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The mission of the College of Business and Public Affairs is to: develop leaders who are exceptionally qualified, globally competitive, entrepreneurial and committed to the betterment of society; produce scholarly research that is relevant to our stakeholders; and support professional and public service activities that contribute to economic, social and intellectual development.

The College of Business and Public Affairs offers advanced degrees in these areas of study:

- Accounting
- Applied Economics*
- Business Administration
- Economics
- Graphic Communications
- Industrial Management
- Management Science**
- Sociology
- Political Science
- Psychology
- Public Administration

The Master of Professional Accountancy degree program prepares students for positions in industrial, commercial, governmental, financial or public accounting. The program requires 33 semester hours and is open to students with appropriate backgrounds. The program accommodates both full- and part-time students. Full-time students are able to complete the program in one calendar year. The program recognizes the rapid pace of change in accounting resulting from technological advances in managing data, the theory and practice of management, and increases in the volume and scope of authoritative pronouncements from the FASB, SEC and IRS. The program is accredited by the American Assembly of Collegiate Schools of Business.

Applicants should hold a bachelor's degree from an institution whose scholastic rating is acceptable to the Graduate Admissions Committee of the School of Accountancy and Legal Studies. Admission to the program is based on academic record and score on the Graduate Management Admission Test (GMAT). Letters of recommendation and relevant work experience also may be considered. Applicants should have completed a basic business core of at least 30 semester hours, as well as the following accounting prerequisites: Intermediate Accounting (at least six semester hours), Cost Accounting (three semester hours), Tax (three semester hours), Auditing (three semester hours) and Accounting Information Systems (three semester hours). An undergraduate microcomputer applications course is highly recommended.

Courses are offered in finance, graphic communications, hospital administration, law and marketing to provide electives for students in other areas. Graduate programs in the College of Business and Public Affairs provide a wide range of opportunities for professional careers in business, industry, government and education.

Several graduate programs are offered jointly or in cooperation with other departments and universities. The applied economics program is a cooperative effort with the Department of Agricultural and Applied Economics in the College of Agriculture and Life Sciences. The Master of Public Administration is taught jointly by faculty from the Department of Political Science at Clemson University and the Department of Government and International Relations at the University of South Carolina. The Ph.D. program in management science is administered jointly by the Department of Management and the Department of Mathematical Sciences in the College of Engineering and Science.

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ACCT 817: Tax Research, 3 cr. (3 and 0)
Tax research methodology as applied to the solution of routine and complex tax problems emphasizing the methodology of solution rather than a specific tax area. Prerequisite: ACCT 404 or equivalent.

ACCT 818: Taxation of Partnerships, 3 cr. (3 and 0)
Tax principles and concepts involved in partnership transactions, tax planning and tax shelters. Prerequisite: ACCT 404 or equivalent.

ACCT 819: Current and Special Topics in Taxation, 3 cr. (3 and 0)
Specialized and contemporary topics in federal taxation and tax practice. Prerequisite: ACCT 404 or equivalent.

ACCT 820: Advanced Topics and Planning in Taxation, 3 cr. (3 and 0)
Planning element for federal and state taxes in business decisions including current, sophisticated developments in taxation. Prerequisite: ACCT 819 or permission of instructor.

ACCT 821: Controllership, 3 cr. (3 and 0)
Advanced internal accounting emphasizing accounting implications for management decision making. Prerequisite: ACCT 503 or equivalent.

ACCT 845: Operational Auditing Seminar, 3 cr. (3 and 0)
Management control and operational systems, opportunities for improvement and development of practical and cost effective solutions to managerial problems using selected readings from case studies and industry monographs provided by the Institute of Internal Auditing. Prerequisite: ACCT 340 or 415 or permission of instructor.

ACCT 899: Professional Exam Review, 0 cr. (0 and 0)
Preparation for professional examination of the student's choice, either the Certified Public Accountant, Certified Management Accountant or Certified Internal Auditor exam. Graded on a credit/no credit basis; a letter grade is not given; must be completed prior to receiving MPAcc degree; does not contribute hours toward degree completion. Prerequisite: None.

LAW 605: Construction Law, 3 cr. (3 and 0)
Legal principles applied to the construction process and legal problems likely to be encountered by the practicing construction professional. Topics include construction contracting, liability, claims and warranties, documentation, and responsibilities and authority of contracting parties. Prerequisite: LAW 312 or 322 or permission of instructor.

LAW 629: Environmental Law and Policy, 3 cr. (3 and 0)
Legal issues involving environmental law and policy; the law regarding water, land and air pollution; other special laws such as Superfund and RCRA; consequences of existing and alternative rules for environmental protection are subject to economic analysis. Prerequisite: LAW 312 or 322 or permission of instructor.

LAW 699: Selected Topics, 1-3 cr. (1-3 and 0)
Timely topics in legal studies. May be repeated for a maximum of six credits, but only if different topics are covered. Prerequisites: Senior standing and permission of instructor.

LAW 801: Law for Professional Accountants, 3 cr. (3 and 0)
Preparation for professional exams and responsibilities in managerial positions; topics include professional and legal responsibilities of accountants, business organizations, commercial law, government regulation of business, and property. Case studies, problems and student papers will be utilized. Prerequisite: Law 322 or equivalent.

SCHOOL OF BUSINESS AND LEADERSHIP

Applied Economics

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<th>Major</th>
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<tr>
<td>Gary J. Wells, Chair, Department of Agricultural and Applied Economics</td>
<td>Ph.D.</td>
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See the College of Agriculture, Forestry and Life Sciences for information on this program.

Business Administration

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<th>Major</th>
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<tr>
<td>Martha Duke, Associate Director*</td>
<td>M.B.A.</td>
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*Correspondence for the program at the University Center in Greenville should be addressed to Clemson M.B.A., Program - U Center, PO Box 5616, 216 S. Poinsett Dr., Greenville, S.C., 29606; or call (864) 250-8888. Correspondence for the program on the Clemson campus and for classes at Lander University should be addressed to Clemson M.B.A., Program, 124 Sennett Hall, Clemson, S.C. 29634; or call (864) 656-9793. Information on the classes at Lander University can be obtained by calling (864) 388-8787.

The Master of Business Administration degree program is designed for the study of advanced concepts of business, industry and government operations. The program is intended for both the active manager or technical supervisor, as well as the recent graduate interested in advanced business study.

Classes in the M.B.A. program are offered at the Clemson University campus as a full-time day program. Evening classes are offered at the University Center in Greenville, S.C., and Lander University in Greenwood, S.C., as part-time programs. The Clemson campus program is available only for fall entrance and is a full-time, two-year program. The evening M.B.A. programs in Greenville and Greenwood are part-time programs and require a minimum of two years of work experience beyond the bachelor's degree. Separate fee structures apply to the Greenville and Greenwood locations. (See page 17.)

Requirements for the full-time M.B.A. program include 62 semester hours of graduate courses, with two prerequisite courses required of all students: calculus and a basic computer science or computer applications class. Requirements for the evening M.B.A. program also include prerequisite courses in calculus and computer fundamentals depending upon academic background and 33-43 semester hours of graduate courses.

M B A 802: Managerial Economics, 3 cr. (3 and 0)
The functioning of the market economy with emphasis on the role of prices in determining the allocation of resources, the functioning of the firm in the economy and forces governing the production of economic goods. Emphasis is on using economic analysis in managerial decision making. Prerequisites: M B A 803 or equivalent or permission of instructor.

M B A 803: Statistical Analysis of Business Operations, 3 cr. (3 and 0)
Provides breadth and depth in the application of statistical techniques building on basic statistical knowledge gained in M B A 818. Topics include the analysis of variance, simple and multiple regression analysis, forecasting and Non-parametric Statistics. Prerequisite: M B A 818 or equivalent or permission of instructor.

M B A 804: Managerial Accounting and Information Systems, 3 cr. (3 and 0)
Preparation, analysis, interpretation and use of accounting information in the guidance and control of a business enterprise. Case material and problems are used. Prerequisites: M B A 819 or equivalent or permission of instructor.

M B A 805: Enterprise, Government and the Public, 3 cr. (3 and 0)
N
The regulatory environment of business and how it evolves. Through use of economic logic and business cases, students are equipped to understand the all-pervading nature and importance of government regulation in the economy. Prerequisite: Graduate standing.

M B A 806: Operations Management, 3 cr. (3 and 0)
How firms create value and how decisions in the areas of capacity, facilities, technology, vertical integration, workforce, quality, production planning/materials control and organization influence a firm's ability to add value; decisions and analysis tools used for these decisions. Prerequisites: M B A 818 or equivalent or permission of instructor.

M B A 807 (FIN 807): Financial Management, 3 cr. (3 and 0)
Theory of financial management as it relates to the financial problems faced by business concerns. Concepts developed are used to assess the validity of emerging formalized techniques for improving decision making in the financial area. Topics include financial planning, short- and long-term fund raising, capital budgeting, the administration of working capital, recapitalization, listing of securities and reorganization. Case material and problems are used. Prerequisites: M B A 804 or 854 or equivalent and M B A 803 or 853 or equivalent.
M B A 808: Managerial Problems in Marketing, 3 cr. (3 and 0)
Major decisions facing marketing executives and top management in their attempt to harmonize the objectives and resources of the organization with the opportunities found in the marketplace; recent theoretical developments in marketing and related disciplines and their application in management; readings, case analysis and discussions are used. Prerequisite: M B A 829 or equivalent and M B A 803, 804 and 807; or permission of instructor.

M B A 809 (MGT 809): Organizational Behavior and Human Resources Management, 3 cr. (3 and 0)
Theories and models of behavior; human resources management concepts and processes as they apply to managing individual and work-group behavior in organizations. Organizational behavior topics include leadership, motivation and teamwork. Human resource management topics include human resources strategy, selection, performance evaluation, reward systems and employee development. Prerequisite: Graduate standing.

M B A 810: Managerial Policy, 3 cr. (3 and 0)
Decisions involved in the establishment of managerial policy. Problems, resources and alternative courses of action are analyzed and discussed relative to the selection of company objectives and the most feasible means for achieving company goals. Integrates material and treats the coordination of the affairs of the firm as a whole. Case studies are emphasized. This course should be completed as the final course in the program. Prerequisites: M B A 806, 807, 808 and 809.

M B A 811: International Business Management, 3 cr. (3 and 0) N
Survey and analysis of economic, managerial and financial aspects of U.S. firms operating abroad including the impact of U.S. and foreign government policies on management. Case studies of specific companies operating abroad are discussed. Prerequisites: M B A 802 and 807 or equivalent.

M B A 812 (FIN 812): Financial Markets and Institutions, 3 cr. (3 and 0) N
Topics critical to the proper management of financial institutions including financial regulations, financial security types and their yields, interest rate theories, interest rate risk management, foreign currency risk management, stock index futures and numerous operating functions in banking. Prerequisite: M B A/FIN 807 or M B A 857 or permission of instructor.

M B A 813: Industrial Relations, 3 cr. (3 and 0) N
Relationship between management and employees, as institutions and as individuals; the role of management and unions in society; issues in labor-management relations. Topics include the issues and processes of collective bargaining, contract negotiation and administration, and dispute resolution; government regulation of labor relations.

M B A 814: Directed Research in Quantitative Analysis, 3 cr. (3 and 0) N
M B A 815: Directed Research in Qualitative Analysis, 3 cr. (3 and 0) N
M B A 816: Contracts, Corporate Coordination and Control, 3 cr. (3 and 0) N
Evolution and impact of various property rights institutions on individual behavior and the subsequent use of resources; the importance of property rights structures in the organization of business and in managerial decision making. Prerequisite: M B A 802 or equivalent.

M B A 817: Business Forecasting Techniques and Applications, 3 cr. (3 and 0) N
Forecasting techniques and their application for developing and assessing forecasts. Topics include economic data sources, multiple regression and time series analysis, and the interpretation of forecasts for management and other clients. Prerequisite: M B A 802, 803 or equivalent.

M B A 818: Fundamentals of Statistics and Management Science, 3 cr. (3 and 0) N
Probability distributions, sampling distributions, confidence intervals, hypothesis testing, linear programming, sensitivity analysis and simulation. Both statistics and management science applications integrated into commercially available software packages such as Excel. Prerequisite: Permission of M B A director.

M B A 819: Introduction to Accounting and Finance, 3 cr. (3 and 0) N
Basic concepts of accounting and finance with emphasis on using financial data for decision making; measuring, processing, reporting and analysis of financial information; use of discounted cash flow analysis in valuation and the measurement of risk and return. Designed for the M B A student lacking background in accounting and finance. Prerequisite: Permission of M B A director.

M B A 820: Business Communications and Ethics, 3 cr. (3 and 0) N
A case-based study of varied ethical and moral dilemmas encountered in the business environment emphasizing the student’s written work; development and communication of a reasoned personal framework for the resolution of ethical issues through frequent written assignments. Prerequisite: Graduate standing.

M B A 823: International Accounting, 3 cr. (3 and 0) N
Technical and non-technical issues in international accounting. Topics include the role of international bodies in developing standards, accounting issues dealing with exports and imports, and the role of accounting and MNCs in development.

M B A 824: The Management of Sales Operations, 3 cr. (3 and 0) N
The sales function as an element of marketing strategy; the field of professional sales management; concepts and tools useful to managers at different levels of the sales organization. Prerequisite: M B A 808 or 858 or permission of instructor.

M B A 825: Advertising and Promotional Management, 3 cr. (3 and 0) N
The role of promotion in the marketing mix emphasizing the types of decisions and decision areas affiliated with promotional planning. Students are exposed to and apply topics such as objective setting, budgeting, media planning and scheduling, and societal/economic impact of promotion. Prerequisite: M B A 808 or 858 or permission of instructor.

M B A 826: Business Marketing, 3 cr. (3 and 0) N
Strategic marketing as it applies to industrial, organizational and institutional markets; consumer marketing versus business-to-business marketing; current business marketing literature and practices. Prerequisite: M B A 808 or 858 or permission of instructor.

M B A 828: Services Marketing, 3 cr. (3 and 0) N
The nature of services marketing and the special requisites that distinguish successful services marketing from goods marketing. Topics include promoting and making the service tangible, designing optimal service operations, the ideal service worker, pricing of services and critical points of services delivery. Prerequisite: M B A 808 or 858 or permission of instructor.

M B A 829: Marketing Foundations, 2 cr. (2 and 0) N
Principles and concepts involved in the planning, pricing, promoting and distributing goods and services. Prerequisite: Permission of M B A director.

M B A 832 (FIN 832): International Financial Management, 3 cr. (3 and 0) N
Factors that influence the financial management of multinational corporations. Topics include international parity conditions, currency exposure management, capital budgeting of international projects and political risks. Prerequisite: M B A/FIN 807 or M B A 857 or permission of instructor.
M B A 835 (FIN 835): Investment Management, 3 cr. (3 and 0) N
Current techniques and strategies in the analysis of various investment alternatives; portfolio management with an introduction to options and futures markets. Prerequisites: Principles of Accounting and a demonstrated proficiency in basic finance.

M B A 836 (FIN 836): Real Estate Finance and Investments, 3 cr. (3 and 0) N
Practices and analysis of real estate finance and investment. Topics include real estate financing techniques, mortgage loan underwriting, real estate ownership structure and syndications, real estate taxation and real estate investment risk analysis. Prerequisite: M B A/Fin 807 or M B A 857 or permission of instructor.

M B A 837: Legal Environment of Business, 2 cr. (2 and 0)
Legal and case analysis of court systems and dispute resolution, contracts, business torts, EEOC, Age Discrimination in Employment Act, Americans with Disabilities Act, Employment at Will compared to union participation and international legal considerations as these topics relate to business concerns. May not be used as credit toward a graduate degree. Prerequisite: Permission of M B A director.

M B A 838: Law in the Business Environment, 1 cr. (1 and 0)
Legal analysis of contracts, business torts, EEOC, American Discrimination in Employment Act, the Americans with Disabilities Act, Employment at Will compared to Union participation and an overview of international legal considerations as these topics relate to business concerns. Prerequisite: Permission of M B A director.

M B A 839: Business Negotiations and Legal Dispute Resolution, 3 cr. (3 and 0)
Negotiation and dispute resolution in the business environment. Negotiation techniques and practices, negotiation team building, international negotiation issues, as well as alternative dispute resolutions as applied to legal issues within the business environment. Prerequisites: M B A 837, 858 or permission of instructor.

M B A 845 (MGT 845): Technology and Innovation Management, 3 cr. (3 and 0) N
Interdisciplinary examination of problems and issues in integrating technology and innovation into processes and products; evaluating tangible and intangible aspects of new technology adoption; management research and development; and functional integration of marketing and operations.

M B A 846: Use of Derivatives in Financial Engineering, 3 cr. (3 and 0) N
The valuation and use of basic derivative securities such as futures and options; the financial engineering of securities combinations such as swaps, spreads and straddles; applications of derivatives and financial engineering in managing financial risks. Prerequisite: M B A 807 or M B A 867 or permission of instructor.

M B A 850: Business Communications, 1 cr. (1 and 1)
Techniques, skills, problems and approaches for effective business communications; strengths and weaknesses of various communications forms with concentration on informative and persuasive models. Approaches include practical experience in written work and presentations, video and verbal feedback, teamwork, problem solving and situational presentations. Prerequisite: Permission of M B A director.

M B A 853: Statistical Analysis for Business, 3 cr. (3 and 0) F
Application of modern statistical inference in business operations. Topics include testing statistical hypotheses, consequences of making decisions with incomplete information, univariate and multivariate regression with emphasis on business applications, and design of experiments and analysis of variance with special attention given to efficient and relevant data collection and interpretation. Prerequisite: Permission of M B A director.

M B A 854: Managerial Accounting, 3 cr. (3 and 0) S
Analysis, interpretation and use of accounting information for planning and control in business and nonbusiness organizations; profit planning, budgeting and standards; product and segment costing and evaluation; case studies and computer-based assignments. Prerequisite: M B A 819 or equivalent or permission of instructor.

M B A 855: Operations Management, 3 cr. (3 and 0) S
Strategic and tactical issues involved in the design, planning and control of the operating system in service and manufacturing organizations. Topics include operations strategy, process choice, facility design, planning and scheduling, and methods for continuous improvement. Prerequisite: M B A 853 or permission of instructor.

M B A 858: Managerial Marketing, 3 cr. (3 and 0) F
Key marketing concepts and theories with extensive application to a broad range of business and not-for-profit situations; analysis of marketing opportunities and threats, researching and selecting target markets, and developing and comparing marketing strategies to prepare students to develop advanced marketing strategies. Prerequisite: M B A 853 or permission of instructor.

M B A 859: Management Science Applications, 3 cr. (3 and 0) N
Management science techniques and their application to a wide range of managerial decisions. Topics include queuing models, linear programming, transportation problems and simulation. Prerequisite: Permission of M B A director.

M B A 860: Marketing Analysis and Strategy, 3 cr. (3 and 0) S
Advanced marketing theory and critical thinking skills applied to strategic decision making; data analysis and advanced marketing models are employed with emphasis on building analytic and assessment skills. Prerequisite: M B A 858 or permission of instructor.

M B A 861 (MGT 861): Management Information Systems Development, 3 cr. (2 and 1) S
Information technologies used by organizations for supporting operations and gaining competitive advantage; concepts and methods for modeling, analysis and design of information systems that support a business. Topics include systems analysis, object-oriented modeling and database design. Prerequisite: Basic computer skills.

M B A 862: Managerial Economics, 3 cr. (3 and 0) F
Use of economic analysis in managerial decision making. Topics include the theory of cost, production, industrial organization, coordination and control of the firm, of theoretical concepts to actual decision making. Prerequisite: Permission of M B A director.

M B A 863: Advanced Managerial Economics, 3 cr. (3 and 0) F
Advanced economic analysis for managerial decision making. Topics include advanced price theory, theory of firm, internal organization of the firm, the economics of strategic behavior in the market, and the empirical estimation of demand and cost functions. Prerequisite: M B A 862 or permission of instructor.

M B A 867 (FIN 867): Advanced Financial Management, 3 cr. (3 and 0) N
Financial problem-solving skills developed through case analysis, class discussion, reading assignments and a project. Prerequisite: M B A/Fin 807 or M B A 857 or permission of instructor.
MBA 871: Advanced System Development, 3 cr. (3 and 0) N
Development of information systems using modern client/server techniques and software tools. Specific techniques and tools covered will be updated to incorporate the newest technologies. Prerequisite: M B A 807, 809, 838, 854, 856, 861 and 862; or permission of instructor.

MBA 875: Enterprise Development, 3 cr. (3 and 0)
Entrepreneurial process from conception to birth of new venture emphasizing discovery, searching for opportunities and gathering resources to convert opportunities to businesses. Students learn how to evaluate entrepreneurs and their plans by working in teams to write a business plan for a new venture.

MBA 876: Electronic Marketing, 3 cr. (3 and 0) N
Application of the concepts and theories of marketing to e-commerce; challenges facing marketing in business-to-business and business-to-consumer contexts; strategic application of marketing mix variables in e-commerce environment. Prerequisite: Permission of instructor.

MBA 880: Topics in Strategic Management, 3 cr. (3 and 0) N
Issues facing today’s executive. Current relevant literature examined and discussed in a graduate seminar environment. Topics may vary with each offering.

MBA 889: Selected Topics in Business Administration, 3 cr. (3 and 0) N
Current topics in business administration as they relate to the manager. Topics may come from a single functional area or may integrate two or more functional areas (accounting, economics, finance, management or marketing). May be repeated for nine credits.

ECON 612: International Microeconomics, 3 cr. (3 and 0)
Analysis of the essential aspects of international economic linkages. Gains and redistributive effects of trade and the barriers to trade are discussed within the context of a variety of economic models. The history of trade policy and the political economy of its determination will also be discussed. Prerequisite: ECON 314 or permission of instructor.

ECON 750: Economic Concepts and Classroom Applications for Teachers, 3 cr. (3 and 0)
Economic concepts, analysis and methods emphasizing microeconomics and the market system; development of approaches to teaching economic concepts in public schools.

ECON 751: Selected Topics for Teachers, 3 cr. (3 and 0)
Current economic policy issues such as inflation, regulation, protectionism and energy policy. Emphasis is on the presentation of these topics to secondary school students. Topics vary from year to year. May be taken more than once for credit. Prerequisite: ECON 200, 211 or 750.

ECON 800 (AP EC 800): History of Economic Thought, 3 cr. (3 and 0) F
Development of economic thought from early Greek to Keynesian economics; writings of major economists such as Smith, Ricardo, Marx, Marshall and Keynes; development of major economic theories.

ECON 801 (AP EC 801): Microeconomic Theory, 3 cr. (3 and 0) F
Microeconomic theory and its use to analyze and predict the behavior of industries, firms and consumers under various market conditions.

ECON 802 (AP EC 802): Advanced Economic Concepts and Applications, 3 cr. (3 and 0)
Rigorous development of price theory under alternative product and resource market structures. Prerequisite: Permission of instructor.

ECON 804 (AP EC 804): Applied Mathematical Economics, 3 cr. (3 and 0)
Mathematical tools needed in economic analysis; matrix algebra, differentiation, unconstrained and constrained optimization, integration and linear programming.

ECON 805: Macroeconomic Theory, 3 cr. (3 and 0) S
Macroeconomic theory involving static and dynamic models and their use in analysis of economic problems and policies.
ECON 806 (AP EC 806): Econometrics I, 3 cr. (3 and 0) F
Applications of econometric techniques and stochastic models to economic problems. Topics include distribution theory, simple and multiple regression modeling, hypothesis testing and other issues in regression analysis.

ECON 807 (MA SC 807) (AP EC 807): Econometrics II, 3 cr. (3 and 0) F
Economic models expressed as systems of equations; problems of identification, parameter estimation, measurement errors and statistical inference; techniques of simulation, forecasting, model validation and interpretation.

ECON 808 (MA SC 808) (AP EC 808): Econometrics III, 3 cr. (3 and 0) S
Continuation of ECON 807; current economic models and estimation procedures. Prerequisite: ECON 807.

ECON 809 (AP EC 809): Advanced Natural Resource Economics, 3 cr. (3 and 0) S
Applications of economic theory to problems of natural resource management; epistemological considerations; rent theory; public and private investment criteria; benefit-cost analysis and general equilibrium management models. Prerequisite: AP EC 802 or permission of instructor.

ECON 810 (AP EC 810): Natural Resources Management and Policy, 3 cr. (3 and 0) F
Economic, institutional and legal aspects of control and management of natural resources; concepts of economic science applied to public policy questions related to land and water resources. Specialized background in economics not necessary. Prerequisite: Permission of instructor.

ECON 811 (AP EC 811): Economics of Environmental Quality, 3 cr. (3 and 0) F (even numbered years)
Pricing and distribution emphasizing effects upon economic welfare; goods allocated by government purchase for joint consumption and those distributed by rationing; alternate plans for allocating public goods. Prerequisite: ECON 314 or equivalent.

ECON 816 (AP EC 816): Labor Economics, 3 cr. (3 and 0) F
Wage and employment theory; labor markets; labor history; current problems in labor and manpower economics.

ECON 817 (AP EC 817): Advanced Production Economics, 3 cr. (3 and 0) S
Production economics theory in a quantitative framework; technical and economic factor-product, factor-factor and product-product relationships in single- and multiproduct firms under conditions of perfect and imperfect competition in both factor and product markets. Prerequisite: AP EC 804 or permission of instructor.

ECON 820 (AP EC 820): Public Finance, 3 cr. (3 and 0) F
Impact of government on resource allocation, income distribution and stability; role of regulation; principles of taxation.

ECON 821 (AP EC 821): Public Choice, 3 cr. (3 and 0) F
Economic theory to analyze collective decisions. Topics include the pure theory of collective choice and applied analyses of democratic governments and their policy processes.

ECON 822 (AP EC 822): Contemporary Public Policy, 3 cr. (3 and 0) S
Contemporary public policy, including price and resource policy, affecting rural areas; public participation, or the lack thereof, related to programs designed to implement public policy.

ECON 824 (AP EC 824): Organization of Industry, 3 cr. (3 and 0) F
The structure of markets and firms; forces that determine the size of firms and the boundaries of markets; the behavior of firms, both singly and in concert, to exploit market positions.

ECON 827 (AP EC 827): Economics of Property Rights, 3 cr. (3 and 0) F
Evolution and impact of various property rights institutions on individual behavior and the subsequent use of resources; the importance of property rights structures in the organization of business and in managerial decision making. Prerequisite: ECON 801.

ECON 828 (AP EC 828): Market Structure in Agricultural Industries, 3 cr. (3 and 0) F
Market structure and other approaches related to agricultural marketing. Individual assignments in the student’s field of interest required. Prerequisite: Permission of instructor.

ECON 831 (AP EC 831): Economic Development, 3 cr. (3 and 0) F
Economic analysis of development of urban areas within the system of cities; central place theory and general equilibrium models of interregional economic activity emphasizing central place systems, spatial interaction and stochastic processes; internal development of the city focusing on housing and land use patterns, transportation and urban form.

ECON 832 (AP EC 832): Community and Regional Economics, 3 cr. (3 and 0) F
Economic theory and research methods needed to understand happenings in the regional and community economy and how local and non-local decisions influence local economic change. Prerequisite: C R D 612 or permission of instructor.

ECON 840 (AP EC 840): International Trade Theory, 3 cr. (3 and 0) F
Theory of free trade from Ricardo to present; theory and application of optimal and second-best tariffs; recent empirical testing of trade and tariff theory. Prerequisites: ECON 314 and 802 or permission of instructor.

ECON 841 (AP EC 841): International Finance, 3 cr. (3 and 0) F
Financial economics of decision making in a multinational environment featuring autonomous governments and multiple currencies. Typical topics include examination of the macroeconomic problems of unemployment and inflation in an international economy, management of exchange rate risk, credit risk, political risk and taxation. Prerequisite: ECON 315 or equivalent.

ECON 855 (AP EC 855): Financial Economics, 3 cr. (3 and 0) F
Modern theory of corporate finance; basic theories of efficient markets, portfolio selection, capital asset pricing, option pricing and agency costs. Prerequisite: ECON 801 or permission of instructor.

ECON 888 (AP EC 888): Directed Reading in Economics, 1-3 cr. (1-3 and 0) F or S
Directed reading and research in the student’s field of interest. May be repeated for up to three credit hours.

ECON 891: Master’s Thesis Research, credit to be arranged

ECON 899 (AP EC 899): Selected Topics, 1-3 cr. (1-3 and 0) F, S
Students study selected topics under guidance of a professor. Course may be repeated for a maximum of six credits.

ECON 900: Selected Topics in Economics, 3 cr. (3 and 0) F (odd numbered years)
Current topics in economic theory and empirical research. May be taken more than once for credit as long as subject matter is not repetitive.

ECON 901 (AP EC 901): Price Theory, 3 cr. (3 and 0) F
Neoclassical paradigm of market price and quantity; rigorous consideration of consumer behavior, the theory of the firm and market equilibrium, production and resource demands, and the supply of resources. Prerequisite: ECON 801 or equivalent.
ECON 903 (AP EC 903): General Equilibrium and Welfare Theory, 3 cr. (3 and 0) S
The second of a two-course sequence of advanced price theory. The first part covers the development of the theory of general equilibrium and the economics of welfare; the second covers the capital theory and the determination of the rate of interest. Prerequisite: AP EC 901.

ECON 904 (AP EC 904): Seminar in Resource Economics, 3 cr. (3 and 0) F
Special problems and recent periodical literature relating to the control, management, development and use of land and water resources in the United States and in other parts of the world. Prerequisite: AP EC 403/603.

ECON 905 (AP EC 905): Advanced Macroeconomic Issues, 3 cr. (3 and 0)
Current unsettled issues in macroeconomic analysis. Topics include disequilibrium macro models, macro models of open economies, rational expectations, and its critics, government stabilization policies and the controversy surrounding the concept of Ricardian equivalence. Prerequisite: ECON 805 or equivalent.

ECON 906 (AP EC 906): Seminar in Area Economic Development, 3 cr. (3 and 0) S
Recent research developments in economic development; review of research publications, journal articles and other literature; objectives, analytical techniques and procedures used in area or regional development efforts. Prerequisite: AP EC 806.

ECON 911: Problems in Price Theory, 3 cr. (3 and 0)
Price theory problems and exercises in preparation for standing the comprehensive examination preliminary to admission to candidacy for the Ph.D. degree in applied economics. May be repeated up to three times.

ECON 915: Problems in Macroeconomic Theory, 3 cr. (3 and 0)
Review of problems and exercises in macroeconomic theory to help integrate formal theory from advanced courses. Prerequisite: ECON 905 or permission to stand Ph.D. preliminary examination in the next semester.

ECON 917 (AP EC 917): Advanced Seminar in Labor Economics, 3 cr. (3 and 0)
Follow-up to ECON 816, bridging the gap between theory and modern empirical research in labor economics. Emphasis is on reading recent empirical research papers to understand the techniques of modern research in labor economics. Prerequisite: ECON 816.

ECON 950 (AP EC 950): Monetary Economics, 3 cr. (3 and 0)
Economic analysis of money in our economy and effects of monetary policy on prices, interest rates, output and employment.

FIN 605: Portfolio Management and Theory, 3 cr. (3 and 0)
Introduction to portfolio management. Topics include the underlying theory, managing the equity and the fixed-income portfolios, portfolio evaluation, options-pricing theory, future markets and instruments. Prerequisites: FIN 305 and either 306 or 311 or permission of instructor.

FIN 606: Analysis and Use of Derivatives, 3 cr. (3 and 0)
The option pricing theory and strategy techniques most commonly used in the market for options; overview of the futures markets emphasizing interest-rate futures, stock-index futures and foreign-exchange futures. Prerequisite: FIN 305 or permission of instructor.

FIN 610: Research in Finance, 1-3 cr. (1-3 and 0)
Directed research course with topic selected by student and approved by instructor. A formal research paper is required. Prerequisites: FIN 306 or 312 and permission of instructor.

FIN 615: Real Estate Investment, 3 cr. (3 and 0)
Structure and analysis of real estate investment emphasizing financial theory and analysis technique. Case study and project-oriented homework assignments facilitate the understanding of real estate investments. Prerequisites: FIN 307 and 306 or 311.

FIN 617: Real Estate Finance, 3 cr. (3 and 0)
Application of financial analysis and theory to real estate; mortgage credit analysis and current financing techniques for residential and commercial properties. Topics include financial institutions, syndications and construction financing. Prerequisites: FIN 307 and 306 or 311.
The Master of Science in Graphic Communications degree program is designed to prepare students for technical, creative or professional careers in graphic communications, the third largest manufacturing industry in the United States. The M.S. in GC program serves the needs of graphic communications, graphic arts, printing management or graphic design graduates from other institutions, as well as undergraduates with degrees in engineering, manufacturing, computer sciences, communications, technology and various business fields wanting to transition to graphic communications fields.

The Clemson M.S. in GC is enhanced by Clemson’s undergraduate program of over 400 students and works closely with Clemson’s nationally recognized packaging sciences programs. Industry supports well-equipped GC laboratories. M.S. in GC are placed in positions in a variety of printing, packaging, publishing, imaging and related industries in management, marketing, sales, customer service, creative, technical, scientific and academic positions. Graduates’ placement rates are consistently high.

Program entrance is available fall, spring and first or second summer terms. Requirements for the program include 33 semester hours of graduate courses for a non-thesis option, or 30 hours with a thesis. Within the total requirements, at least 17 hours will be in GC technical/managerial courses, seven will be research related, six credits must be from outside the GC department and at least one-half will be at or above the 800 level. Based upon applicant’s undergraduate course work and work experience background, prerequisites courses may be required in specific areas. Students without relevant work experience will also complete an industrial internship.

In addition to the standard Application for Admission to the Clemson University Graduate School, the GC department admissions committee requests a narrative of approximately two pages in length, to include related and nonrelated work history, educational background, current position and an explanation of how Clemson’s M.S. in GC program relates to the applicant’s personal and professional goals. A separate resume should accompany the narrative.

G C 605: Package and Specialty Printing, 2 cr. (2 and 0)
Problems and processes for printing and converting in package, label and specialty printing industries; flexographic preparation, printing, die making, diecutting, transfer printing, screen container printing, pad printing and barcode production; developments and trends. Prerequisite: G C 245, 310, 350, or permission of instructor.

G C 606: Package and Specialty Printing Laboratory, 2 cr. (0 and 6)
Laboratory techniques for printing and converting in package, label and specialty printing industries. Experiences in flexographic prepress; printing; die design, die making and diecutting for label, folding cartons and corrugated; sublimation and plastisol transfer screen printing; and glass, plastic and metal container printing. Prerequisite or Corequisite: G C 405 or permission of instructor.

G C 607: Advanced Flexographic Methods, 4 cr. (2 and 6)
Methods used in flexographic printing and converting porous and nonporous substrates. Theory and laboratory applications include setting standards for process color, preparation of plate systems, ink mixing and color matching, testing of films and foils, analysis of recent developments and prediction of future markets. Prerequisites: G C 406 and 444 or permission of instructor.

G C 610 (THRD 610): Selected Topics, 1-3 cr. (1-3 and 0
Subject areas organized according to program needs. Content will be planned cooperatively by the University and the school system or agency requesting the course. May be repeated for a maximum of 18 credits, but only if different topics are covered. Prerequisite: Permission of instructor.

G C 640: Advanced Lithographic Methods, 5 cr. (2 and 9)
Advances skills learned in previous graphic communications courses and applies the knowledge to large format presses. Students work from the design conception stage through all aspects of preparation, production and finishing. Emphasis is on understanding and incorporating emerging technologies into the production workflow. Prerequisites: G C 310 and 350 or permission of instructor.

G C 644: Ink and Substrates, 3 cr. (2 and 3)
Components, manufacturing, process use and end use of ink and substrates used in lithography, flexography, gravure and screen printing; interrelationship among inks, substrates and the printing process. Through controlled testing and examination, the optimum conditions for improved printability will be determined. Prerequisite: G C 406 or 440 or permission of instructor.

G C 646: Planning and Controlling Printing Functions, 3 cr. (3 and 0)
Systems for setting printing production standards, estimating, scheduling, job planning and the selection of new hardware and technologies. Prerequisite: G C 350, 406, 440 and 450.

G C 680: Process Control in Color Reproduction, 3 cr. (2 and 3)
Techniques and rationale for procedures used in reproducing color originals for printed media. Topics include color systems, measurement, reproduction characteristics, proofing systems, process evaluation/analysis for offset, gravure, flexographic and screen printing processes. Prerequisite: G C 444 or equivalent.

G C 681: Printing Industry Operations, 3 cr. (2 and 3)
Concepts and principles of operations and applications of technology and trends within the printing, publishing, packaging and allied industries. Twelve plant visits supplement study of the organization, management, marketing, economics, production, environmental issues and products of modern graphic communications firms.

G C 850: G C Internship, 1 cr. (1 and 0)
Full-time employment for hands-on experiences in manufacturing, marketing or managing within the GC industry. For G C graduate students only. May be repeated for a total of two credits. Prerequisites: G C 310 or equivalent and permission of instructor.

G C 891: Master’s Thesis Research, 1-6 cr. (1-6 and 0)
Student participation in a research project. Basic skills in a selected research methodology are developed. Prerequisite: G C 894.
**G C 894: G C Graduate Seminar, 1 cr. (1 and 0)**
Discuss recent topics and guide to prepare research proposals in the graphic communications field. Students will develop and present research proposals in preparation for G C 895-896. May be repeated for credit once with a different topic. **Prerequisites:** Graduate standing and permission of instructor.

**G C 897: Graphic Communications Research Problems I, 3 cr. (3 and 0)**
Performing in-depth investigation of phenomena relative to the printing, publishing, packaging or allied industries. **Prerequisites:** G C 894, acceptance of a written proposal and approval of adviser.

**G C 898: Graphic Communications Research Problems II, 3 cr. (3 and 0)**
Performing in-depth investigation of phenomena relative to the printing, publishing, packaging or allied industries. Continuation of G C 897. **Prerequisites:** G C 894, acceptance of a written proposal and approval of adviser.

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The Master of Science in Industrial Management (MSIM) is designed to prepare students for leadership positions in industry by focusing on the management of operations. The MSIM program also prepares students for further advanced study in the field of management. The program addresses strategic and technical issues relevant to managing industrial and business operations in a global economy. Students in the MSIM program come from a variety of academic backgrounds including business, engineering, physical sciences, mathematics and computer science. The program builds on the educational background of undergraduate business majors by providing an important focus toward operations, the part of the organization where most assets and people are employed. For individuals with a technical undergraduate degree, the MSIM program complements their mathematics, engineering, computer and basic sciences course work by developing an integrated view of operations management.

The program focuses on the capabilities and resources of operations, and the role of operations in the formulations and implementations of organization strategies. The program addresses critical material and information flows within the organization, providing a knowledge base and skill set for solving the problems of operations. Students select from an array of operations focus courses. The program requires five core courses and five operations focus courses. Most full-time students should be able to complete the program in one calendar year. Students who have not completed basic course work in economics, financial accounting, marketing, operations, management science, human resource management and statistics must complete courses in these areas prior to taking core courses.

The Ph.D. program is a balanced program of management theory, analytical techniques and research methodology focusing on the management of operations. The goal is to produce scholars capable of (1) conducting critical and exhaustive investigation, and thus contributing to the body of knowledge and scholarly literature in industrial management, and (2) applying and sharing their knowledge through teaching for the benefit of students and society. Students entering the Ph.D. program are expected to have completed basic course work in accounting, calculus, economics, finance, marketing, operations and statistics. Applicants who have not completed these prerequisite courses may be admitted as doctoral students but will be required to complete the necessary prerequisite work as soon as possible after matriculation.

Formal course work leading to the dissertation stage of the Ph.D. program is divided into three core courses, five scholarly methods courses and a minimum of six advanced courses. The core courses present the critical issues related to the management of operations. The scholarly methods courses expose the student to the process of research and key methodological issues, in depth study of statistical methods and college teaching. The advanced courses provide students the opportunity to explore operations related issues in management science, management information systems or strategic management. Finally, the student must complete at least 18 credit hours of doctoral dissertation research.

**MGT 803: Operations Management, 3 cr. (3 and 0) F**
Introduction to a broad range of operations management topics; foundation for understanding the importance, relevance and significance of analytical models and tools to be introduced in subsequent courses in the MSIM program. Topics include operations strategy, process and facility design, planning and control, quality management and continuous improvement. **Prerequisite:** Graduate standing.

**MGT 804: Operations Strategy, 3 cr. (3 and 0) F**
In-depth study, through case studies and readings, of the role operations systems capabilities play in providing sources of competitive advantage. Topics include industry analysis, technological forecasting, formulation of organization and operations strategies, and development of operations system capabilities. **Prerequisite:** MGT 803 or permission of instructor.

**MGT 805: Advanced Quality Control, 3 cr. (3 and 0) F**
Statistical techniques employed in complex quality control schemes including recent developments in statistical quality control. **Prerequisite:** Permission of instructor.

**MGT 807: Comparative Management Theory, 3 cr. (3 and 0)**
Evolution of management theory, up to and including contemporary theories; comprehensive review of the major schools of management thought, with emphasis on the area of organization theory and design. **Prerequisite:** Graduate standing.

**MGT 808: Manufacturing Planning and Control Systems, 3 cr. (3 and 0) F**
Important components of a manufacturing planning and control system emphasizing the integration of planning and control functions in manufacturing environments; extensive hands-on work with integrated manufacturing software. **Prerequisite:** MGT 803 or permission of instructor.

**MGT 809 (M B A 809): Organizational Behavior and Human Resources Management, 3 cr. (3 and 0)**
Theories and models of behavior, and human resources management concepts and processes as they apply to managing individual and work-group behavior in organizations. Organizational behavior topics include leadership, motivation and teamwork. Human resource management topics include human resources strategy, selection, performance evaluation, reward systems and employee development. **Prerequisite:** Graduate standing.

**MGT 812: Supply Chain Management, 3 cr. (3 and 0) SS**
In-depth study, through case studies and readings, of methodologies for designing and managing integrated, international supply chain networks. Topics include supply network design, distribution strategy, strategic alliances, inventory management, coordinated product and network design and information systems for supply chain. **Prerequisite:** Permission of instructor.

**MGT 813: Personnel Management, 3 cr. (3 and 0)**
Personnel management activities including recruitment, selection, training and development, performance appraisal, discipline, grievance handling, wage and salary administration, and employee benefit programs. **Prerequisite:** Graduate standing.

**MGT 818: E-Commerce Web Site Development, 3 cr. (2 and 1)**
Enabling information technologies for electronic commerce, including databases and web applications. Includes applying these technologies to a project. **Prerequisite:** Permission of instructor

**MGT 820: Service Operations Management, 3 cr. (3 and 0)**
Concepts and techniques of service operating system design and management. Topics include characteristics of services, service system performance measurement, queuing and automation, planning and control in different service environments, and international service opera-
MGT 821: Process and Facility Design, 3 cr. (3 and 0)
Design of operating systems emphasizing the implications of technology and automation. Topics include technological core competencies, technological forecasting, process design, capacity planning, facility location and layout, and product and process development processes. Prerequisite: MGT 803 or permission of instructor.

MGT 822: International Operations Management, 3 cr. (3 and 0)
Operations management within an international business environment. Topics include the regulatory and cultural environment of international business, international business and operations strategies, global location, global sourcing and logistics decisions, international workforce management, technology transfer and configuration, and coordination of global operations activities. Prerequisite: MGT 803 or permission of instructor.

MGT 845 (M B A 845): Technology and Innovation Management, 3 cr. (3 and 0) N
Interdisciplinary examination of problems and issues in integrating technology and innovation into processes and products. Examining tangible and intangible aspects of new technology adoption; management research and development; and functional integration of marketing and operations.

MGT 861 (M B A 861): Management Information Systems Development, 3 cr. (2 and 1) S
Overview of information technologies used by organizations for supporting operations and gaining competitive advantage; concepts and methods for modeling, analysis and design of information systems that support a business. Topics include systems analysis, object-oriented modeling and database design. Prerequisite: Basic computer skills.

MGT 874 (M B A 874): Managing Continuous Improvement, 3 cr. (3 and 0) N
How to initiate and lead change toward a total quality environment; basic tools of quality management; use of teams to achieve change; quality function deployment; ISO 9000; supplier development; and use of survey methods to track progress of change. Prerequisite: MGT 803 or permission of instructor.

MGT 885: Industrial Scheduling, 3 cr. (3 and 0)
Examines the theoretical results for single and parallel machine, flow shop, job shop and network scheduling. Includes treatment of mathematical programming applications, scheduling algorithm design and search procedures. Prerequisites: Any one of the following courses: C E 835; CP SC 840; I E 803; MA SC 810; M B A 859; MTHSC 812 or 814 and permission of instructor.

MGT 888: International Perspectives in Industrial Management, 3-6 cr. (3-6 and 0)
International perspective to industrial management via organized plant visits and lectures by, and discussions with, senior operations manager(s). Cultural visits and lectures are also organized to provide a holistic perspective to cover cultural and economic development of the host country. Prerequisite: Permission of instructor.

MGT 891: Master’s Thesis Research, credit to be arranged
MGT 892: Master’s Project Course, 3 cr. (0 and 9)
The field project, the capstone activity in the program, requires application of the program body of knowledge to a real-world operations management problem. A formal presentation and written report are required. May be repeated for a maximum of 12 credit hours. Graded on a pass/fail basis. Prerequisite: Permission of instructor.

MGT 899: Selected Topics in Industrial Management, 3 cr. (3 and 0)
Current topics in industrial management theory and/or practice. Topics may vary in keeping with developments in the management profession and interests of faculty. May be repeated for nine credits.

MGT 903: Seminar in Manufacturing Planning and Control Systems, 3 cr. (3 and 0)
Current research issues and developments in manufacturing planning and control systems emphasizing current research (philosophical, analytical and empirical) dealing with alternative approaches for planning and control of manufacturing operations. Prerequisite: MGT 808 and permission of instructor.

MGT 904: Seminar in Current Management Topics, 3 cr. (3 and 0)
Topics from current management literature emphasizing research from scholarly journals. Topics vary in keeping with developments in the literature. May be repeated with different faculty for a maximum of six credit hours. Prerequisite: MGT 803 or permission of instructor.

MGT 905: Research Methods, 3 cr. (3 and 0)
Research methods supporting scholarly research and publication in management. Topics include theory building, hypothesis specification and testing, experimental design, measurement, sampling, research ethics and related issues. Enrollment restricted to doctoral students. Prerequisite: MA SC 814 or equivalent.

MGT 907: Seminar in the Design of Operations Systems, 3 cr. (3 and 0)
Current management issues and developments in the evaluation, selection, design and installation of systems for manufacturing and service operations; empirical research dealing with the building blocks of operations such as process technology scanning, selection and installation; operations systems location and layout; and management systems selection and installation. Prerequisites: MGT 821 and permission of instructor.

MGT 910: Seminar in Operations Management, 1-3 cr. (1-3 and 0)
New methodological developments, both analytical and philosophical, in operations management; development of theory of management science; converting management theory into practice while considering behavioral and economic aspects of the problem. Prerequisite: Permission of instructor.

MGT 911: Seminar in Decision Theory, 1-3 cr. (1-3 and 0)
Framework and methodology for management decision making in a statistical setting. Prerequisite: Permission of instructor.

MGT 913: Management Systems Analysis, 3 cr. (3 and 0)
Design, construction and analysis of stochastic simulation models for typical management decisions; design; input-output; variance reduction; applications; validation; implementation; optimum seeking techniques; designed experiments; effect of model results on managerial policy decisions. Prerequisite: CP SC 150 or equivalent.

MGT 915: Seminar in Business-Level Strategy Formulation and Implementation, 3 cr. (3 and 0)
Theoretical and empirical foundations of business-level strategy research focusing on how firms compete in a particular business; strategic typologies, the strategic management process, strategy-environment fit, organization performance, business-unit culture, and functional strategies and structure. Prerequisite: MGT 804.

MGT 916: Directed Readings in Management, 1-3 cr. (1-3 and 0)
Directed reading and research in the student’s area of interest. May be repeated for a maximum of three credit hours. Prerequisite: Permission of instructor.

MGT 918: Seminar in Management Support Systems, 3 cr. (3 and 0)
Contemporary topics in decision-oriented information systems research; structure of the field, research methodologies and research opportunities. Prerequisite: MGT 818 or permission of instructor.
MGT 921: Seminar in the Science and Practice of Business and Economic Modeling, 3 cr. (3 and 0)
Current literature used as a resource for studying and analyzing selected topics important in the design and development of simulation models; students lead and participate in group discussions. Prerequisite: MGT 913 or equivalent.

MGT 950: Seminar in Corporate-Level Strategy Formulation and Implementation, 3 cr. (3 and 0)
Theoretical and empirical foundations of corporate-level strategy research emphasizing both formulation and implementation issues; boards of directors, decision making, diversification, strategic fit, mergers and acquisitions, divestitures, joint ventures and corporate structure. Prerequisite: MGT 804.

MGT 952: Seminar in Manufacturing and Operations Strategy, 3 cr. (3 and 0)
Emerging theoretical and empirical research showing the linkages among competitive business priorities, patterns of operations decisions and firm performance. Topics include development of operations objectives and strategies that reflect competitive priorities, and strategic operations decisions in the areas of process, capacity, facility, and planning and control systems. Prerequisite: MGT 804.

MGT 991: Doctoral Dissertation Research, credit to be arranged

H ADM 608: Hospital and Health Services Administration, 3 cr. (3 and 0)
Survey of the practice of hospital and health-care administration practiced within the United States. Topics include planning, social, legal and political considerations; alternate forms of organization; management practices; control systems; and trends/issues facing the future of health-care administrators. Prerequisite: Senior or graduate-level standing or permission of instructor.

H ADM 610: Hospital Internship, 3 cr. (0 and 9)
Internship in local hospital for nine hours per week on a specified program of observing, practicing and experiencing the duties of hospital administrators. Course will be specifically outlined along with the amount of time the student will spend in each phase or department of the hospital. Student progress will be constantly monitored by University faculty and hospital staff. Prerequisite: H ADM 408.

The departments of Management and Mathematical Sciences (College of Engineering and Science) jointly offer and administer this program. Applicants should have demonstrated aptitude for quantitative analysis and a primary interest in scientific management research and practice. The program is for persons interested in using and developing the growing array of statistical and quantitative decision-making techniques used by the larger and more sophisticated American, foreign and multinational firms. Such techniques include probability models; statistical analysis; linear, nonlinear and dynamic programming; and decision theory.

The program structure blends courses in statistical theory, operations research and functional areas of management to provide a balanced offering of advanced work in each field contributing to the degree.

MA SC 807 (ECON 807) (AP EC 807): Econometrics II, 3 cr. (3 and 0) F
Economic models expressed as systems of equations; problems of identification, parameter estimation, measurement errors and statistical inference; techniques of simulation, forecasting, model validation and interpretation.

MA SC 808 (ECON 808) (AP EC 808): Econometrics III, 3 cr. (3 and 0) S
Continuation of ECON 807; current economic models and estimation procedures. Prerequisite: ECON 807.

MA SC 810: Foundations of Management Science, 3 cr. (3 and 0) S
Fundamental management science modeling techniques emphasizing problem formulation, computer solution and economic analysis in an operations context; queuing analysis, computer simulation and mathematical programming approaches including linear, goal and integer programming. Application areas encompass production, capacity and project planning, scheduling, location, layout and logistics. Prerequisite: Permission of instructor.

MA SC 812: Management Science II, 3 cr. (3 and 0) F
Continuation of MA SC 810; dynamic, integer and nonlinear programming emphasizing applications of different types of mathematical programming to business and industrial problems. Prerequisite: MA SC 810 or permission of instructor.

MA SC 814: Design of Experiments in Business and Management, 3 cr. (3 and 0) S
Design and analysis of experiments with a focus on business and industrial applications. Topics range from the analysis of single-factor experimental designs through factorial experiments, multiple comparisons and confounding. Problems arising in the actual industrial environments are used to illustrate the application of the techniques and to introduce the student to major statistical software packages for the analysis of experimental data.

Management science students are required to take some of the following courses offered by various departments.

MGT 803: Operations Management, 3 cr. (3 and 0) F
Introduction to a broad range of operations management topics; foundation for understanding the importance, relevance and significance of analytical models and tools to be introduced in subsequent courses in the MSIM program. Topics include operations strategy, process and facility design, planning and control, quality management and continuous improvement. Prerequisite: Graduate standing.

MGT 808: Manufacturing Planning and Control Systems, 3 cr. (3 and 0) F
Important components of a manufacturing planning and control system emphasizing the integration of planning and control functions in a dynamic manufacturing environment; extensive hands-on work with integrated manufacturing software. Prerequisite: MGT 803 or permission of instructor.

MGT 821: Process and Facility Design, 3 cr. (3 and 0) F
Design of operating systems emphasizing the implications of technology and automation. Topics include technological core competencies, technological forecasting, process design, capacity planning, facility location and layout, and product and process development processes. Prerequisite: MGT 803 or permission of instructor.

MGT 829: Management of E-Commerce, 3 cr. (3 and 0) F
Concepts of electronic commerce as facilitated by the Internet and related technologies. Topics include: the catalysts for e-commerce (both B2B and B2C), technological challenges, legal and regulatory framework, behavior and educational challenges, and strategies for e-commerce. Prerequisite: Permission of instructor.

MGT 833: E-Commerce Project, 3 cr. (0 and 9) F
Application of e-commerce knowledge to a significant problem or opportunity. Prerequisites: Submission of a written proposal and prior approval of instructor.

MGT 861 (M B A 861): Management Information Systems Development, 3 cr. (3 and 0) S
Overview of information technologies used by organizations for supporting operations and gaining competitive advantage; concepts and methods for modeling, analysis and design of information systems that support a business. Topics

*Dr. Nelson is a faculty member in mathematical sciences.
MGT 903: Seminar in Manufacturing Planning and Control Systems, 3 cr. (3 and 0)
Current research issues and developments in manufacturing planning and control systems emphasizing current research (philosophical, analytical and empirical) dealing with alternative approaches for planning and control of manufacturing operations. Prerequisite: MGT 808 and permission of instructor.

MGT 907: Seminar in the Design of Operations Systems, 3 cr. (3 and 0)
Current management issues and developments in the evaluation, selection, design and installation of systems for manufacturing and service operations; empirical research dealing with the building blocks of operations such as process technology scanning, selection and installation; operations systems location and layout; and management systems selection and installation. Prerequisite: MGT 821 and permission of instructor.

MGT 913: Management Systems Analysis, 3 cr. (3 and 0)
Design, construction and analysis of stochastic simulation models for typical management decisions. Topics include design, input-output, variance reduction, applications, validation, implementation, optimum seeking techniques and designed experiments. Emphasis is on effect of model results on managerial policy decisions. Prerequisite: CP SC 150 or equivalent.

MGT 921: Seminar in the Science and Practice of Business and Economic Modeling, 3 cr. (3 and 0)
Current literature used as a resource for studying and analyzing selected topics important in the design and development of simulation models; students lead and participate in group discussions. Prerequisite: MGT 913 or equivalent.

MTHSC 800: Probability, 3 cr. (3 and 0) F
Basic probability theory with emphasis on results and techniques useful in operations research and statistics. Topics include axiomatic probability, advanced combinatorial probability, conditional formative expectation, functions of random variables, moment generating functions, distribution theory and limit theorems. Prerequisite: MTHSC 206.

MTHSC 801: General Linear Hypothesis I, 3 cr. (3 and 0) F
Least-square estimates; Gauss-Markov theorem; confidence ellipsoids and confidence intervals for estimable functions; tests of hypotheses; one-, two- and higher-way layouts; analysis of variance for other models. Prerequisites: MTHSC 403/603 and 311.

MTHSC 802: General Linear Hypothesis II, 3 cr. (3 and 0) S
Continuation of MTHSC 801.

MTHSC 803: Stochastic Processes, 3 cr. (3 and 0) S, SS
Theory and analysis of time series, recurrent events, Markov chains, random walks, renewal theory, application to communication theory and operations research. Prerequisite: MTHSC 400/600 or 800.

MTHSC 805: Data Analysis, 3 cr. (3 and 0) F, S
Methodology in analysis of statistical data emphasizing applications to real problems using computer-oriented techniques: computer plots, transformations, criteria for selecting variables, error analysis, multiple and stepwise regression, analysis of residuals, model building in time series and ANOVA problems, jackknife and random subsampling, multidimensional scaling and clustering. Prerequisites: MTHSC 301 and 400/600, or MTHSC 403/603 and 800.

MTHSC 806: Nonparametric Statistics, 3 cr. (3 and 0) F
Order statistics; tolerance limits; rank-order statistics; Kolmogorov-Smirnov one-sample statistics; Chi-square goodness-of-fit test; two-sample problem; linear rank statistics; asymptotic relative efficiency. Prerequisite: MTHSC 600 or 800.

MTHSC 807: Applied Multivariate Analysis, 3 cr. (3 and 0) F
Applied multivariate analysis: computer plots of multivariate observations; multidimensional scaling; multivariate tests of means, covariances and equality of distributions; univariate and multivariate regressions and their comparisons; MANOVA; principle components analysis; factor analysis; analytic rotations; canonical correlations. Prerequisites: MTHSC 403/603 and 805 or permission of instructor.

MTHSC 808: Reliability and Life Testing, 3 cr. (3 and 0) S
Probability models and statistical methods relevant to parametric and nonparametric analysis of reliability and life testing data. Prerequisites: MTHSC 400/600 and 401/601 or equivalent.

MTHSC 809: Time Series Analysis, Forecasting and Control, 3 cr. (3 and 0) F
Modeling and forecasting random processes; autocorrelation functions and spectral densities; model identification, estimation and diagnostic checking; transfer function models; feedforward and feedback control schemes. Prerequisites: MTHSC 600 and 605, or MTHSC 800 and 605, or equivalent.

MTHSC 810: Mathematical Programming, 3 cr. (3 and 0) F, S
Formulation and solution of linear programming models; mathematical development of the simplex method; revised simplex method; duality; sensitivity analysis; parametric programming, implementation and software packages. Prerequisite: MTHSC 311.

MTHSC 811: Nonlinear Programming, 3 cr. (3 and 0) S
Theoretical development of nonlinear optimization with applications, classical optimization, convex and concave functions, separable programming, quadratic programming and gradient methods. Prerequisites: MTHSC 440 and 454.

MTHSC 813: Advanced Linear Programming, 3 cr. (3 and 0) S
Development of linear programming theory using inequality systems, convex cones, polyhedra and duality; solution algorithms and computational considerations for large scale and special structured problems using techniques of upper bounded variables, decomposition, partitioning and column generation; game theory; non-linear representations and other methods such as ellipsoid and Karmarkan. Prerequisite: MTHSC 440/640, 810 or equivalent.

MTHSC 814: Network Flow Programming, 3 cr. (3 and 0) F
Max-flow/min-cut theorem, combinatorial applications, minimum cost flow problems (transportation, shortest path, transshipment), solution algorithms (including the out-of-kilter) and implementation and computational considerations. Prerequisite: MTHSC 440/640, 810 or equivalent.

MTHSC 817: Stochastic Models in Operations Research I, 3 cr. (3 and 0) F
Stochastic control; structure of sequential decision processes; stochastic inventory models; recursive computation of optimal policies; discrete parameter finite Markov decision processes; various optimality criteria; computation by policy improvement and other methods; existence of optimal stationary policies; stopping-rule problems; examples from financial management, maintenance and reliability, search, queuing and shortest path. Prerequisite: MTHSC 803.
MKT 630: Marketing Product Management, 3 cr. (3 and 0)
Management of the firm’s product or service offerings; new product screening, evaluation and development; product line and mix analysis; abandonment decisions; brand manager’s role; new product development department. Emphasis is on decision making. Prerequisite: MKT 301 and MA SC 310 or permission of instructor.

MKT 631: Marketing Research, 3 cr. (3 and 0)
Research used in marketing decision making; methods and techniques used in planning, collecting, processing and utilizing information. Topics include research design, sources of information, questionnaire design, sampling, data collection and data analysis. Prerequisites: MKT 301, MTHSC 301, and MA SC 310 or permission of instructor.

MKT 695: Selected Topics, 3 cr. (3 and 0)
Timely topics in marketing. May be repeated for credit as topics vary. Prerequisite: MKT 301 or permission of instructor.

SCHOOL OF SOCIAL SCIENCE AND APPLIED SOCIOLOGY

Political Science

David Swindell, Director of Public Administration Program

<table>
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<tr>
<th>Major</th>
<th>Degree</th>
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<tr>
<td>Public Administration</td>
<td>M.P.A.</td>
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Advanced degrees are not awarded in political science. Courses are offered at the 600 level to provide electives for students in other areas.

The department participates with the Department of Government and International Relations at the University of South Carolina in offering the joint professional degree, Master of Public Administration. Courses for this program are taught only at the University Center of Greenville, S.C.

From 39 to 45 semester hours are required for the M.P.A. degree, depending on the student’s background. Students lacking proficiency in American government are required to take a prerequisite in this area to address the deficiency. Students who do not have substantial administrative experience are required to complete an internship encompassing 480 hours in a public or nonprofit agency engaged in administrative work. All M.P.A. students must complete seven core courses (PO SC 702, 821, 822, 827, 829, 841 and 862), one level of government course (PO SC 860, 867 or 868) and five electives. Finally, all students must demonstrate a proficient knowledge of the field of public administration by passing a comprehensive examination. Students may request to take the Capstone Seminar in Public Administration (PO SC 880) in lieu of the comprehensive examination.

PO SC 609: Directed Study in American Politics, 3 cr. (3 and 0)
Supervised reading and/or research in selected areas of American government. Prerequisite: Permission of instructor.

PO SC 616: Interest Groups and Social Movements, 3 cr. (3 and 0)
Empirical examination of the origins, roles and influence of interest groups and social movements in the United States; the relationships among interest groups, social movements and democratic theory. Prerequisite: PO SC 101, junior standing or permission of instructor.

PO SC 621: Public Policy Processes, 3 cr. (3 and 0)
Public policy process, analysis and evaluation; examination and comparison of policy-making models, policy analysis and decision-making techniques, and approaches to program evaluation. Prerequisites: PO SC 101, junior standing or permission of instructor.

PO SC 623: Urban Politics, 3 cr. (3 and 0)
Interaction of political, technical and administrative processes in urban America. Emphasis is on the history and future of urban areas. Prerequisite: PO SC 101, junior standing or permission of instructor.

PO SC 624: Federalism and Intergovernmental Relations, 3 cr. (3 and 0)
Introduction to the historical, theoretical, legal and fiscal aspects of constitutionally divided government. Federal, state and local division of responsibility for public services will be emphasized along with the emerging devolution of those responsibilities from the federal government to states and localities.

PO SC 627: Public Personnel Management, 3 cr. (3 and 0)
Government personnel systems; current trends and problems; essentials of recruitment, classification, compensation, motivation, evaluation, training and discipline. Prerequisite: PO SC 101, junior standing or permission of instructor.

PO SC 628: National Security Policy I, 3 cr. (3 and 0)
Overview and analysis of the principal national security policy issues facing the United States, emphasizing weapons proliferation; arms control; support to military forces and operations; terrorism; intelligence/counterintelligence; narcotics and organized crime; economic issues; and of the national security decision-making process. Prerequisite: PO SC 102 or 104, junior standing or permission of instructor.

PO SC 629: National Security Policy II, 3 cr. (3 and 0)
Analysis, assessment and management of specific country and regional security threats and challenges to the United States. Principal targets of assessment.
PO SC 658: Political Leadership, 3 cr. (3 and 0)
Examination and analysis of Supreme Court decisions and other legal materials in the areas of national power, federalism, the separation of powers and the role of the judiciary.

PO SC 642: American Constitutional Law II, 3 cr. (3 and 0)
Examination and analysis of Supreme Court decisions and other legal materials in the areas of civil rights and civil liberties with an emphasis on freedom of speech, freedom of religion, equal protection of the laws, and privacy rights.

PO SC 642: Political Parties and Elections, 3 cr. (3 and 0)
Distinctive features of the American two-party system with emphasis on presidential elections. Parties are examined as formal organizations, coalitions of voters and interest groups, coordinators of nomination and election processes and managers of policy-making institutions. Prerequisite: PO SC 101, junior standing or permission of instructor.

PO SC 654: Southern Politics, 3 cr. (3 and 0)
Examination of the unique political environment of the American South with emphasis on the events and social forces that have shaped politics in the region since World War II. Course is approached from a variety of perspectives, including history, literature, social themes and political culture.

PO SC 657: Political Terrorism, 3 cr. (3 and 0)
International phenomenon of terrorism in terms of origins, operations, philosophy and objectives. Prerequisite: PO SC 102, junior standing or permission of instructor.

PO SC 658: Political Leadership, 3 cr. (3 and 0)
Comparative examination of political leaders; types, methods and consequences of leadership; relationship between leaders and followers. Prerequisite: PO SC 101, junior standing or permission of instructor.

PO SC 669: Selected Topics, 1-3 cr. (1-3 and 0)
Intensive examination of a selected area of political science. May be repeated for a maximum of six credits, but only if different topics are covered. Prerequisite: Permission of instructor.

PO SC 702: Research Methods for Public Administration, 3 cr. (3 and 0)
Use of social science research methods for addressing issues in public management and policy; research design; measurement; sampling and polling. Various aspects of locating, collecting, and processing data, including survey design and archive searches.

PO SC 821: Perspectives on Public Administration, 3 cr. (3 and 0)
Study and practice of public administration in the United States in the 20th century; historical development of the field of public administration; current approaches to the study and practice of public administration.

PO SC 822: Public Policy Process, 3 cr. (3 and 0)
Major models of policy making including incrementalism, rationalism, pluralism and elitism; selected areas of public policy including transportation, poverty, energy and the environment.

PO SC 827: Public Personnel Administration, 3 cr. (3 and 0)
Organization, techniques and theories of personnel management; interpersonal relations in organizations; personnel change and development; changing conditions in the public service; educational specializations, unions, collective bargaining, etc.; ethics for the public service.

PO SC 829: Public Financial Management, 3 cr. (3 and 0)
Organization and techniques of governmental management; budgetary theories; intergovernmental financial relations.

PO SC 830: Constitutional Law for Public Administration, 3 cr. (3 and 0)
Principles of American constitutional law; legal issues related to public administration including delegation of power, separation of powers, due process, and civil rights and liberties. May not be taken for credit by students who have taken PO SC 632 or 633, or their equivalents.

PO SC 834: Administrative Law, 3 cr. (3 and 0)
Legislative, adjudicatory and general policy-making powers of administrative agencies and regulatory commissions; the scope of judicial review of administrative action; directed primarily toward the analysis of the political nature of bureaucracy.

PO SC 841: Public Data Analysis, 3 cr. (3 and 0)
Various aspects of database management, storage and retrieval. Data description, Univariate, bivariate and multivariate analysis in policy studies and decision-making theory. Prerequisite: EX ST 301, MTHSC 301 or equivalent.

PO SC 860: American Government, 3 cr. (3 and 0)
The literature of the American political system, its institutions and processes.

PO SC 862: Administrative Leadership, 3 cr. (3 and 0)
The foundations of leadership in public organizations; personal and organizational values underlying decision processes in the public service.

PO SC 863: Contemporary Administrative Organizations, 3 cr. (3 and 0)
Problems, processes and theories of communication, decision-making, agency planning and control in administrative agencies.

PO SC 867: State Government Administration, 3 cr. (3 and 0)
State government problems and policy issues emphasizing the modernization of government institutions and comparative state politics.

PO SC 868: Local Government Administration, 3 cr. (3 and 0)
Administration of local government from the perspective of the professional administrator; the growth of the manager form of local government; the role of local government administrators with regard to policy making, management and the delivery of services.

PO SC 877: Public Policy Evaluation Seminar, 3 cr. (3 and 0)
Conceptual and analytic issues in policy and program evaluation including problem definition, goal setting and criteria formulation; design of evaluation research; indicator design; treatment of uncertainty; and special problems raised by constraints of the political context.

PO SC 878: Selected Topics in Public Administration, 3 cr. (3 and 0)
In-depth study of an applied problem in public administration as seen through the practitioner’s eyes; the methods used to address these problems.

PO SC 879: Internship in Public Administration, 1-3 cr. (1-3 and 0)
Internship with a government agency requiring a written report detailing the experience.
The Department of Psychology offers a Ph.D. degree in industrial/organizational psychology and an M.S. degree in applied psychology with concentrations in industrial/organizational psychology and human factors psychology. These programs are designed to provide the student with the requisite theoretical foundations, skills in quantitative techniques and research design, and practical problem-solving skills to address human problems related to work. The Department of Psychology is a member of the Council on Applied Master’s Programs in Psychology. The human factors concentration is fully accredited by the Human Factors and Ergonomics Society.

Applicants to these programs should have an undergraduate degree with a major in psychology or a related field from an accredited college or university. Students with a major other than psychology should have a minimum of 15 semester hours beyond the introductory psychology survey course. A formal thesis and supervised field internship are required for the M.S. degree. M.S. students complete 45 semester hours, including six semester hours of thesis credit and six semester hours of credit for the internship. Typically, the internship is completed in the summer between the first and second years of the program. In some cases, six semester hours of approved electives may be substituted for the field internship.

Students in the doctoral program are expected to satisfy the master’s program requirements prior to receiving their doctorate. In addition to the required core content courses, a doctoral program must include at least one course from each of four major areas of psychology (biological, cognitive-affective, social, individual differences). In addition, 18 hours of dissertation research are required. Students are admitted to candidacy for the Ph.D. degree upon successful completion of a qualifying examination.

PSYCH 625: Advanced Psychological Psychology, 3 cr. (3 and 0)
The biological basis of behavior emphasizing functional neuroanatomy and endocrinology. Topics may vary. May not be repeated for credit. Prerequisite: PSYCH 324 or permission of instructor.

PSYCH 657: Principles and Processes of Teamwork, 3 cr. (3 and 0)
Individual and group processes as they apply to team performance; theories, research and models of team functioning; applications of principles to ad hoc, business, multidisciplinary work and computer-supported teams. Prerequisite: PSYCH 201, one 300-level PSYCH course or permission of instructor.

PSYCH 659: Group Dynamics, 3 cr. (3 and 0)
Current theory and research on small-group processes, group formation and development, group structure, the dynamic forces within a group, leadership and group problem-solving and decision making. Prerequisites: PSYCH 201 and one 300-level psychology course or permission of instructor.

PSYCH 662: Psychology and Culture, 3 cr. (3 and 0)
Seminar examining the cultural context in which psychological theories and research are generated, and psychological perspectives on human diversity. Topics include the philosophical positions influencing psychological theory and research; methodological issues in the study of diversity, historical and contemporary perspectives; and cross-cultural psychological research in selected content areas. Prerequisite: PSYCH 310 or permission of instructor.

PSYCH 680: Health Psychology, 3 cr. (3 and 0)
The role of health-related behaviors in the prevention, development and/or exacerbation of health problems; the biopsychosocial model and its application in the assessment, treatment and prevention of health problems. Prerequisite: PSYCH 201, one 300-level psychology course or permission of instructor.

PSYCH 683: Abnormal Psychology, 3 cr. (3 and 0)
The psychobiological, psychological and cultural factors involved in such behavioral disorders as transient situational disturbances, personality disorders, psychoneuroses, psychoses and psychosomatic disturbances; the advantages and disadvantages of particular conceptual models in labeling and describing behaviors as either normal or abnormal. Prerequisites: PSYCH 201 and one 300-level psychology course or permission of instructor.

PSYCH 689: Selected Topics, 3 cr. (3 and 0)
Seminar in current topics in psychology. Topics vary from semester to semester and will be announced prior to each semester’s registration. May be repeated once for credit, but only if a different topic is covered. Prerequisites: Graduate standing and permission of instructor.

PSYCH 801: Professional Ethics in Industrial/Organizational Psychology, 2 cr. (2 and 0)
Ethics and standards for the practice of psychology in organizations; applied situations in organizational settings and in research. Prerequisite: Permission of instructor.

PSYCH 810: Research Design and Quantitative Methods I, 3 cr. (3 and 0)
Bivariate and multivariate data analysis applied to industrial and other work-related settings; the major data analytic tools needed for research in applied psychology. Prerequisite: Six credits of statistics, research methods or equivalent.

PSYCH 811: Research Design and Quantitative Methods II, 3 cr. (3 and 0)
Research methodologies; experimental, quasi-experimental and nonexperimental designs emphasizing applied psychological research; scientific method; basic versus applied research; technical writing; grant writing and ethics. Prerequisite: PSYCH 810.

PSYCH 815: Advanced Studies in Systems and Theories, 3 cr. (3 and 0)
The foundations of contemporary psychology, the origins of major theories, the conceptions of scientific knowledge implicit in them, and the reasons for accepting or rejecting them. Prerequisite: PSYCH 415 or permission of instructor.
PSYCH 822: Human Perception and Performance, 3 cr. (3 and 0)
Basic research on human perception as applied to task performance; vision and audition in adults; basic knowledge of human sensory and perceptual characteristics as applied to such tasks as machine operation, task performance, etc.

PSYCH 823: Perception, Cognition and Technology, 3 cr. (3 and 0)
Fundamentals of sensory and perceptual processes focusing on human vision and audition. Emphasis on perceptual aspects of applications and communication in electronic and traditional media. Topics include perception of speech, time, depth, color and motion in natural and virtual environments, as well as psychophysics, attention, eye movements and reading. Prerequisite: Enrollment in MFAC degree program or permission of instructor.

PSYCH 832: Advanced Cognitive Psychology, 3 cr. (3 and 0)
Research concerning perception, memory, reasoning, problem solving, knowledge representation, psychology of language, semantics, attention, concept formation and other high-level mental processes; applications of these areas are considered.

PSYCH 836: Advanced Human Factors Psychology, 3 cr. (3 and 0)
Provides a solid foundation from which to study interactions between human beings and systems in order to maximize safety, performance and user satisfaction. Emphasizes the integration and application of basic research and theory in sensation, perception, cognition and motor control. Prerequisites: Graduate student standing and permission of instructor.

PSYCH 837: Ergonomics for Applied Psychology, 3 cr. (3 and 0)
Perception and action capabilities of humans as they relate to the design of machines and environments; biomechanics, anthropometry, human movement and work and the perceptual supports action.

PSYCH 845: Advanced Studies in Adulthood and Aging, 3 cr. (3 and 0)
Human development from young adulthood through late adulthood; biological, cognitive, personality development and social development examined from the perspective of several major theoretical frameworks. Prerequisite: PSYCH 345 or permission of instructor.

PSYCH 852: Advanced Studies in Social Psychology, 3 cr. (3 and 0)
Human social behavior from the perspective of the individual as a participant in social relationships; contemporary theories of human social behavior and human behavior in social settings. Prerequisite: PSYCH 352 or permission of instructor.

PSYCH 860: Psychology of Training and Evaluation, 3 cr. (3 and 0)
Evaluation issues such as order criteria development, organizational assessment, process and outcome criteria along with instructional methodologies such as fairness in training, special populations, second careers, hard-core unemployment, and ethics of organizational and industrial change. Prerequisite: A course in industrial psychology, personnel psychology or equivalent.

PSYCH 861: Personnel Psychology, 3 cr. (3 and 0)
Theory, techniques and legal issues involved in the effective matching of individuals’ needs, preferences, skills and abilities with the needs and preferences of organizations. Topics include research methods, prediction issues, tests and other predictors, decision making and job evaluation. Prerequisite: PSYCH 810.

PSYCH 862: Organizational Development, 3 cr. (3 and 0)
Forms of organizational structure and basic theories of organizations; theories and technologies of organizational development and change; relationships between organizational design and technology. Prerequisite: A course in industrial/organizational psychology or equivalent.

PSYCH 863: Work Motivation and Satisfaction, 3 cr. (3 and 0)
Explanations for absenteeism, productivity, job satisfaction and withdrawal, as well as their interrelations; methods of measuring attitudes and opinions and general theories of human motivation. Prerequisite: An industrial/organizational psychology course or equivalent.

PSYCH 864: Performance Appraisal, 3 cr. (3 and 0)
Job measurement and the psychological processes involved in performance appraisal; current methods, theory and applications in the measurement of job performance; training in the development and evaluation of performance appraisal systems. Prerequisite: PSYCH 364 or permission of instructor.

PSYCH 865: Job Analysis, 3 cr. (3 and 0)
Applied and theoretical issues in the analysis of work; structured techniques for person and job-oriented analyses; applications of job analysis in the areas of test development, performance appraisal and job evaluation. Prerequisite: PSYCH 364 or equivalent or permission of instructor.

PSYCH 866: Attitude Measurement Theory, 3 cr. (3 and 0)
Classic and contemporary approaches to attitude theory, measurement and scaling techniques; theories of job satisfaction; the measurement of attitudes toward work. Prerequisite: PSYCH 471 or permission of instructor.

PSYCH 868: Leadership in Organizations, 3 cr. (3 and 0)
Theories of leadership and current leadership research; theoretical approaches include trait, behavioral, contingency, transactional and transformational approaches; current leadership issues may include leadership perceptions, gender and leadership, and executive succession. Prerequisite: An industrial/organizational psychology course or equivalent.

PSYCH 871: Psychological Tests and Measurement, 3 cr. (3 and 0)
Advanced survey of psychological test development, evaluation and utilization in organizational and research settings; professional guidelines for the practice of testing in industrial/organizational psychology and legal guidelines for using tests in industry. Prerequisite: Permission of instructor.

PSYCH 883: Advanced Studies in Abnormal Psychology, 3 cr. (3 and 0)
Seminar in the etiology and classification of abnormal behavior; empirical and theoretical issues in the understanding of mental disorders; cultural influences on judgment of abnormality; in-depth examination of specific psychological disorders. Prerequisite: PSYCH 483 or permission of instructor.

PSYCH 891: Doctoral Dissertation Research, credit to be arranged

PSYCH 898: Industrial/Organizational Psychology Internship, 3-6 cr. (0 and 3-6)
Supervised field experience in industry, business or government. Site location, on-site supervision and credit hours must be approved in advance by the graduate coordinator.

PSYCH 899: Selected Topics, 3 cr. (3 and 0)
Selected current and classic topics not covered in other courses. May be repeated for credit.

PSYCH 991: Doctoral Dissertation Research, credit to be arranged
The Department of Sociology offers the M.S. degree in applied sociology emphasizing practical and theoretical knowledge in the areas of industrial and organizational sociology and focusing on the acquisition of social research skills, theory application and practical field experience. Students are prepared for employment in federal, state and local government agencies; in industry and related agencies; and to pursue a doctorate.

Applicants must hold a bachelor's degree from an accredited degree program; have completed a minimum of 15 undergraduate semester hours in sociology or another social science discipline that includes at least one course each in statistics, research methods and sociological theory; submit GRE scores on the verbal, quantitative and analytical sections (satisfactory scores normally include a minimum of 500 on each section of the test); submit three letters of recommendation, at least two of which are from faculty members of the applicant's previously attended college or university; and submit a 500-word essay on career aspirations and goals, explaining how completion of this program in applied sociology will assist in achieving these goals.

Students selecting the thesis option are required to complete a minimum of 34 hours of course work including SOC 803, 805, 807, 810, 830, 895 and either R S/SOC 671 or ANTH 603. In addition, students choosing the thesis option must complete 40 hours of course work including SOC 803, 805, 807, 810, 830, 895 and either R S/SOC 671 or ANTH 603. In addition, students taking the nonthesis option must complete 40 hours of course work including SOC 803, 805, 807, 810, 830, 895 and either R S/SOC 671 or ANTH 603. In addition, students taking the nonthesis option must pass a departmentally administered comprehensive examination. Students must demonstrate competency in basic statistics by either passing a departmentally administered competency examination or obtaining a grade of B in EX ST 601. A six-hour internship in an applied setting is required of all students. The field placement is coordinated by the student, the graduate director and the on-site supervisor. Typically, the internship is completed in the summer between the first and second year of the program, but only after completing a minimum of 12 credit hours of 800-level course work. In exceptional circumstances the graduate coordinator may approve the substitution of six hours of appropriate course work for the field placement when the student has had work experience comparable to the placement.

SOC 601 (R S 601): Human Ecology, 3 cr. (3 and 0) S Interrelationships among the physical world, modifications in natural environments, human settlement patterns and institutions that both encourage and regulate environmental modification. Emphasis is on conditions whereby natural resources become public policy concerns. Prerequisites: Sophomore standing.

SOC 604: Sociological Theory, 3 cr. (3 and 0) S Development of sociological theory. Required of all sociology majors. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 614: Policy and Social Change, 3 cr. (3 and 0) S Sociological perspective is used to examine policy development, implementation and evaluation in the public and private sectors. Focuses on values and ethics and the effects of social change efforts on the outcomes of policy formation, social planning and political processes. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 630: Sociology of Organizations, 3 cr. (3 and 0) S Analysis of administrative organizations and voluntary associations; applied analysis of their formal and informal group relations, communications and effectiveness. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 633: Globalization and Social Change, 3 cr. (3 and 0) S Social and historical causes of development and underdevelopment societies; sociological theories of development. Selected countries are examined in an international context. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 635: Leadership and Team Building, 3 cr. (2 and 3) S Introduction to leadership and the process of building effective teams. Examines various sociological perspectives on leadership and their role in developing and maintaining various types of groups. Students will participate in experiential learning opportunities. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 640: Leisure, the Mass Media and Culture, 3 cr. (3 and 0) S Production and consumption of leisure activities in contemporary society; popular culture and the mass media as dominant leisure forms; social effects of leisure activities; relationship between work and leisure. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 641: Sociology of Sport, 3 cr. (3 and 0) S Sport as a social phenomenon emphasizing leadership, discrimination, socialization, communication, conflict and cooperation in sports; emerging social issues in contemporary sports. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 660: Race, Ethnicity and Class, 3 cr. (3 and 0) S Sociological perspectives on race, ethnic relations and social stratification; analysis of the impact of social class on minority movements. (Not open to students who have taken SOC 431.) Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 662: Men, Masculinity and Society, 3 cr. (3 and 0) S Masculinity and social order: norms, roles, relationships and activities; identity and socialization: work, family, sexuality, war and sports; subcultural comparisons. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 663: Sociology of Parenting, 3 cr. (3 and 0) S Sociology of parenting, child rearing, parenting styles and outcomes; social change and parenting; variations by sex, race and class; cross-cultural comparisons; research-based with applied orientation. Prerequisites: SOC 201 and junior standing.

SOC 671 (R S 671): Demography, 3 cr. (3 and 0) F Demographic concepts, theory and research methods for vital statistics, migration and population distribution and projections; collection and processing of demographic data and organization of demographic data systems. Prerequisite: ANTH 201 or SOC 201 or R S 301.

SOC 680: Medical Sociology, 3 cr. (3 and 0) S Sociocultural factors in the etiology and treatment of physical illness; medical occupations and professions; organization of health-care delivery systems. Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 681: Aging and Death, 3 cr. (3 and 0) S Sociological orientation to aging populations focusing on the impact of health care, welfare and retirement systems; dying as a social phenomenon; suicide; euthanasia; funerals. (Not open to students who have taken SOC 383.) Prerequisites: SOC 201 and junior standing or permission of instructor.

SOC 684: Child Abuse and Treatment, 3 cr. (3 and 0) S Child abuse, neglect and exploitation as major social problems; causes, effects and prevalence of physical, sexual and emotional maltreatment; definitional controversies; social policy and legal considerations; therapeutic approaches for children and their caretakers; child maltreatment and the judicial system. Prerequisites: SOC 201 and senior standing or permission of instructor.

SOC 693: Sociology of Corrections, 3 cr. (3 and 0) S Analysis of correctional alternatives. Topics include sentencing strategies and their impact, prison populations (male, female and juvenile), inmate social structures, treatment and custody issues, community based alternatives (probation, parole, electronic monitoring and work re-
lease), and correctional management issues. **Prerequisite**: SOC 201 and 390 or permission of instructor.

**SOC 803: Survey Designs for Applied Social Research, 4 cr. (3 and 2) F**
Survey research design principles, procedures and techniques used in applied sociology; instrumentation; data collection and management and their interpretation. **Prerequisite**: SOC 303 or equivalent.

**SOC 805: Evaluation Research, 3 cr. (3 and 0) S**
Research methods and techniques of computer-assisted data management and analyses used in evaluating policies, operation, organization and effectiveness of social programs in the private and public sectors; microcomputer software packages available for these purposes. **Prerequisite**: SOC 803.

**SOC 807: Advanced Research Methods, 3 cr. (3 and 0) S**
Advanced methods in social research; measuring techniques and data analysis strategies; practical experience in various phases of social research. **Prerequisite**: SOC 803.

**SOC 810: Theoretical Models in Applied Social Research, 3 cr. (3 and 0) S**
Comparative analysis of theoretical models in sociology and their uses in applied research; uses of these models in research concerned with the processes of industrial and economic growth and development. **Prerequisite**: SOC 404 or equivalent.

**SOC 812: Seminar on Marriage and the Family, 3 cr. (3 and 0) N**
Current family research and theory in areas such as problem-solving strategies, developmental processes, family and work life, changes throughout the life-span including premarital sexuality, pregnancy, divorce, marriage enrichment and courtship. Topics vary from year to year. May be repeated for credit. **Prerequisite**: SOC 311 or equivalent.

**SOC 830: Human Systems Development: Organizations and Society, 3 cr. (3 and 0) F**
Complex organizations such as human systems with primary focus on development and change, interorganizational relations and the influence of these structures on the community life. **Prerequisite**: SOC 430 or equivalent.

**SOC 833: Work and Society, 3 cr. (3 and 0) S**
The history of industrial development and its consequences at the societal, community and individual levels; current issues involved in the relationship between work and society; strategies for developing research and policy related to these issues. **Prerequisite**: SOC 330 or equivalent.

**SOC 836: Environmental Sociology, 3 cr. (2 and 3)**
Introduction to environmental sociology; relationship among human behavior, society and the environment; focuses on the natural rather than the built environment; U.S. and global issues. **Prerequisite**: Graduate student status.

**SOC 882: Systems of Marital and Family Therapy, 3 cr. (3 and 0)**
Theories and techniques of marital and family therapy. **Prerequisite**: Permission of instructor.

**SOC 891: Master's Thesis Research**
Credit to be arranged.

**SOC 892: Selected Topics in Sociology, 3 cr. (3 and 0) N**
Current topics in applied sociology not covered in other graduate courses. May be repeated once for credit.

**SOC 895: Field Experience, 3-6 cr. SS**
Supervised full-time work experience in a public agency or private enterprise to gain planning, research and policy experience. May not be repeated for credit. Graded on a pass/fail basis. **Prerequisite**: 12 hours of 800-level course work in sociology.

**SOC 896: Independent Study, 1-3 cr. (1-3 and 0)**
Individual readings or research in a topic area selected according to a student's interests or program needs. May be repeated for up to six hours. Graded on a pass/fail basis. **Prerequisite**: Approval of the director of graduate studies.

**ANTH 601: Cultures and the Environment, 3 cr. (3 and 0)**
Global impact of humans on the environment; prehistoric development and historical consequences of population growth, agriculture, political and economic complexity; future implications. **Prerequisites**: ANTH 201 and junior standing or permission of instructor.

**ANTH 603: Qualitative Methods, 3 cr. (3 and 0)**
Methods and techniques of qualitative field research including participant observation, ethnographic interviewing, data analysis and report writing. **Prerequisite**: ANTH 201 or permission of instructor.