341. Transport Requirements and Programming  
Fall, Winter, Summer. 4(4-0) EC 200.  
Transportation and distribution systems are presented as functional entities capable of introducing change into the economic system and capable of reacting to change in other segments of the economy. Subject matter includes regional economic growth, inter-regional trade, macro-location theory, transportation and distribution system alternatives, regional transportation policy.

351. Retail Administration  
Fall, Winter, Spring. 4(4-0) 300.  
Survey of retailing and its role in distribution. Management policy areas studied include administrative organization, location decisions, layout planning, merchandising, sales promotion, personnel and over-all planning and coordination in retailing firms. Analysis of illustrative cases.

400H. Honors Work  
Winter, Spring. 1 to 15 credits. Approval of department.  
Investigates models, concepts and research findings of particular significance to effective decision-making in administration of marketing and transportation systems.

445. Physical Distribution Analysis  
Fall, Winter, Summer. 4(4-0) 200.  
Analysis of the logistics of distribution systems for firms engaged in marketing and manufacturing. Component parts of each system are studied and analytical tools are presented for selecting those alternatives which will attain the distribution goals of the firm.

448. Passenger Transportation Systems  
Spring. 4(4-0) Interdepartmental with the School of Hotel, Restaurant and Institutional Management.  
Composition and objectives of major passenger travel markets. Analysis of carrier services, pricing, and promotional practices and policies, competitive and cooperative relations. Review of major proposals for change and expansion of service systems.

452. Retail Policies and Problems  
Fall. 4(4-0) 351.  
Analysis of retail problems with intensive examination of selected current major problem areas. Critical review of controls and techniques used to achieve management objectives. Cases, readings and field work.

476. Canadian-American Studies  
For course description, see Interdisciplinary Courses.

802. Administrative Research Methods  
Fall. 4(4-0) 860; concurrently, 5(5-0) 351.  
Research process, methods and techniques as a basis for business planning and problem solving. Covered are scientific methodology and problem solving, selected models and model building, selected statistical decision techniques and computer applications.

804. Marketing Concepts and Processes  
Fall, Winter. 4(4-0) AFA 839; EC 351.  
Interdepartmental with Food Systems Economics and Management.  
The business is considered relative to its external environment. Institutions comprising the marketing system, the principal environmental opportunities and constraints facing the marketing manager, and the major marketing informational, control and coordination devices available to the firm will be studied.

805. Marketing: Models, Theories and Strategies  
Fall, Winter, Spring. 4(4-0) 860; concurrently.  
Analysis of marketing functions, programming, marketing effort, and control and coordination are considered within the context of industrial and consumer demand. Strategic and decision-making aspects of marketing are stressed.

807. Foundations of Industry  
Fall, Summer.  
Functional appraisal of materials foundation of business enterprises, emphasizing allocation, support capacity and essential characteristics of present and future industrial regions as they affect business decisions, opportunities and responsibilities.
810. Emerging Issues in the Business Environment
Winter, Spring, Summer. 4(4-0) Thirty credits of MBA core program, or approval of department. Selected significant current organizational, social, political, and cultural issues are examined in relation to business policy and decision making. Discussions, readings and research reports. Topics selected may vary from term to term.

810. Macro Distribution Systems
Fall, Winter. 4(4-0)
Provides a functional knowledge of transportation and distribution systems. Areas covered include the geography of marketing, the comparative basis for trade, transportation costs and trade restrictions, functional analysis of carriers, sources of flow data, introduction to distribution systems, and the emerging programs of national policy.

811. Seminar in Marketing
Fall, Winter, Spring. Summer. Variable credit. May re-enroll for a maximum of 15 credits.

812. Analysis of Logical and Distribution Systems
Winter. 4(4-0)
Specific tools developed for the individual firm in analyzing spatial arrangements of markets, plant and warehouse location, inventory systems, selection of carrier alternatives and selection of physical movement channels.

823. Seminar in Retailing
Fall. 4(4-0)
Critical analysis of available generalizations concerning the economic, social, and commercial role of retailing. Specific attention to concepts of retail competition and productivity. Emphasis on research in improving retail efficiency.

831. Advanced Food Processing and Distribution Management
Fall, Spring. 4(4-0) May re-enroll for a maximum of 8 credits. Approval of Director of Food Marketing Management Program. Note: Food industry adjustment to changing social, economic, and governmental environment. Managerial principles and techniques applied to food processing and distribution. Student interaction with industry, labor and government representatives.

841. Management of Transportation and Distribution Systems
Spring. 4(4-0)
Integrative course dealing heavily on the content of 810 and 812, bringing them to a decisive focus on the logistics of macrodistribution and microdistribution systems. Cases are used to illustrate the principles and develop a relevant context.

851. Market Behavior and Competitive Strategy
Fall, Winter, Summer. 5(5-0) 805. Industrial and consumer market structure and behavior and their impact upon the firm's competitive operations and actions.

853. Market Programming
Winter, Spring. Summer. 4(4-0) 805 or concurrently, MGT 844. Planning processes leading to programming the various elements of market cultivation. Major emphasis given to the development of a total marketing strategy for the firm. Case analysis.

854. Problem-Solving Processes in Marketing
Fall, Spring. 4(4-0) 853.

The problem-solving process is approached through the investigation and solution of current marketing problems by research teams.

855. Market Cost-Revenue Analysis
Winter. 4(4-0) One course in accounting and one in marketing. Interdepartmental with the Accounting and Financial Administration Department. Analytical tools for use in planning and controlling marketing activities. Emphasis on determining costs of price and the determination of factors causing marketing cost differences and the assignment of costs to these factors. Application of tools to determination of expenditure-revenue patterns and market potentials.

880. International Business
Winter, Summer. 4(4-0) 804 and EC 860.
The economic environment within which the international firm operates is presented. Special emphasis on related trade and payments theory, regional analysis, and economic development to strategy formulation of the firm. Marketing, financial, and organizational factors are considered.

882. International Marketing
Spring. 4(4-0) 805, 860 or approval of department. Models for headquarters planning and control of international marketing operations are developed. Socio-cultural, institutional, and economic variables are considered in studying marketing operations in foreign environments.

883. Problems in International Business
Fall. 4(4-0) 860 or approval of department. Examination of strategies and organization for international business. In-depth consideration of headquarters, overseas personnel, marketing, financial, and legal issues.

890. Special Problems
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

905. Analysis of Business Enterprise Systems
Fall. 3 credits. 805; MGT 806. Research concepts and scientific methods for the study of business enterprise systems. The design of research, formulation of hypotheses, concepts of measurements and use of quantitative methods in the study of business systems.

907. Theory of Transportation—Distribution Systems
Fall. 4(4-0)
Examines the functional aspects of transportation-distribution systems. Develops the relevant elements of networks, systems, and economic theory with empirical design. Applications to the design evaluation, and control of representative micro and macro systems.

910A. Advanced Research in Marketing I
Winter. 4(4-0) Second-year doctoral students in marketing.
Advanced concepts and quantitative methods in the scientific investigation of market phenomena and the tools of market cultivation.

910B. Advanced Research in Marketing II
Spring. 5(5-0) 910A.
Continuation of MTA 910A.

911A. History of Market Thought
Fall. 4(4-0) May re-enroll for a maximum of 15 credits. 821.

Traces the evolution of marketing institutions, theories and techniques. The influence of changing environmental and technological factors on marketing practice and thought. Readings in retrospectives and original material, discussion and research papers.

911B. Seminar in Macro Marketing
Winter. 4(4-0) May re-enroll for a maximum of 15 credits. 911A.
Examines the relationships between competition, marketing and corporate and economic growth. Emphasis is given to a functional examination of competition and the central role of innovation in the process.

912. Research Methodology in Transportation-Distribution Systems
Winter. 4(4-0) 812, 909.
Research methodology in the design and administration of transportation-distribution systems. Emphasis on techniques and methodology for conducting system design studies and evaluation of common implementing problems.

921. Advanced Sampling and Estimation Techniques in Business Administration
Spring. 4(4-0)
Research design, estimation and decision criteria including Bayesian estimators, small sampling, stratified sampling, random and non-random sampling, information theory, powers of tests.

941. Transportation-Distribution Development Policy
Spring. 4(4-0) 910, 912.
Applications in theory, principles, and processes developed in MTA 910 and MTA 912 to the design of research processes and projects in significant transport and distribution problems.

957. Seminar in Micro Marketing
Spring. 4(4-0) 911A.
Examines the current state of theory concerning the planning and implementation of marketing strategies and programs, and tries to identify where future research is needed and/or will be most useful to marketing and business managers.

999. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

MATHEMATICS

College of Natural Science

One and one-half years of high school algebra and one year of geometry and a satisfactory score on the placement test are prerequisites for all courses in the Mathematics Department which carry credit.

081. Elements of Algebra
Fall, Winter. 0(3-0) [3(3-0)]
Current enrollment in 103.

Fractions, decimals, real number properties, algorithms of arithmetic, simple factoring, percents, reciprocals, linear equations, integer exponents, applied problems, coordinate systems, graphing, solving equations by graphing.

082. Intermediate Algebra
Fall, Winter. 0(2-0) [2(2-0)]
Current enrollment in 104, one year of high school algebra.

Properties of real numbers, polynomials, factoring, rational functions, exponents, radicals, first and second degree equations, linear inequalities, complex numbers, word problems.

See page A-2 item 3.