311 Linear Algebra. (3 3 0) Prerequisite: 2414. Matrix operations, vector spaces, linear transformations and the algebra of polynomials. Fall. Formerly MATH 411.

MATH 3316 Problem Solving and Programming. (3 3 0) Prerequisite: MATH 1325 or 2413, and demonstrated computer competency. Programming of computers for numerical and non-numerical problems solving; development of programming skills and application to various disciplines such as engineering, sciences and business; emphasis on developing programming techniques. Fall. Formerly MATH 316.

MATH 3321 Probability and Finite Mathematics. (3 3 0) Prerequisite: 2414. Permutations, combinations, discrete

- probability, discrete and continuous distributions. Spring of even years. Formerly MATH 321.
- MATH 3331 College Geometry. (3 2 2)** Prerequisite: high school geometry, 1314. Designed for secondary mathematics teachers with emphasis on geometry as an axiomatic system. Inductive and deductive reasoning, nature of mathematical definitions, methods of problem solving and mathematical argument/proof emphasized. Fall, spring. Formerly MATH 331.
- MATH 3340 Calculus III. (3 3 0)** Prerequisite: 2414. Partial derivatives, functions of several variables, multiple integration, vector analysis, line integrals. Spring. Formerly MATH 340.
- MATH 3342 Differential Equations I. [MATH 2320] (3 3 0)** Prerequisite: 2414. Techniques of solving first-order and nth-order linear differential equations, applications of first- and second-order differential equations and Laplace transforms. Fall. Formerly MATH 342.
- MATH 3350 Elementary Problem Solving. (3 3 0)** Prerequisite: 1314 or 1324. Polya's problem-solving model applied to problem-solving strategies. Critical thinking and reasoning skills are emphasized. Fall, spring. Formerly MATH 350.
- MATH 3351 Secondary Problem Solving. (3 2 2)** Prerequisite: 3306. Teaching secondary mathematics through problem solving is discussed, demonstrated and encouraged. Topics include Polya's problem-solving heuristics, special numbers, nature of infinity, 2-D and 3-D geometry, mathematical modeling, estimation, nature of chance, mental mathematics and critical reasoning. Spring. Formerly MATH 351.
- MATH 3360 Statistical Methods. [MATH 2342] (3 3 0)** Prerequisite: 1314. Descriptive statistics, combinatorics, probability, statistical inference, regression and analysis of variance. Fall. Formerly MATH 360.
- MATH 4310 Modern Algebra. (3 3 0)** Prerequisite: 2414. Introduction to theoretical properties of formal systems such as groups, rings and fields. Spring. Formerly MATH 310.
- MATH 4340 Complex Variables I. (3 3 0)** Prerequisite or concurrent enrollment in 3340. Complex numbers, analytic functions, elementary functions, complex series and integration. Fall of odd years. Formerly MATH 440.
- MATH 4341 Advanced Calculus. (3 3 0)** Prerequisite: 2414. Functions and relations, limits of functions and sequences, continuity and uniform continuity, differentiability and the Riemann integral. Spring. Formerly MATH 441.
- MATH 4361 Engineering Statistics. (3 3 0)** Prerequisite: 2414. Probability, sampling distributions, decision functions, estimation and testing, analysis of variance and regression. Spring of odd years. Formerly MATH 461.
- MATH 4362 Introduction to Numerical Analysis. (3 3 0)** Prerequisite: 2414 and knowledge of a programming language. Analysis of convergence and errors; derivation and applications of numerical techniques; numerical differentiation and integration; solution of linear systems. Material is supplemented by computer solutions. Fall of even years. Formerly MATH 492.
- MATH 4390 Understanding Mathematic Principles I, (3 3 0)** Prerequisite: 1314 or 1348, 1351, 3305 or 3306. Review of mathematics necessary for successful completion of the TExES examination. Critical thinking and reasoning skills emphasized. Seniors mathematics capstone course I. Fall, spring. Formerly MATH 494.
- MATH 4391 Understanding Mathematical Principles II. (3 2 2)** Prerequisite: 2414, 3305 or 3306, 3321 and 3331, 3360 or 4361. Review of mathematics necessary for successful completion of the TExES examination. Seniors
- mathematics capstone course II. Spring. Formerly MATH 495.
- MATH 4395 Problems. (3 0-3 0)** May be repeated for a total of six semester hours when subject varies. Formerly MATH 491.
- MATH 5305 Computer Mathematics I. (3 3 0)** Prerequisite: MATH 1351 and demonstrated computer competency. Application and use of technology, especially computers and calculators in elementary and middle school mathematics. Emphasis on mathematics of finance, informal geometry, pre-algebra, algebra, number theory, probability, statistics, introduction to use of the Internet and software evaluation. Fall, spring.
- MATH 5306 Computer Mathematics II. (3 3 0)** Prerequisite: 1314; 1316 or 1348; demonstrated computer competency. Application and use of technology, especially computers and graphing calculators in secondary mathematics. Emphasis on algebra, trigonometry, analytic geometry, probability, statistics and geometric constructions. Fall.
- MATH 5350 Elementary Problem Solving. (3 3 0)** Prerequisite: 1314 or 1324. Polya's problem-solving model applied to problem-solving strategies. Critical-thinking and reasoning skills are emphasized. Fall, spring.
- MATH 5351 Secondary Problem Solving. (3 2 2)** Prerequisite: 3306. Teaching secondary mathematics through problem solving is discussed, demonstrated and encouraged. Polya's problem-solving heuristics, special numbers, nature of infinity, 2-D and 3-D geometry, mathematical modeling, estimation, nature of chance, mental mathematics and critical reasoning are included topics. Spring.
- MATH 5360 Statistical Methods. (3 3 0)** Descriptive and inferential statistics, probability and combinatorics. Fall.
- MATH 5390 Understanding Mathematics Principles I. (3 3 0)** Prerequisite: 1314 or 1348, 1351, 3305 or 3306. Capstone course for mathematics instruction. Review of mathematics necessary for successful completion of TExES examination. Critical thinking and reasoning skills are emphasized. Fall, spring. Formerly MATH 5494.
- MATH 5391 Understanding Mathematical Principles II. (3 2 2)** Prerequisite: 2414, 3305 or 3306, 3321 and 3331, 3360 or 4361. Capstone course for prospective secondary mathematics teachers. Course will review mathematics necessary for successful completion of the TExES examination. Spring. Formerly MATH 5495.
- MATH 6095 Special Problems. (1-6 1-6 0)** May be repeated for a maximum of six hours if subject matter varies. Formerly MATH 5581.
- MATH 6301 Thesis. (3 0 0)** Formerly MATH 5501.
- MATH 6302 Thesis. (3 0 0)** Formerly MATH 5502.
- MATH 6310 Algebraic Structures I. (3 3 0)** Prerequisite: 4310. Algebraic structure, substructure, and quotient structure of groups and rings. Fall of even years. Formerly MATH 5510.
- MATH 6311 Algebraic Structures II. (3 3 0)** Prerequisite: 6310. Finite and infinite fields, extension fields, vector spaces and linear algebra. Spring of odd years. Formerly MATH 5511.
- MATH 6330 Ordinary Differential Equations. (3 3 0)** Prerequisite: 3342, 3311. Autonomous systems, asymptotic behavior, existence theory, initial-value problems, boundary-value problems. Fall of even years. Formerly MATH 5530.
- MATH 6331 Partial Differential Equations. (3 3 0)** Prerequisite: 6330. First-order equations, classification of types of equations, initial-value problems, boundary-value problems, finite difference methods. Spring of odd years. Formerly MATH 5531.