2015-2016 Undergraduate Announcements

Courses of Instruction

MICR 4550 Emerging Information Technology Trends in Business 3 (3) In-depth study, through case studies, readings, and hands-on experience, of emerging information technologies in and across business organizations. Focuses on understanding, effective deployment, and impact of these technologies on business outcomes. Preq: MGT 3180; or MGT 2010 and ACCT 3220; or MGT 2010 and CPSC 2150 and CPSC 2310.

MGT 4560 Business Information Management 3 (3) In-depth study of business related data, information, and knowledge-based systems as well as business intelligence technologies and techniques, through readings, hands-on experience, and case studies. Emphasizes organizational decision-making and the ability to access data, information and knowledge-based assets where and when needed. Preq: MGT 3180; or MGT 2010 and ACCT 3220; or MGT 2010 and CPSC 2150 and CPSC 2310.

MGT 4900 Selected Topics in Industrial Management 3 (3) In-depth examination of advanced topics in Industrial Management. Topics may vary in keeping with developments in the management profession and interests of faculty. Emphasizes the application of these topics to the production and operations management environment. May be repeated for a maximum of six credits, but only if different topics are covered. Preq: MGT 4020 or 4040 or 4080.

MGT 4970 Creative Inquiry—Management 1-3 (1-3) Students plan, develop, execute, and direct a research project related to the field of management and present their findings. The project includes lectures about research design, conduct, and data analysis. May be repeated for a maximum of six credits. Includes Honors sections.

MICROBIOLOGY

Professor: R.S. Cohen, Chair, T.A. Hughes, X. Jiang, C.D. Rice, S.W. Scott, Y. Wei; Associate Professors: B.J. Campbell, M. Cao, J.M. Henson, H.D. Kurz, T.L. McNeal, T.R. Teeng; Assistant Professors: V.P. Richards; Senior Lecturers: J.G. Abercrombie, K.B. Rudolph; Lecturer: K.J. Whitehead

MICR 1010 Microbes and Human Affairs 1 (1) Introduces Microbiology majors to University career and library services, evaluation of computer program proficiency, Web page development, Microbiology emphasis areas, and Microbiology faculty. Students initiate their own Web-based student portfolios, which showcase their skills and experiences (e.g., resumes, accomplishments, and work samples) during their undergraduate programs. Preq or concurrent enrollment: BIOL 1030 and BIOL 1050; or BIOL 1100.

MICR 2050 Introductory Microbiology 4 (3) Basic concepts of microbiology, introduced through classroom and laboratory experiences. Emphasizes practical applications in various areas of importance to man. Recommended for students not majoring in a biological science. Not open to Microbiology majors. Preq: CH 1010; and one of the following combinations: BIOL 1030 and BIOL 1050; or BIOL 1100 and BIOL 1110. Coreq: MICR 2051.

MICR 2051 Introductory Microbiology Laboratory 0 (3) Noncredit laboratory to accompany MICR 2050. Coreq: MICR 2050.

MICR 3000 Essential Skills in Microbiology 3 (3) Equips students with skills needed to achieve success in a variety of scientific fields, with emphasis on microbiology. The course focuses on career-building skills, scientific ethics, and scientific written communication.

MICR 3050 General Microbiology 4 (3) Morphology, physiology, classification, distribution, and cultivation of microorganisms. Preq: CH 1010 and CH 1020; and one of the following combinations: (BIOL 1030 and BIOL 1040 and BIOL 1050 and BIOL 1060) or (BIOL 1100 and BIOL 1110). Coreq: MICR 3051.

MICR 3051 General Microbiology Laboratory 0 (3) Noncredit laboratory to accompany MICR 3050. Coreq: MICR 3050.

MICR 3940 Selected Topics in Creative Inquiry I 2-3 (2-3) Disciplinary and multidisciplinary group research projects with the goal of developing the students’ ability to discover, analyze, and evaluate data. Students are required to document their research activities in their portfolios. May be repeated for a maximum of six credits. Honors students must take at least six credits over a two-semester period with the same research advisor and write an honors thesis. These credits may include MICR 3940, MICR 4940 or both. Includes Honors sections. Preq: Consent of instructor. Coreq: MICR 3941.

MICR 3941 Selected Topics in Creative Inquiry I Laboratory 0 (3-6) Noncredit laboratory to accompany MICR 3940. Coreq: MICR 3940.

MICR 4000 Public Health Microbiology 3 (3) Epidemiology of transmissible diseases including pathogenic characteristics of the infectious organism, modes of transmission, mechanism of infection, diagnostic aids, effective treatments, immunizing procedures, and methods of preventing infection. Includes Honors sections. Preq: MICR 3050.

MICR 4010 Microbial Diversity and Ecology 3 (3) In-depth survey of microbial morphology, ecology, and diversity. Study of the interaction and adaptation of microbes in a wide range of environmental conditions, including consideration of their metabolism, nutrition, growth and the use of microbiological assays. Includes Honors sections. Preq: CH 2010 and 2020 or CH 2230; and CH 2270; and MICR 3050.

MICR 4020 Environmental Microbiology 3 (3) Focus of microorganisms in air, terrestrial, and aquatic environments and how they are used for environmental restoration activities. Topics include the nature of biofilms, interactions of microbes with inorganic and organic constituents, processes to implement bioremediation in surface/subsurface environments, and treatment of solid, liquid, and gaseous waste streams. Preq: MICR 3050 and MICR 4010; and either CH 2010; or both CH 2230 and CH 2270.

MICR 4030 Marine Microbiology 3 (3) Discussion of the microbes that inhabit the marine environment, their peculiar physiological traits, and contributions to the ecology of oceans. Preq: MICR 3050; and either CH 2010 and CH 2020; or both CH 2230 and CH 2270.

MICR 4050 Advanced Microbial Ecology of Humans 3 (3) Investigation of the complex ecological relationships between microbes and their human hosts, including investigation of the normal microbiota in various body systems, factors that change the microbiota, and the role of the microbiota in normal development, health and disease of the host. Preq: MICR 4010 with a grade of C or better.

MICR 4070 Food and Dairy Microbiology 4 (3) Physical-chemical factors limiting survival and growth of microorganisms during processing and manufacturing of food and dairy products. Standard methods for enumerating and identifying indicator bacteria, yeasts, molds, and microbes producing food and food-borne illness. Starter cultures, fungal toxins, microbial cell injury and standards for food and dairy products. Includes Honors sections. Preq: MICR 3050; and one of BCHM 3050 or CH 2010 or CH 2230. Coreq: MICR 4071.

MICR 4071 Food and Dairy Microbiology Laboratory 0 (3) Noncredit laboratory to accompany MICR 4070. Coreq: MICR 4070.

MICR 4100 Soil Microbiology 3 (3) Role of microorganisms in the decomposition of organic substances, transformation of nitrogen and mineral substances in the soil; interrelationships between higher plants and microorganisms; importance of microorganisms in soil fertility. Includes Honors sections. Preq: MICR 3050; and MICR 4010 or PES 4900.

MICR 4110 Pathogenic Bacteriology 3 (3) Study of pathogenic bacteria and their virulence mechanisms. Emphasizes host-microbe interactions, responses to infection and treatment, and research strategies for various topics of bacterial pathogenesis. Includes Honors sections. Preq: MICR 3050 and MICR 4120 and MICR 4140.

MICR 4120 Bacterial Physiology 3 (3) Consideration of the cytology, physiology, metabolism, and genetics of bacteria. Includes studies of growth and death, reproduction and mutation, nutrition and metabolic pathways, regulatory mechanisms, and effects of environment. Includes Honors sections. Preq: CH 2240 and MICR 3050; and either BCHM 3010 or BCHM 3050.

MICR 4130 Industrial Microbiology 3 (2) Microbial aspects of large-scale processes for the production of foods, antibiotics, enzymes, fine chemicals, and beverages. Topics include strain selection, culture maintenance, biosynthetic pathways, continuous cultivation and production of single cell protein. Includes Honors sections. Coreq: MICR 4131.

MICR 4131 Industrial Microbiology Laboratory 0 (3) Noncredit laboratory to accompany BIOL 4130. Coreq: MICR 4130.

MICR (AVS, BIOL) 4140 Basic Immunology 3 (3) Introduction to the immune system of vertebrate animals, with an emphasis on structure, function, regulation, and cellular and molecular mechanisms of immune responses. Includes honors sections. May also be offered as AVS 4140 or BIOL 4140. Preq: BIOL 4610 and MICR 3050.
MICR 4150* Microbial Genetics 3 (3) Investigates the molecular basis of microbial lives. Topics include essential genes involved in DNA, RNA and protein metabolism; mutations and genome evolution; global gene regulation; and genetic analysis, using both forward and reverse genetics. Includes Honors sections. Preq: MICR 4120; and BCHM 3010 or BCHM 3050. Non-Microbiology majors do not have to have taken MICR 4120, but must request a registration override from the instructor to enroll in this course.

MICR 4160* Introductory Virology 3 (3) Introduction to the field of virology, including animal, bacterial, and plant viruses. Topics include nomenclature and classification, biochemical and biophysical characteristics, mechanisms of replication, chemotherapy, and techniques for isolation, assay, and purification. Includes Honors sections. Preq: MICR 3050; and either BCHM 3010 or BCHM 3050.

MICR 4170* Cancer and Aging 3 (3) Discusses alterations that occur at molecular, cellular and tissue levels during cell transformation and aging. Topics include the cell division cycle, signal transduction pathways, oncogenes and tumor suppressors, cell death and cell aging. Includes Honors sections. Preq: MICR 3050 and BIOL 4610; and either BCHM 3010 or 3050.

MICR 4190* Selected Topics in Molecular Medicine 3 (3) Introduction to various areas of molecular medicine. Examines the latest research and developments in molecular medicine. Designed for students interested in medicine and biomedical research. Graduate students may repeat for a maximum of six credits. Preq: BCHM 3010 or BCHM 3050 or MICR 3050.

MICR 4210 Pathogenic Bacteriology Laboratory I 3 (3) Complements the pathogenesis research topics covered in the pathogenic bacteriology lecture. These topics are important at practical levels for prevention and treatment of bacterial diseases. Laboratory is used to teach pathogen handling, basic identification techniques, and modern molecular protocols for pathogen identification. Preq: MICR 4140. Preq or concurrent enrollment: MICR 4110.

MICR 4220 Bacterial Physiology Laboratory I 3 (3) Laboratory topics corresponding to MICR 4120 lecture. The course will train students in the proper handling of bacteria and will teach techniques for growing and maintaining bacterial cultures while avoiding contamination. Preq or concurrent enrollment: MICR 4120.

MICR (AVS, BIOL) 4240 Immunology Laboratory I 3 (3) This course is designed to apply the knowledge gained in MICR 4140, Immunology lecture, in an applied setting. The experiments in this beginning immunology laboratory are designed to study both the innate and acquired immune systems. Experimentation into the formation, function and detection of antibodies provides students with skills in basic immunologic techniques. May also be offered as AVS 4240 or BIOL 4240. Preq or concurrent enrollment: MICR 4140.

MICR 4250* Microbial Genetics Laboratory I 3 (3) Complements the genetics topics covered in the Microbial Genetics lecture. These topics are important at practical levels for molecular and genetics studies. The laboratory is used to teach basic cloning techniques, the basis of blue/white screening, isolation of mutants, calculation of mutation rate, as well as gene regulation. Preq or concurrent enrollment: MICR 4150.

MICR 4270* Cancer and Aging Laboratory I 3 (3) The laboratory is used to teach the basic molecular protocols for cancer and aging research, and will help students to understand the mechanisms of cancer and aging discussed in lecture. Preq or concurrent enrollment: MICR 4170.

MICR 4300* Soil Microbiology Laboratory I 3 (3) Examines microbes residing in the soil and their effects on the soil substratum and resident plant communities. Topics include biogeochemistry, microbial isolation, microcosm development, and characterization of soil microbial communities. Preq or concurrent enrollment: MICR 4100.

MICR 4310 Microbial Diversity and Ecology Laboratory I 3 (3) Provides a laboratory experience to complement topics covered in the Microbial Diversity and Ecology lecture. These topics are important at practical levels to better understand the diversity of microbes in various ecosystems. The laboratory is used to learn sampling techniques, preparation of microbial media, basic identification techniques, and modern molecular protocols for microbe identification, such as PCR and 16S rDNA gene sequencing. Preq or concurrent enrollment: MICR 4100.

MICR 4500 Advanced Microbiology Laboratory I 2 (1) Application of knowledge and techniques learned in the Introductory Microbiology Lab with new topics on microbial ecology, diversity and physiology. Experiments in soil, marine and environmental microbiology will be conducted. Preq: MICR 4010. Coreq: MICR 4501.

MICR 4501 Advanced Microbiology Laboratory I Laboratory 0 (2) Non-credit laboratory to accompany MICR 4500. Coreq: MICR 4500.

MICR 4510 Advanced Microbiology Laboratory II 2 (1) Application of knowledge and techniques learned in the Advanced Microbiology Lab I with new topics in microbial cell biology and microbial genetics. Preq: MICR 4120 and MICR 4500. Coreq: MICR 4511.

MICR 4511 Advanced Microbiology Laboratory II Laboratory 0 (2) Non-credit laboratory to accompany MICR 4510. Coreq: MICR 4510.

MICR 4520 Advanced Microbiology Laboratory III 2 (1) Application of knowledge and techniques learned in the Advanced Microbiology Labs I and II with new topics on pathogenic bacteriology, parasitology, virology and immunology. Preq: MICRO 4510. Coreq: MICR 4521.

MICR 4521 Advanced Microbiology Laboratory III Laboratory 0 (2) Non-credit laboratory to accompany MICR 4520. Coreq: MICR 4520.

MICR (Biol) 4560* Medical and Veterinary Parasitology 3 (3) Introduces to parasitism in the animal kingdom. Emphasizes basic and applied principles related to economically and medically important diseases. Classical and experimental approaches to the study of parasitism are examined in reference to protozoa, helminths, and arthropods. Includes Honors sections. May also be offered as BIOL 4560. Preq: BIOL 1040 and BIOL 1060 or BIOL 110. Coreq: MICR 4570.

MICR 4570* Medical and Veterinary Parasitology Laboratory 2 (1) Laboratory to reinforce material presented in BIOL 4560. Introduces students to both live and preserved human/animal parasites. Also introduces techniques used in collection, preservation, and examination of animal parasites. Includes Honors sections. Coreq: MICR 4560 and MICR 4571.

MICR 4571* Medical and Veterinary Parasitology Laboratory 0 (2) Non-credit laboratory to accompany MICR 4570. Coreq: MICR 4570.

MICR 4910 Undergraduate Research in Microbiology 1-4 (1-4) Individually mentored research problems in various areas of microbiology that introduce undergraduate students to the planning and execution of research experimentation and the presentation of research findings. May be repeated for a maximum of eight credits with consent of instructor. Honors students must take at least six hours under a single research advisor over two semesters. Honors thesis is required. Includes Honors sections. Preq: Consent of instructor.

MICR 4920 Internship in Microbiology 04 (1-4) Preplanned internship at an advisor-approved facility to give students learning opportunities beyond their classroom experiences. Students submit a Student Internship Contract and a study plan before the internship and a comprehensive report within one week of the end of the internship. May be repeated for a maximum of six credits. To be taken Pass/No Pass only. Preq: Consent of instructor.

MICR 4930 Senior Seminar 2 (2) Capstone course engaging students in analysis and discussion of publications from the technical and non-technical literature in biological sciences and from current topics of biology appearing in other media. Students complete their undergraduate on-line digital portfolios. Emphasis is placed on ethical issues that arise as a result of biological research. Preq: Senior standing and COMM 1500 or COMM 2500 or ENGL 3150.

MICR (Biol) 4940 Selected Topics in Creative Inquiry II 2-3 (1-3) Disciplined and multidisciplinary group research projects with the goal of developing the students’ abilities to discover, analyze, and evaluate data. Students are required to document their research activities in their portfolios. May be repeated for a maximum of six credits. Honors students must take at least six credits over a two-semester period with the same research advisor and write an honors thesis. These credits may include BIOL 3940, BIOL 4940 or both. Includes Honors sections. May also be offered as BIOL 4940. Preq: Consent of instructor. Coreq: MICR 4941.

MICR (Biol) 4941 Selected Topics in Creative Inquiry II Laboratory 0 (3-6) Non-credit laboratory to accompany MICR 4940. May also be offered as BIOL 4941. Coreq: MICR 4940.
MICR 4950 Service Learning in Biology 2-4 (1-2) Combines service and academic learning while helping pre-college or college students learn about the fundamental aspects of science. Provides lecture and laboratory experiences as students learn to prepare and participate in supervised laboratory teaching for pre-college or college students. May be repeated for a maximum of six credits. Preq: Consent of instructor. Cons: MICR 4951.

MICR 4951 Service Learning in Biology Laboratory 0 (3-9) Non-credit laboratory to accompany MICR 4950. Cons: MICR 4950.

MARKETING


MKT 2980 Creative Inquiry—Marketing 1-4 (1-4) In consultation with and under the direction of a faculty member, students pursue scholarly activities individually or in teams. These creative inquiry projects may be interdisciplinary. Arrangements with mentors must be established prior to registration. May be repeated for a maximum of six credits. Preq: Consent of faculty member/mentor.

MKT 3010 Principles of Marketing 3 (3) Principles and concepts involved in planning, pricing, promoting, and distributing of goods and services. Includes Honors sections. Preq: ECON 2000 or ECON 2110 or ECON 2120 or any 2000-level AGRB course; and sophomore standing.

MKT 3020 Consumer Behavior 3 (3) Examination of selected individual and group behavioral science concepts and their application to the understanding of consumer decision making. Preq: MKT 3010.

MKT (ELE) 3140 New Venture Creation 1 3 (3) First in a two-part series that continues with MGT (ELE) 3150 assessing entrepreneurial opportunities. Focuses on creativity, idea generation, market opportunity analysis, strategy, and methods of entry. Opportunity analysis may be developed into a full new venture plan in ELE 3150 or MGT 3150. May also be offered as ELE 3140. Preq: Junior standing.

MKT 3210 Sports Marketing 3 (3) Exploration of the essentials of effective sports marketing. Topics include application of marketing principles in the sports area, licensing issues, sponsorships and endorsements, stadium and arena marketing, broadcasting and media considerations, public policy and sports, and unique marketing challenges for sport specific products (football, basketball, baseball, motorsports, etc.) Preq: MKT 3010.

MKT 3310 Marketing Metrics and Analytics 3 (3) Examines the derivation, meaning, use and communication of marketing metrics used to facilitate decision making in various areas, including, but not limited to, online and social media strategy, advertising, pricing, branding and product development. Students are also introduced to database management, including the use of Microsoft Excel. Preq: MKT 3010 and STAT 3090.

MKT 3900 Junior Honors Research 1 (1) Students select and complete a research project approved by a faculty advisor, in conjunction with an approved three-credit marketing course (other than MKT 3010 or 4310). Students are expected to display a command of marketing theory and an ability to apply theory to their research. Preq: MKT 3010 and membership in Calhoun Honors College and consent of faculty member supervising research.

MKT 3980 Creative Inquiry—Marketing 1-4 (1-4) In consultation with and under the direction of a faculty member, students pursue scholarly activities individually or in teams. These creative inquiry projects may be interdisciplinary. Arrangements with mentors must be established prior to registration. May be repeated for a maximum of six credits. Preq: Consent of faculty member/mentor.

MKT 3990 Marketing Internship 3 (3) Pre-planned, preapproved, faculty-supervised marketing internships. Credit is only given for internships of at least ten full-time, consecutive weeks with the same internship provider. To be taken Pass/No Pass only. May be taken only once. Preq: MKT 3010 and consent of instructor.

MKT 4200 Professional Selling 3 (3) Current theories about the selling of goods and services to organizational buyers in the context of long-term relationships. Role playing, videotaped presentations, and other techniques are generally employed to enhance interpersonal communication skills. Preq: Junior standing and MKT 3010.

MKT 4230* Promotional Strategy 3 (3) Emphasizes promotion as the communication function of marketing. Attention is given to communication theory and promotion’s relation to mass and interpersonal communication. Factors affecting promotional decision-making process are explored, and promotion as a competitive tool is examined. Preq: MKT 3010.

MKT 4240 Sales Management 3 (3) Comprehensive examination of the planning, implementation, and control of professional sales organizations. Preq: MKT 3010 and MKT 4220.

MKT 4250 Retail Management 3 (3) Retailing is studied from a decision-making approach. Topics include target market analysis, location analysis, merchandising, human resources, pricing and promotion. Preq: MKT 3010.

MKT 4260 Business-to-Business Marketing 3 (3) Study and analysis of the unique aspects of marketing goods and services to organizational buyers rather than household consumers. Emphasis is on developing strategic responses to market opportunities given competitive behavior. Preq: MKT 3010.

MKT 4270 International Marketing 3 (3) Study of marketing from the international point of view. Emphasis is on the necessary modification of marketing thinking and practice for foreign markets due to individual environmental differences. Preq: MKT 3010.

MKT 4280* Services Marketing 3 (3) Exploration and study of the nature of service organizations and the principles that guide the marketing of their products. Emphasis is on a marketing mix that is fundamentally different than that found in traditional goods marketing. Preq: MKT 3010.

MKT 4290* Public and Nonprofit Marketing 3 (3) Examines the role and application of marketing in public and nonprofit settings. Focuses on a conceptual understanding of the marketing discipline and marketing processes and shows how basic concepts and principles of marketing are applicable to public and nonprofit organizations. Preq: MKT 3010.

MKT 4300* Marketing Product Management 3 (3) Management of the firm’s product or service offerings. Topics include new product screening, evaluation, and development; product line mix analysis, abandonment decisions, brand manager’s role, new product development department, and others. Emphasis is on decision making. Preq: MKT 3010.

MKT 4310 Marketing Research 3 (3) Research used in marketing decision making. Emphasizes methods and techniques used in planning, collection, processing, and utilizing information. Topics include research design, sources of information, questionnaire design, sampling, data collection, and data analysis. Preq: Marketing major and MKT 3010 and STAT 3090. Preq or concurrent enrollment: MKT 3310.

MKT 4330 Sport Marketing Strategy 3 (3) Provides students with basic knowledge about brand management as it applies to sport. Addresses basic principles and guiding precepts of how sport-based organizations build strong brands. Preq: MKT 3210.

MKT 4340 Sport Promotion 3 (3) Emphasizes the promotion function of sport. Topics include event sponsorship, developing media relationships, endorsements, promotion objective setting and budgeting, media planning and scheduling, and utilizing the tools of promotion within a sport context. Integrated Marketing Communication provides the theoretical and managerial framework for how these factors are utilized optimally. Preq: MKT 3210.

MKT 4430 Advertising Strategy 3 (3) Advertising strategy emphasizing knowledge of target audiences, along with the messages to communicate effectively with them. Foundations include knowing, motivating, and changing behavior of target audience. Issues include models for decisions, tools for promotion, and integrated advertising plans. Preq: MKT 3010.

MKT 4450 Macromarketing 3 (3) Examines the relationship between marketing and society, focusing on the social impact of marketing practices. Topics include technology, ethics, materialism, globalization, environmental sustainability, and the political and economic philosophy underlying marketing. Course is multidisciplinary and uses a variety of readings to cover each topic area. Preq: MKT 3010 and junior standing.

MKT 4500 Strategic Marketing Management 3 (3) Application of marketing constructs in analyzing and solving marketing problems. Emphasizes information systems, data analysis, and critical-thinking skills in solving marketing problems in a wide range of managerial decision areas, including, but not limited to, new product development, pricing, advertising, personal selling, channels, and international marketing. Preq: Marketing major and MKT 3010 and six credits of 4000-level marketing courses.