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diseased plants, nature of pathogenicity, and defense mechanisms in plants. Cross-listed with CMDB 230, GEN 230, and PLPA 230.

BPSC 231. The Plant Genome (4) W Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BCH 100, BIOL 107A; or BCH 110A, BCH 110B, BCH 110C; or consent of instructor. Gives students an appreciation for the structure of the plant nuclear, chloroplast, and mitochondrial genomes. Gene structure, regulation of gene expression, transposons, and methods of gene introduction are also emphasized. Cross-listed with BCH 231. **Bailey-Serres, Eulgem, Walling**

BPSC 232. Plant Development (4) S Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BCH 110C or BIOL 107A; BIOL 102; BIOL 104/BPSC 104; or consent of instructor. An examination of plant development, with emphasis on the genetic mechanisms used in patterning plant forms. Topics are taken from current literature and focus on molecular and cellular mechanisms. **Springer, Reddy**

BPSC 233. Plant Molecular Responses to the Abiotic Environment (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 107A, BIOL 143/BPSC 143; or consent of instructor. Integrates plant physiological and molecular responses to the abiotic environment. Explores molecular responses to environmental factors such as light, nutrients, and abiotic stress. Topics include mechanisms of gene regulation, function of novel gene products, and approaches to improve crop plants for unfavorable environments.

BPSC 234. Statistical Genomics (4) F, Even Years Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 102, STAT 231B; or consent of instructor. Examines statistical methods of genome analysis. Topics include screening for genetic markers, linkage analysis, linkage disequilibrium, and mapping genes for complex diseases and quantitative traits. Covers statistical techniques, including analysis of least squares and maximum likelihood, Bayesian analysis, and Markov chain Monte Carlo algorithm. **Xu**

BPSC 236. Principles of Light Microscopy (4) W Lecture, 2 hours; laboratory, 6 hours. Prerequisite(s): graduate standing in the life sciences or consent of instructor. Principles and practice of preparing biological tissues for light microscopy. Topics include bright field and variations on the compound microscope, fluorescence and confocal microscopy, fixation, histochemical methods, immunolocalization, *in situ* localization, and digital image analysis. **Carter, DeMason**

BPSC 237. Plant Cell Biology (4) F Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 107A or BIOL 143/BPSC 143 or BCH 100 or CBNS 101 or their equivalents, or consent of instructor. Studies the structure, function, and dynamics of plant cell division, expansion, and specialization. Emphasis on aspects unique to plants including cytoskeletal and cell plate dynamics during cytokinesis; intracellular trafficking and wall-dynamics during expansion; and targeting to chloroplasts and vacuoles during specialization. **Raikhel, Yang**

BPSC 239. Advanced Plant Physiology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 143/BPSC 143 or consent of instructor. Examines advances in plant physiology, with emphasis on carbon and nitrogen metabolism, mineral nutrition, solute transport and phloem translocation, plant growth regulators, and secondary compounds in relation to growth and development. **Lovatt**

BPSC 240. Special Topics in Plant Biology (2) F, W, S Seminar, 2 hours. Prerequisite(s): consent of instructor. Discussion of current literature within special areas of plant science. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

BPSC 243. Plant Physiological Ecology (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BIOL 143/BPSC 143; BPSC 146 or equivalent; or consent of instructor. Analyzes adaptations and responses of plants to their environment, with emphasis on the physical environment, photosynthesis, temperature and water relations, growth and allocation, and plant interactions. **Santiago**

BPSC 245. Advanced Plant Ecology (4) F, Even Years Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): MATH 009C or MATH 09HC; STAT 100B or equivalent; an undergraduate course in ecology; or consent of instructor. Explores the fundamental ecological concepts, theoretical developments, quantitative methods, and experimental results involved in multiscale plant ecological studies. Emphasizes plant strategies, vegetation processes, ecosystem properties, and terrestrial landscapes and their interaction with environmental change and human land use. **Li**

BPSC 247. Ecological Theory and Modeling (4) W, Even Years Lecture, 2 hours; discussion, 2 hours. Prerequisite(s): MATH 009C or MATH 09HC; STAT 100B or equivalent; an undergraduate course in ecology; or consent of instructor. Explores the fundamental ecological theory and modeling methodology with emphasis on the ecosystem and landscape levels. Synthesizes current research developments in the context of their classic works. **Li**

BPSC 250. Seminar in Plant Biology (1) F, S Seminar, 1 hour. Prerequisite(s): graduate standing or consent of instructor. Intensive study of selected topics in plant biology. Students who present a seminar receive a letter grade; other students receive a Satisfactory (S) or No Credit (NC) grade. Course is repeatable.

BPSC 252. Special Topics in Botany/Plant Science (1) F, W, S Seminar, 1 hour. Prerequisite(s): graduate standing and consent of instructor. Oral presentations and intensive small-group discussion of selected topics in the area of special competence of each staff member. Course content will emphasize recent advances in the special topic area and will vary accordingly. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

BPSC 260. Seminar in Plant Physiology, Botany, or Genetics (1) W Seminar, 1 hour. Prerequisite(s): graduate standing or consent of instructor. Lectures, discussions, and demonstrations by students, faculty, and invited scholars on selected subjects concerned with the principles of plant physiology, botany, or genetics. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

BPSC 261. Seminar in Genetics, Genomics, and Bioinformatics (1) W, S Seminar, 1 hour. Prerequisite(s): graduate standing or consent of instructor. Oral reports by visiting scholars, faculty, and students on current research topics in Genetics, Genomics, and Bioinformatics. Graded Satisfactory (S) or No Credit (NC). Course is repeatable. Cross-listed with BCH 261, BIOL 261, ENTM 261, GEN 261, and PLPA 261.

BPSC 290. Directed Studies (1-6) F, W, S Individual study, 3-18 hours. Prerequisite(s): consent of instructor. Library, laboratory, or field studies conducted under the direction of a faculty member. Designed to meet special or unexpected curricular needs in areas of plant biology not covered by formal course work. Students who complete assigned extra work receive letter grades; other students receive Satisfactory (S) or No Credit (NC) grades. Course is repeatable.

BPSC 291. Individual Study in Coordinated Areas (1-6) F, W, S Prerequisite(s): graduate standing. A program of study designed to advise and assist candidates who are preparing for examinations. Up to 6 units may be

taken prior to the master's degree. Up to 12 units may be taken prior to advancement to candidacy for the Ph.D. Graded Satisfactory (S) or No Credit (NC). Course is repeatable upon recommendation of the instructor.

BPSC 292. Concurrent and Advanced Studies in Botany and Plant Sciences (1-4) F, W, S Outside research, 3-12 hours. Prerequisite(s): consent of instructor. Elected concurrently with an appropriate undergraduate course, but on an individual basis. Devoted to one or more graduate projects based on research and criticism related to the course. Faculty guidance and evaluation is provided throughout the quarter. Course is repeatable.

BPSC 297. Directed Research (1-6) F, W, S Outside research, 3-18 hours. Prerequisite(s): graduate standing or consent of instructor. Individual research conducted under the direction of a Botany and Plant Sciences faculty member. Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

BPSC 299. Research for Thesis or Dissertation (1-12) F, W, S Graded Satisfactory (S) or No Credit (NC). Course is repeatable.

Professional Course

BPSC 302. Teaching Practicum (1-4) F, W, S Prerequisite(s): graduate standing and appointment as Teaching Assistant. Supervised teaching of Botany/Plant Science courses including laboratory and/or discussion sections. Graded Satisfactory (S) or No Credit (NC). Course is repeatable for credit, but units not applicable toward degree unit requirements.

Business Administration

Subject abbreviation: BUS
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Birendra Mishra, Ph.D.
Erik Rolland, Ph.D. **

Lecturers

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Professor Emeritus

David Mayers, Ph.D.

Associate Professor

Sattar Mansi, Ph.D.

Assistant Professors

Long Gao, Ph.D.
Sukwon Kim, Ph.D.
Canlin Li, Ph.D. **

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Rami Zwick, Ph.D.

Associate Professors

Jerayr Halebian, Ph.D.
Jorge Silva-Risso, Ph.D.

Assistant Professors

Andrea Godfrey, Ph.D.
Seok-Woo Kwon, Ph.D.
Xing Pan, Ph.D. **

Lecturer

Raj Singh, Ph.D.

Majors

The B.S. in Business Administration is a two-year upper-division major offered by the School of Business Administration (SoBA). Students can enroll in a Pre-Business status and are advised in CHASS during their freshman and sophomore years. The Pre-Business curriculum includes the prerequisites to the major and the college breadth requirements. After admission to the major, students are advised by the SoBA through its Office of Undergraduate Programs located at 2340 Olmsted Hall. The B.S. degree in Business Administration is conferred by the SoBA.

The program is accredited by the AACSB International - The Association to Advance Collegiate Schools of Business.

Admission A limited number of students are accepted into the Business Administration major, chosen according to overall GPA. Students must apply for the major when they

have completed not fewer than 75 and not more than 100 quarter units of college work. Final acceptance into the major is based on completion of all prerequisites and breadth requirements within a 100-quarter-unit limit, a GPA above 2.00 in prerequisites, and cumulative GPA of at least 2.50. (Students who have not completed the foreign language breadth requirement may be accepted into the program, but they must complete the requirement before graduation.) Exceptions to the 100-quarter-unit maximum must be requested by petition.

Students are encouraged to participate in at least one internship during their junior or senior year. Students interested in international business are encouraged to consider opportunities for study through the Education Abroad Program, which has centers affiliated with more than 150 institutions in 35 countries worldwide. For further details, visit UCR's International Education Center at international.center.ucr.edu or call (951) 827-4113.

Outstanding academic achievement is recognized by the awarding of the Delta Sigma Pi Scholarship Key to a graduating senior. Other awards, presented on an annual basis, include the Wall Street Journal's Student Achievement Award, the Bank of America Business Leaders Scholarship, and the Deloitte and Touche Scholarship.

University Requirements

See Undergraduate Studies section.

College Requirements

Students must fulfill all breadth requirements of the College of Humanities, Arts, and Social Sciences or the Intersegmental General Education Transfer Curriculum prior to transferring to the UC.

Major Requirements

The following are requirements leading to the B.S. degree in Business Administration. At least 50 percent of business course requirements must be completed at UCR.

Business Administration Major

1. Preparation for Business Administration major (8 courses [at least 32 units])
 - a) General prerequisites (may be used to satisfy breadth requirements of the College of Humanities, Arts, and Social Sciences)
 - (1) ECON 004
 - (2) CS 008
 - (3) STAT 048
 - (4) MATH 022
 - (5) ECON 102
 - (6) ECON 103
 - b) Major prerequisites (may not be used to satisfy breadth requirements)
 - (1) BUS 010
 - (2) BUS 020

The major requirements for the B.S. in Business Administration are as follows:

2. Upper-division major requirements (18 courses [at least 72 units])
 - Core courses (at least 10 courses [at least 40 units]):
 - a) BUS 101, BUS 103, BUS 105, BUS 108, BUS 109
 - b) BUS 104/STAT 104
 - c) BUS 106/ECON 134
 - d) BUS 107; or PSYC 142 and SOC 150 or SOC 151
 - e) BUS 100
 - f) BUS 102; or PHIL 116 and POSC 182 or POSC 186

Concentration (At least 20 units): Choose five courses from one of the concentrations listed below. Courses completed to meet upper division core requirements may not be used to meet concentration requirements.

Accounting: At least three of the five courses must be selected from BUS 159–BUS 169B, BUS 159, BUS 164, BUS 165A, BUS 165B, BUS 165C, BUS 166, BUS 167, BUS 168A, BUS 168B, BUS 169A, BUS 169B, ECON 112, PHIL 116, PSYC 134

Arts Management: BUS 111, BUS 117, BUS 155, BUS 156, BUS 159, CS 143/EE 143; at least three but not more than five upper division courses must be taken in one of these areas: ART, AHS, CRWT, DNCE, HIST, MUS, THEA; or students may complete a minor in one of the arts

Entrepreneurship: At least three of the five courses must be selected from BUS 115, BUS 129, BUS 146, BUS 147, BUS 148, BUS 174, BUS 185

Environmental Management: BUS 139, CEE 132, ECON 143A/ENSC 143A, ECON 143B/ENSC 143B, ECON 143C/ENSC 143C, ECON 146/URST 146, ECON 148, ENSC 170, ENSC 172, ENSC 174, GEO 157, PHIL 116, PHIL 117, POSC 127

Financial Economics: BUS 135A, BUS 135B, BUS 136, BUS 137, BUS 138 or ECON 171, BUS 139, ECON 102B, ECON 103B, ECON 112, ECON 130, ECON 135, ECON 136

General Management: BUS 111 or BUS 113, BUS 128 or BUS 129, BUS 135A, BUS 143 or BUS 155, BUS 146, BUS 147, BUS 148, BUS 165A, BUS 173, BUS 180A, BUS 180B, BUS 180C

Human Resources Management: At least one of BUS 155 and PSYC 142 and the remainder from the following: ANTH 105/ BUS 158, BUS 144, BUS 156, BUS 157, BUS 176/SOC 176, PSYC 155, SOC 150, SOC 151, SOC 171

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Information Systems: At least three of the five courses must be selected from BUS 171–BUS 179, BUS 118, BUS 166, BUS 171, BUS 172, BUS 173, BUS 174, BUS 175, BUS 177, BUS 179, CS 120A/EE 120A, CS 120B/EE 120B, PSYC 134, PSYC 140, PSYC 142

International Management: BUS 114, BUS 138, BUS 154B, BUS 164, BUS 178/ECON 178, BUS 185, ECON 171, ECON 182, ECON 185/LNST 185, HISA 162/LNST 172, POSC 126, POSC 127, POSC 130, POSC 162/LNST 142, SOC 181

Managerial Economics: BUS 152/ECON 152, BUS 153/ECON 153, BUS 160/ECON 160, BUS 178/ECON 178, ECON 102B, ECON 103B, ECON 107, ECON 108, ECON 130, ECON 163, ECON 143A/ENSC 143A

Marketing: At least two of the five courses must be selected from BUS 111–BUS 118, BUS 111, BUS 112, BUS 113, BUS 114, BUS 115, BUS 117, BUS 118, CRWT 130, ECON 102B, ECON 111, ECON 112, PHIL 116, PSYC 134, PSYC 140, STAT 147

Operations and Supply Chain Management: At least three of the five courses must be selected from BUS 122–BUS 129, BUS 118, BUS 122, BUS 128, BUS 129, BUS 173, BUS 127/STAT 127, BUS 162/ECON 162, ECON 112

Public Policy and Management: BUS 111, BUS 152/ECON 152, BUS 155, BUS 156, BUS 159, BUS 160/ECON 160, ECON 132, ECON 135, ECON 163, ECON 143A/ENSC 143A, ECON 187/LNST 187, PHIL 116, POSC 181, POSC 182, POSC 186, SOC 150, SOC 151

g) An additional 12 units of Business Administration elective courses excluding BUS 190. See department for a list of approved Business Administration elective courses.

Majors with Administrative Studies Components

B.A. degrees are offered in Art History, Economics, History, Political Science, and Sociology with Administrative Studies. A B.S. degree is offered in Sociology with Administrative Studies. Specified departmental requirements are listed under respective departmental listings.

- All requirements of the College of Humanities, Arts, and Social Sciences
- Specified requirements of the relevant department, to include at least 36 upper-division units in that discipline
- Administrative Studies requirements** (37 units)
 - Four lower-division courses (17 units)
 - BUS 010, BUS 020
 - STAT 048 or equivalent (may be used to satisfy breadth requirements)

(3) CS 008 (may be used to satisfy breadth requirements)

b) Two upper-division courses (8 units) from the list below:

- ECON 102 or ECON 104A or ECON 130 or ECON 162/BUS 162
- PSYC 140 or PSYC 142
- SOC 150 or SOC 151 or SOC 171
- POSC 181 or POSC 182 or POSC 183
- ANTH 127 or ANTH 131

These two courses must be outside the discipline of the relevant major and cannot be courses included as part of the three-course Business Administration track or their cross-listed equivalents.

c) A three-course track (12 units) in Business Administration courses, from one of the following:

- Organizations (General): BUS 100, BUS 107, BUS 176/SOC 176, BUS 158/ANTH 105, SOC 150, SOC 151
- Human Resources Management/Labor Relations: BUS 100, BUS 107, BUS 152/ECON 152, BUS 153/ECON 153, BUS 155, BUS 157, PSYC 142
- Business and Society: BUS 100, BUS 102, BUS 107, PHIL 116, POSC 182, POSC 186
- Marketing: BUS 103, and two from BUS 112, BUS 113, BUS 114 or BUS 117
- Managerial Accounting/Taxation: BUS 108, and two from BUS 166, BUS 168A, or BUS 168B
- Financial Accounting: BUS 108, BUS 165A, BUS 165B
- Finance: BUS 106/ECON 134 and two from BUS 135A, BUS 136, BUS 137, BUS 138, BUS 139
- Management Information Systems: BUS 101, BUS 171, BUS 173
- Production Management: BUS 104/STAT 104, and two from BUS 105, BUS 122, BUS 127/STAT 127

Minor

Prerequisites for the minor in Business Administration are as follows:

- Three lower-division courses (14 units) (must be completed with no grade lower than "C"): BUS 020, ECON 004, STAT 048

Requirements for the minor in Business Administration are as follows:

- Six upper-division courses (24 units):
 - Four courses from the following: BUS 101, BUS 103, BUS 104/STAT 104, BUS 105, BUS 106/ECON 134, BUS 108, one of BUS 102 or PHIL 116
 - Two additional upper-division Business Administration courses.

Lower-Division Courses

BUS 010. Introduction to Business (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): none. Provides an overview of the field of business administration. Areas covered include business goals and strategies, functional areas of business and their integration in policy and decision making, social responsibility, computers in business, and business trends and challenges including the international dimension.

BUS 020. Financial Accounting and Reporting (4) Lecture, 3 hours; discussion, 1 hour. A study of the concepts and techniques for measurement and communication of financial information. Includes interpretation of financial statements.

BUS 021. Generation of Financial Accounting Information (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BUS 020 with a grade of "C-" or better. A detailed study of the process of measuring, recording, and communicating financial accounting information.

Upper-Division Courses

BUS 100. Management Communication (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): upper-division standing. Covers the theory and practice of communication in a business environment. Topics include written and oral presentations, interpersonal skills, teamwork in a multicultural setting, and effective use of communication technologies.

BUS 101. Information Technology Management (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CS 008 or equivalent; upper-division standing. Topics include computer hardware and software, business data processing, databases, telecommunications, systems analysis and design, cost-benefit analysis, and systems applications in business. Includes database and spreadsheet projects.

BUS 102. Ethics and Law in Business and Society (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): upper-division standing. Analyzes the legal, ethical, political, and social aspects of the business environment. Topics include ethics and social responsibility, government regulation, corporate governance, and global management issues.

BUS 103. Marketing and Distribution Management (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): upper-division standing or consent of instructor. An introduction to the role of marketing in society with emphasis on concepts, marketing methods, and institutions.

BUS 104. Decision Analysis and Management Science (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): CS 008 or equivalent; STAT 048 or STAT 100A or equivalent; upper-division standing. A survey of deterministic and probabilistic models for decision making. Topics include linear programming and extensions, networks, dynamic programming,

decision trees, queuing models, and simulation. Explores the application of these models in decision making. Emphasizes use of the computer. Cross-listed with STAT 104.

BUS 105. Production and Operations Management (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BUS 104/STAT 104 or equivalent. Deals with the issues of design and control of production systems in manufacturing and service organizations. Covers product and process selection, capacity planning, location and layout design, project and job scheduling, inventory control, material planning, and quality control.

BUS 107. Organizational Behavior (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): upper-division standing. Studies organizations from the behavioral science perspective. Topics include motivation, leadership, communication, groups, organization structure and culture, and control in complex organizations.

BUS 108. Financial Evaluation and Managerial Analysis (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BUS 020 or equivalent; upper-division standing. Study of accounting data used for managerial planning and controlling of business operations. Provides an introduction to manufacturing operations and cost accounting systems, cost-volume-profit analysis, relevant costing, standard costing and variance analysis, as well as budgeting.

BUS 109. Competitive and Strategic Analysis (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): senior standing in Business Administration. An integrative course which provides an understanding of strategic decision-making processes in organizations, the interrelationships among functional areas, and how decision making is affected by internal and external environments. Teamwork and case studies are emphasized.

BUS 111. Services Marketing (4) Lecture, 3 hours; outside project, 3 hours. Prerequisite(s): BUS 103. Covers the marketing of services and ideas. Focuses on marketing for service organizations such as hotels, hospitals, and banks. Provides understanding of the broader role of service provision for both service firms and goods firms.

BUS 112. Consumer Behavior (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 103. Provides a basic understanding of the general models of choice behavior as it relates to marketing decision making. Emphasis is on motivation, perceptions, learning, and social forces as they impact on the choice process.

BUS 113. Marketing Institutions (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 103. Covers the concepts and strategies relating to the delivery of consumer goods and services, the main topic being the management of marketing activities within the channels of distribution, especially in retail and wholesale institutions.

BUS 114. Marketing in a Global Environment (4) Lecture, 3 hours; outside research, 2 hours; term paper, 1 hour. Prerequisite(s): BUS 103. Covers the theory and practice of marketing across national borders. Provides an understanding of global marketing environments and examines the development of marketing strategies to maximize growth of global companies.

BUS 115. Marketing Research (4) Lecture, 3 hours; outside research, 3 hours. Prerequisite(s): BUS 103. Covers types and sources of marketing information, the marketing research process, and techniques of

data collection and analysis, including consumer and customer surveys and test marketing. Examines both quantitative and qualitative research with analysis of the values and limitations of data. Emphasis is placed on evaluation and interpretation of results.

BUS 116. Pricing Strategy and Management (4) Lecture, 3 hours; outside research, 3 hours. Prerequisite(s): BUS 103 or consent of instructor. Integrates theory and practice into a framework for making pricing decisions. Prepares for addressing strategic and tactical pricing issues. Topics include customer demand and price sensitivity, psychological reaction to price, segmented pricing, price promotions, bundling, online pricing, dynamic pricing, competitive reaction, profitability analysis, and pricing strategy development.

BUS 117. Advertising (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 103. Covers the basic concepts and functions of advertising, with emphasis on media selection, message design, and effectiveness measurement.

BUS 118. Electronic Marketing (4) Lecture, 3 hours; outside project, 3 hours. Prerequisite(s): BUS 103. An introduction to the role of electronic commerce in business-to-consumer and business-to-business marketing. Covers the application of traditional marketing principles to an electronic commerce environment and new marketing techniques made possible by this environment.

BUS 119. Database Marketing (4) Lecture, 3 hours; individual study, 2 hours; extra reading, 1 hour. Prerequisite(s): BUS 103. Examines marketing cases and develops data analytical skills for managerial decision making. Utilizes statistical software to manage, display, and analyze marketing information, including consumer survey, relationship management, scanner, and socioeconomic data. Topics include attitude measurement, market segmentation and targeting, competition analysis, market performance analysis, and store location choice.

BUS 122. Linear Programming with Applications (4) Lecture, 3 hours; homework problems and projects, 3 hours. Prerequisite(s): BUS 104/STAT 104 or equivalent. Investigates many real-life decision problems that give rise to linear programs with special structures, network flow problems, integer programs, and large-scale programs. Presents theory and algorithms of these models applied to various decision problems in management with use of computer packages.

BUS 127. Introduction to Quality Improvements (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): STAT 048 or STAT 100A or consent of instructor. Explores Deming's 14 points for management, graphical methods, fishbone diagram, Pareto analysis, control charts for attributes and variables, cusum and moving average charts, process-capability, economic design, acceptance sampling, Taguchi method, parameter design, tolerance design, reliability, hazard rate, censoring, and accelerated life testing. Cross-listed with STAT 127.

BUS 128. Project Planning and Control (4) Lecture, 3 hours; assigned problems and field project, 3 hours. Prerequisite(s): BUS 104/STAT 104. Covers issues related to planning and control. Topics include differences between projects and production systems, breakdown structures of project organization and work, sequencing and budgeting, resource management, project evaluation and control, and use of current project management software. Students apply this methodology to a real-world project.

BUS 129. Supply Chain Management (4) Lecture, 3 hours; assigned problems, 3 hours. Prerequisite(s): BUS 105. Focuses on management of the distribution of goods and services from plants, ports, and vendors to customers. Key topics include transportation, inventories, warehousing, materials handling, order processing, packaging, pricing, customer service standards, and warehouse and retail location.

BUS 130. Supply Chain Modeling (4) Lecture, 3 hours; homework problems and preparation for presentations, 3 hours. Prerequisite(s): BUS 104/STAT 104 or BUS 105. Covers the modeling and analysis of decision problems in supply chain management. Includes logistics network design, integration of supply chain operations, and supply and sourcing decisions. Utilizes the electronic spreadsheet as the principal device for building models, as well as addresses the concepts of effective spreadsheet design and use.

BUS 131. Fixed-Income Securities (4) Lecture, 3 hours; extra reading, 2 hours; outside research, 1 hour. Prerequisite(s): BUS 106/ECON 134; ECON 101 or STAT 048. Covers fixed-income securities and basic analytical tools in fixed-income markets. Topics include relative pricing of fixed-income securities, yield-curve estimation, securities with embedded options, and trading strategies. Utilizes instruments such as interest rate swaps, mortgage-backed securities, and credit derivatives.

BUS 135A. Corporate Finance: Theory and Cases (4) Lecture, 3 hours; extra reading, 1 hour; term paper, 2 hours. Prerequisite(s): BUS 106/ECON 134. Covers the first part of intermediate corporate financial management. The course uses cases and theory to analyze the optimal corporate financial decisions, including capital budgeting, capital structure decisions, and dividend policy.

BUS 135B. Corporate Finance: Theory and Cases (4) Lecture, 3 hours; extra reading, 1 hour; term paper, 2 hours. Prerequisite(s): BUS 135A. Covers the second part of intermediate corporate financial management. The course uses cases and theory to analyze different financing instruments, including lease financing, the application of option pricing theory in corporate finance, financial planning, working capital management, and mergers and acquisitions.

BUS 136. Investments: Security Analysis and Portfolio Management (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 106/ECON 134. Examines the determination of investment policies and procedures of security analysis with reference to risk and return. Emphasis on the stock market.

BUS 137. Investments: Speculative Markets (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 136. Analysis of advanced topics in finance, including options, commodity futures, financial futures, and mutual fund performance evaluation.

BUS 138. International Finance (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 106/ECON 134 or equivalent; upper-division standing. A survey of international financial institutions and the financial factors that affect the modern multinational corporation. Emphasis on exchange rate and portfolio risk.

BUS 139. Real Estate Investments (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 106/ECON 134. Analysis of real estate development including consideration of site selection, market analysis, financing, design and construction, loan contracts, mortgage risks, and investment analysis.

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BUS 143. Judgment and Decision Making (4) Lecture, 3 hours; written work and group presentation, 3 hours. Prerequisite(s): senior standing. Covers decision making, including thinking and judgments; information selection and evaluation; learning and memory; the social side of judgment and decision making; fairness, moral obligations, and social dilemmas; and decision making in organizations.

BUS 144. Negotiation Fundamentals (4) Lecture, 3 hours; outside projects, 3 hours. Prerequisite(s): senior standing. Develops an understanding of the theory and processes underlying a broad spectrum of negotiation problems. Students attain competency in negotiations by applying analytic and interpersonal skills covered in readings and lecture to regular exercises and debriefings.

BUS 146. Introduction to Entrepreneurship (4) Lecture, 30 hours per quarter; outside research, 30 hours per quarter. Prerequisite(s): BUS 106/ECON134; upper-division standing. Discusses the nature of entrepreneurship and its role in the economy. Topics include identifying and evaluating business opportunities, creating a team, and acquiring financial and other necessary resources.

BUS 147. Entrepreneurial Finance (4) Lecture, 30 hours per quarter; outside research, 30 hours per quarter. Prerequisite(s): BUS 146. Focuses on the financing of entrepreneurial ventures. Provides an understanding of opportunity recognition skills, funding techniques, institutions involved in the financing of new ventures, and harvesting.

BUS 148. Business Plan Development (4) Lecture, 30 hours per quarter; outside research, 30 hours per quarter. Prerequisite(s): BUS 146. Covers the process of developing a business plan. Provides students with skills necessary to assess new venture opportunities and convert them into businesses.

BUS 152. Economics of Labor Relations (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): ECON 002 or ECON 002H, ECON 003; or ECON 004. An analysis of the history of labor and industrial relations in the U.S. with emphasis on problems of collective action, long-swings of economic growth, income inequality, and the role of government. Cross-listed with ECON 152.

BUS 153. Labor Economics (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): ECON 102 or ECON 104A. An analysis of labor demand, labor supply, and the structure of wages. Emphasizes neoclassical, institutional, and radical perspectives. Cross-listed with ECON 153.

BUS 154A. Business Law (4) Lecture, 3 hours; extra reading and project, 3 hours. Prerequisite(s): upper-division standing. Studies law as an integral part of the business environment, a process derived from and changing with the larger society. Areas covered include contracts, torts, agency, partnerships, corporations, and bankruptcy.

BUS 154B. International Business Law (4) Lecture, 3 hours; outside research, 3 hours. Prerequisite(s): BUS 154A. Examines major treaties, conventions, and customary laws which affect business transactions among international businesses. Areas covered include international contracting, transportation, payment, legal systems, intellectual property, tariff computation, business organizations, litigation, and General Agreement on Tariffs and Trade (GATT).

BUS 155. Managing Human Resources (4) Lecture, 3 hours; extra reading and project, 3 hours. Prerequisite(s): BUS 107; upper-division standing. Applies a strategic planning approach to managing relations between an organization and its human

resources. Topics include processes of forecasting and job analysis, environmental scanning, recruitment and selection, evaluation and compensation, and dispute resolution.

BUS 156. Leadership Development (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): BUS 107; upper-division standing. Analyzes leadership theory and practice through lectures, self-analysis instruments, and discussions of independent field experiences. Surveys areas pertaining to leadership, such as leadership theory, leadership style, oral and written communication, ethical leadership, interpersonal conflict management, and the dynamics of culture, and gender in organization leadership.

BUS 157. Managing Work Force Diversity (4) Lecture, 3 hours; term paper, 3 hours. Prerequisite(s): upper-division standing. BUS 155 or PSYC 142 is recommended. Covers management issues triggered by the increasing participation of women and minorities in the work force. Topics include work role stereotyping, workplace representation and segregation, culturally based leadership and communication styles, work-family conflicts, and related legislative initiatives.

BUS 158. Organizations as Cultural Systems (4) Lecture, 6 hours; extra reading and written exercises, 6 hours. Prerequisite(s): upper-division standing or consent of instructor. Examines the role of culture in the formation and management of complex bureaucratic organizations. Covers types of organizations and organizational cultures, the impact of the cultural environment, and problems posed by rapid cultural change. Offered in summer only. Cross-listed with ANTH 105.

BUS 159. Accounting for Nonprofit Entities (4) Lecture, 3 hours; case problems, 3 hours. Prerequisite(s): BUS 021. Introduces basic principles of accounting for nonprofit institutions. Focuses on accounting for state and local governments, hospitals, schools, nonprofit health and welfare organizations, and colleges and universities.

BUS 160. Industrial Organization (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): ECON 104B. A study of the organization and structure of the American industrial system. Emphasizes production and pricing behavior and policies. Also addresses market structure and public policies regulating or influencing market behavior. Cross-listed with ECON 160.

BUS 161. Forensic and Fraud Auditing (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BUS 165B. An introduction to forensic accounting and fraud examination and how they pertain to both civil and criminal matters. Covers the characteristics of fraud, fraud prevention and detection, investigative techniques, asset recovery, and the use of information technology.

BUS 162. Managerial Economics (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): ECON 102 or ECON 104A. Examines applications of economic analysis to problems of management, especially of capital. Emphasis is on production economics and cost analysis. Cross-listed with ECON 162.

BUS 164. Multinational Accounting (4) Lecture, 3 hours; outside project, 3 hours. Prerequisite(s): BUS 108, BUS 165A. Examines non-U.S. business environments and accounting systems and their relevance to the United States. Identifies and evaluates environmental influences on the development of accounting regulations and practices in selected major countries in Europe, Asia, and Latin America. Focuses on accounting issues of particular relevance to multinational corporations.

BUS 165A. Intermediate Financial Accounting (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 021 or equivalent. In-depth study of financial accounting theory and practice. Develops an understanding of accounting concepts and generally accepted accounting principles and the ability to apply this technical knowledge to solve accounting problems. Topics include principal financial statements and accounting and valuation of various assets.

BUS 165B. Intermediate Financial Accounting (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 165A or equivalent. Continuation of study of financial accounting theory and practice. Topics include current liabilities and contingencies, long-term liabilities, contributed capital, retained earnings, and temporary and long-term investments.

BUS 165C. Intermediate Financial Accounting (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 165B or equivalent. Continuation of study of financial accounting theory and practice. Covers the conceptual discussion and procedural presentation of financial accounting topics as well as recent developments in accounting valuation and reporting practices promulgated by practitioners in industry and public accountants.

BUS 166. Accounting Information Systems (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 101, BUS 108, or equivalents. Study of the concepts and techniques in the design and implementation of accounting information systems within companies' operating environments. Emphasis is on the effects of the computer on these systems.

BUS 167. Advanced Financial Accounting (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 165C (may be taken concurrently). Covers advanced accounting topics such as consolidated financial statements, accounting for multinational corporations, partnership accounting, and accounting for nonprofit organizations.

BUS 168A. Individual Taxation (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 108 or equivalent. Concentrates primarily on the basic provisions of the federal income taxes imposed on individuals and the accounting for those taxes. While the major emphasis is on current tax provisions and tax planning, consideration is also given to the legislative and judicial development of these provisions.

BUS 168B. Federal Taxation for Corporations, Partnerships, Estates, and Trusts (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 168A. Covers tax research, corporate taxation, partnership taxation, the wealth transfer taxes, income taxation of estates and trusts, international taxation, and tax administration.

BUS 169A. Auditing (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): BUS 165B. Covers the auditing environment, the auditor's legal liability, audit responsibilities and objectives, audit evidence, audit planning and documentation, the auditor's report, and management letters.

BUS 169B. Quality Assurance in Auditing (4) Lecture, 3 hours; case analyses, 3 hours. Prerequisite(s): BUS 169A. Covers the audit process (internal control, compliance tests, sampling, substantive evidence gathering, electronic data processing auditing) and the audit procedures for various types of accounts such as sales, cash, accounts receivable, payroll, inventory, and capital acquisitions.

BUS 171. Systems Analysis and Design (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 101 or equivalent. Involves detailed analysis, specification, design, and implementation of computer-based information systems. Includes economic analyses, evaluation of alternatives, analysis or design tools, and systems project management and planning. Case studies are used.

BUS 172. Information Economics (4) Lecture, 3 hours; assigned cases and project, 3 hours. Prerequisite(s): BUS 103; ECON 004 or equivalent. Discusses economic concepts and strategies related to the network economy. Topics include economic issues surrounding information goods, competition in electronic business, pricing strategies, and intellectual property protections. Examines business strategies for the information (software) and infrastructure (hardware) elements of electronic business.

BUS 173. Introduction to Databases for Management (4) Lecture, 3 hours; extra reading, 2 hours; projects, 1 hour. Prerequisite(s): BUS 101 or equivalent. Covers physical and conceptual aspects of database management systems, including familiarity with the variety of database systems based on different data models. Examines the role of database systems in management information systems (MIS) and issues in database design for effective support of MIS. Requires the use of a database package.

BUS 174. Electronic Commerce (4) Lecture, 3 hours; extra reading, 2 hours; project, 1 hour. Prerequisite(s): BUS 101. Reviews the technological evolution of electronic commerce (EC). Investigates how EC can be used to interact with customers, other organizations, and those within the organization. Studies technical innovations, provides a critical evaluation of strategies, and examines current applications and their impact on the business environment.

BUS 175. Business Data Communications (4) Lecture, 3 hours; extra reading, 3 hours. Prerequisite(s): BUS 101. Surveys components of telecommunication systems; examines major design and analysis issues in the development and implementation of computer communication systems. Studies both voice and data communication systems including local area networks, wireless systems, satellite systems, and distributed computer and database systems. Emphasizes evaluation of these systems for business purposes.

BUS 176. The Sociology of Work in Organizations (4) Lecture, 3 hours; outside research, 3 hours. Prerequisite(s): SOC 001 or SOC 001H or consent of instructor. Emphasizes the roles of individuals in organizations. Topics include the effects of jobs on workers, long-term trends in the nature of work, and differences in work among major segments of the labor force. Cross-listed with SOC 176.

BUS 177. Strategies in Information Systems (4) Lecture, 3 hours; project, 3 hours. Prerequisite(s): BUS 101. Reviews techniques and methodologies for strategic planning and management. Explores how corporate or strategic planning must be revised for and adapted to the new global telecommunications environment. Topics include time-based management, forecasting and modeling, and construction of a detailed storage plan. Uses detailed case studies.

BUS 178. International Trade (4) Lecture, 3 hours; individual study, 3 hours. Prerequisite(s): ECON 102 or ECON 104A. A study of the pure theory of trade, trade policy, and international factor movements. Includes illustrative applications to current issues and problems. Cross-listed with ECON 178.

BUS 179. Business Information Systems Development (4) Lecture, 3 hours; discussion, 1 hour. Prerequisite(s): BUS 101. Introduces concepts and programming techniques for building successful interactive business systems. Students use systems development tools to study event-driven programs with graphical user interfaces.

BUS 180A. Seminar in Management: Entrepreneurship (4) Seminar, 30 hours per quarter; individual study, 30 hours per quarter. Prerequisite(s): BUS 146; upper-division standing. Discusses issues and challenges faced by leaders in entrepreneurial organizations. Covers topics such as idea generation, team management, evaluation of core competencies, and ethics. Includes case studies and presentations by guest speakers.

BUS 180B. Seminar in Management: Creating Value (4) Seminar, 30 hours per quarter; outside research, 30 hours per quarter. Prerequisite(s): BUS 107; upper-division standing. Discusses business strategies for creating value in a knowledge-based economy. Focuses on innovative business models in areas such as marketing, finance, information technology, e-commerce, and corporate organization.

BUS 180C. Seminar in Management: Developing Leadership Skills (4) Seminar, 30 hours per quarter; individual study, 30 hours per quarter. Prerequisite(s): BUS 156; upper-division standing. Focuses on approaches to leadership in innovative organizations. Discusses topics such as competencies and characteristics of effective leaders, team building and leadership styles, innovation in functional management practices, and implementing change. Includes exercises, case studies, and invited guest speakers.

BUS 185. International Strategy and Management (4) Lecture, 3 hours; outside project, 3 hours. Prerequisite(s): senior standing; BUS 109 is recommended. Examines the management and strategic challenges of firms competing in international and global markets. Topics include recent trends in globalization of markets and industries, strategic alliances, foreign direct investment, emerging economies, political risk and cross-cultural interaction, and leadership.

BUS 190. Special Studies (1-5) Individual study, 3-15 hours. Prerequisite(s): upper-division standing; consent of instructor and program chair. A project to be undertaken under faculty supervision. Course is repeatable to a maximum of 12 units.

BUS 198-I. Individual Internship in Business Administration (1-12) Seminar, 1 hour; internship, 3-36 hours; term paper, 1-11 hours. Prerequisite(s): upper-division standing in Business Administration; consent of instructor. Active participation in the work of a business concern or a public or quasi-public agency combining academic instruction and supervised field experience. A maximum of 4 quarter units may be counted toward the degree requirements for Business Administration. Course is repeatable to a maximum of 16 units.

BUS 199H. Senior Honors Research (1-5) Seminar, 1 hour; extra reading, 2-12 hours; term paper, 2-12 hours. Prerequisite(s): senior standing with a major in Business Administration; admission to the University Honors Program or consent of instructor. Involves research in business administration under faculty supervision. Students submit a written report. Graded In Progress (IP) until the last quarter is completed, at which time a final grade is awarded. Course is repeatable to a maximum of 12 units.