

MANAGEMENT

919*. **Procurement and Sourcing Management Strategy**
 Spring of odd-numbered years. 3(3-0)
 P: MGT 918 R: Ph.D. students

Procurement/sourcing management concepts and underlying theory. Complex management issues affecting the contribution of the function/process to competitiveness of the firm.

920*. **Seminar in Manufacturing Strategy**
 Fall of even-numbered years. 3(3-0)
 P: MGT 801 and MGT 803 R: Ph.D.

students
 Seminar on research in manufacturing strategy. Quality, technology, flexibility, innovation, and theory building in manufacturing strategy.
 QP: MGT 801 MGT 821 QA: MGT 920

921*. **Seminar in Inventory Management**
 Fall of odd-numbered years. 3(3-0)
 P: MGT 801 and MGT 803 R: Doctoral

Business
 Research literature in inventory management. Classical inventory control models, just-in-time, multi-echelon inventory control, and forecasting.
 QP: MGT 801 MGT 821 QA: MGT 921

922*. **Seminar in Production Planning & Scheduling**
 Spring of even-numbered years. 3(3-0)
 P: MGT 801, MGT 803, MGT 834 R: Ph.D.

Business
 Research literature in Production Planning and Scheduling. Aggregate and disaggregate planning, master scheduling, material requirements planning, lot-sizing, short-term capacity planning, and scheduling.
 QP: MGT 801 MGT 821 MGT 834 QA: MGT 922

923*. **Topics in Operations Management**
 Spring of odd-numbered years. 3(3-0)
 P: MGT 801, MGT 803 R: Doctoral

Business
 Current research in the field of operations management. Topics will vary in order to allow the course to focus on current issues.
 QP: MGT 801 MGT 821 QA: MGT 923

999*. **Doctoral Dissertation Research**
 Fall, Spring, Summer. 1 to 24 credits.
 May reenroll for a maximum of 99 credits.
 R: Ph.D. Business Management

QA: MGT 999

MARKETING AND TRANSPORTATION ADMINISTRATION MTA

300*. **Managerial Marketing**
 Fall, Spring, Summer. 3(3-0)
 P: EC 201 or EC 251H; ACC 201 or ACC 230 or ACC 251H. R: Open only to juniors and seniors in Business and in other programs that list MTA 300 as a catalog requirement.

Analysis of and strategic integration of buyer behavior, segmentation, positioning, demand analysis, information, pricing, promotion, channels, product policies, and ethics in consumer, reseller, industrial, and service markets.
 QP: EC 201 OREC 251HACC 201OR QA: MTA 300

302*. **Consumer and Organizational Buyer Behavior**
 Fall, Spring, Summer. 3(3-0)
 P: MTA 300. R: Open only to the juniors and seniors in the College of Business.

Application of consumer behavior principles to customer satisfaction, market planning, and marketing mix decisions. Ethical, diversity, and international issues.
 QP: MTA 300 QA: MTA 302

310*. **International and Comparative Dimensions of Business**
 Fall, Spring, Summer. 3(3-0)
 P: EC 202 or EC 251H; MGT 302 or

concurrently, MTA 300 or concurrently. R: Open only to juniors and seniors in the College of Business, and in other programs that list MTA 310 as a catalog requirement.

International and cross-cultural study of business decisions, enterprises, markets, and institutions. Globalization of industries and firm competitiveness. International business transactions and entry strategies.
 QP: MTA 300 EC 202OREC 251HMG 302
 QA: MTA 301

317*. **Quantitative Business Research Methods**
 Fall, Spring, Summer. 3(3-0)

Interdepartmental with the Department(s) of Statistics and Probability.
 P: STT 315 R: Juniors and Seniors

Business
 Application of statistical techniques including forecasting, to business decision making. Included are applications of linear regression and correlation, analysis of variance, selected non-parametric tests, time series, and index numbers.
 QP: STT 315 ORSTT 201ORSTT 421 QA: MTA 317

319*. **Marketing Research**
 Fall, Spring. 3(3-0)
 P: MTA 300, STT 315. R: Open only to

juniors and seniors in the College of Business.
 Research methods designed to obtain information for marketing decisions. Research design, data collection, and interpretation of information to provide a customer orientation.
 QP: MTA 300 MTA 317 QA: MTA 319

335*. **Food Marketing Management**
 Spring. 3(3-0) Interdepartmental with the Department(s) of Agricultural Economics.

P: FSM 200 or MTA 300 R: Juniors and Seniors
 Business & programs for which MTA 335 is catalog requirement
 Management decision-making in food industry organizations (processors, wholesalers, retailers). Topics: marketing and sales in response to customer and consumer needs, distribution, and merchandising systems in domestic and international contexts.
 QP: MTA 300 ORFSM 200 QA: MTA 335

345*. **Logistics Management**
 Spring. 3(3-0) Interdepartmental with the Department(s) of Management.
 P: MGT 303 R: Juniors and Seniors

Business
 Analysis of the activities and decisions necessary to plan, implement, and control private and public physical distribution and transportation channel systems. Emphasis on physical, human, informational, and organizational system components.
 QP: MGT 303 ORMTA 301 QA: MTA 345

351*. **Retail Management**
 Fall, Spring, Summer. 3(3-0)
 P: MTA 300. R: Open only to juniors and

seniors in the College of Business and in other programs that list MTA 351 as a catalog requirement.
 Domestic and international retailing structure, environment, and development. Managerial strategy. Locational, purchasing, organizational, personnel and promotional techniques. Retail budgeting and control. Social and ethical considerations.
 QP: MTA 300 QA: MTA 351

400H*. **Honors Work**
 Fall, Spring. 1 to 3 credits. May reenroll for a maximum of 12 credits.
 R: Juniors and Seniors Honors

Permis-
 sion of the Department
 Investigates models, concepts, and research findings of particular significance to effective decision making in administration of marketing and transportation systems.
 QA: MTA 400H

413*. **Personal Selling and Sales Management**
 Fall. 3(3-0)
 P: MTA 302 R: Juniors and Seniors

Business
 Planning, implementing, and controlling the firm's personal selling function. Analysis of sales territories; mgmt of recruitment, selection, training, and motivation of sales personnel; evaluation of sales performance. Diversity and ethical issues.
 QP: MTA 302 QA: MTA 413

415*. **International Marketing Management**
 Fall, Spring. 3(3-0)
 P: MTA 300, MTA 310. R: Open only to

juniors and seniors in the College of Business.
 Marketing decisions, strategies, and operations of the firm involved in international business. Researching global market opportunities and formulating market entry strategies. Developing and implementing the international marketing program.
 QP: MTA 300 ANDMTA 301OREC 428 QA: MTA 415

439*. **Food Business Analysis and Strategic Planning**
 Fall. 3(3-0) Interdepartmental with the Department(s) of Agricultural Economics.

P: MTA 335 or FSM 335; STT 201 or STT 200 or STT 315 R: Juniors and Seniors
 Business and programs which MTA 439 is catalog requirement
 Principles and techniques of business analysis and planning applied to food firms. Topics developed in written projects: food trend forecasts, market potential, competition and cost analyses, business and strategic planning.
 QP: MTA 335 STT 201STT 315 QA: MTA 439

442*. **Traffic and Transportation Management**
 Fall. 3(3-0) Interdepartmental with the Department(s) of Management.
 P: MGT 304 and MTA 345 R: Juniors and

Seniors
 Business
 Micro analysis of purchasing and operating transportation services including carrier selection, pricing/rates, negotiation. Managing the transp. function including consolidation, fleet mgmt, transp. strategies; international and intermodal distribution.
 QP: MGT 303 MTA 341MTA 345 QA: MTA 442

446*. **Physical Distribution Operations**
 Spring. 3(3-0) Interdepartmental with the Department(s) of Management.
 P: MGT 304 and MTA 345 R: Juniors and

Seniors
 Business
 Micro analysis of distribution operations from a firm and facility perspective. Emphasis on customer service strategy, information and order processing systems, warehouse design and operations, material handling systems, and assessment of performance.
 QP: MGT 303 MTA 341MTA 345 QA: MTA 446

MARKETING AND TRANSPORTATION ADMINISTRATION

460*. Marketing Strategy
 Fall, Spring, Summer. 3(3-0)
 P: MTA 302, MTA 319, and one other
 MTA course. R: Open only to seniors in the College of Business.
 Identification and analysis of managerial marketing issues. Integration of marketing concepts and theories through case analysis. Ethical and international applications.
 QP: MTA 302 MTA 319 QA: MTA 460

470*. Materials and Logistics Policy
 Fall, Spring. 3(3-0)
 Interdepartmental with the Department(s) of Management.
 P: MGT 304 and MTA 345 and one MLM elective R: Juniors and Seniors Business and programs which MTA 470 is catalog requirement
 Analysis of comprehensive cases incorporating strategic and tactical decisions throughout the mat'ls and logistics mgmt process. Cases include identification/definition of MLM problems, eval. of integrated alternatives and development of recommendations
 QP: MGT 304 MTA 345 QA: MTA 407

490*. Independent Study
 Fall, Spring, Summer. 1 to 3 credits.
 May reenroll for a maximum of 6 credits.
 R: Open only to majors in Marketing and Transportation Administration and in Materials and Logistics Management. Approval of department.
 Supervised program of independent library or field research designed to supplement classroom study.
 QA: MTA 409

491*. Topics in Marketing
 Fall, Spring. 3(3-0) May reenroll for a maximum of 6 credits.
 P: MTA 300. R: Open only to juniors and seniors in the College of Business.
 Current issues in specialized marketing, logistics knowledge of marketing, and environmental analysis. Strategy development for control.
 QP: MTA 300 QA: MTA 399

801*. Business Communication I
 Fall, Spring. 2(2-0)
 R: Masters Business MBA
 Analysis of business communication situations; planning and execution of business communications; development of oral and written communication skills.

802*. Business Communication II
 Fall, Spring. 1(1-0)
 P: MTA 801 R: Masters Business MBA
 Continuation of Business Communication I, integrating and applying written and oral business communication skills with other courses in the MBA Program.

805*. Marketing Management
 Fall, Spring. 3(3-0)
 R: Graduate Business
 Strategic and decision-making aspects of marketing functions. Analysis/coordination/execution of marketing programs; development of strategies and tactics. Segmentation, marketing mix, market response modeling, and ethics in a global context.
 QP: ACC 839 MGT 806MGT 833 QA: MTA 805

806*. Marketing Decisions Support Systems
 Fall, Spring. 3(3-0)
 P: MTA 805 R: Graduate Business
 Introduction to analytical marketing decision-making using existing data bases. Expert system development and application in marketing management.
 QP: MTA 805

807*. Customer-Driven Strategies
 Fall, Spring. 3(3-0)
 P: MTA 806 R: Graduate Business
 Development of marketing strategies based on the analysis and understanding of consumer and organizational buyers. Strategy development designed to meet or exceed customers' expectations.
 QP: MTA 805

808*. Market-Driven Strategies
 Fall, Spring. 3(3-0)
 P: MTA 806 R: Graduate Business
 Development of marketing strategies based on the analysis and understanding of competitors. Alternative approaches to competitive strategies are considered.
 QP: MTA 805 QA: MTA 551

809*. Logistics and Transportation Strategy
 Fall, Spring. 3(3-0)
 Interdepartmental with the Department(s) of Management.
 P: MGT 800 R: Graduate Business
 The planning, control and measurement process for logistics and transportation systems. Customer service, transportation, inventory, order processing, warehousing and material handling.
 QP: MGT 800 QA: MTA 809

810*. Product Innovation and Management
 Fall. 3(3-0)
 P: MTA 805 or permission of department
 R: Graduate
 Analytic, decision-making, and planning concepts and tools available to product managers. Topics include: new product policy and development, organizational issues, and product modification and deletion.
 QP: MTA 805

811*. Marketing Communication
 Spring. 3(3-0)
 P: MTA 805 R: Graduate Business
 Analysis, development, and execution of marketing communication programs for consumer, industrial, and service firms. Communication mix objectives, positioning, budgeting, media, trade promotion, brand name strategies, and regulation/ethical issues.
 QP: MTA 805

812*. Logistics Research and Analysis (MLM)
 Fall. 3(3-0) Interdepartmental with the Department(s) of Management.
 P: MTA 809 R: Masters Business
 Research methodology in the design and analysis of transportation and distribution systems. Emphasis on methodologies for system design, customer service, and policy studies.
 QP: MTA 809

813*. Marketing Research Methods
 Spring. 3(3-0)
 P: MTA 806 R: Graduate Business
 All aspects of marketing research from problem definition to report writing. The collection, analysis, and interpretation of primary data.
 QP: MTA 805 QA: MTA 802

816*. Transportation Policy and Plans (MLM)
 Spring. 3(3-0) Interdepartmental with the Department(s) of Management.
 P: MTA 809 R: Masters Business
 Policy models and managerial perspective on national and corporate policies used to shape the future of the transportation system; interaction of government, carrier management, and user logistics and distribution strategies
 QA: MTA 816

818*. Strategic Planning (AMP)
 Fall. 2(2-0)
 R: Masters Business Business Administration 23 60 Advanced Management Program students
 Analysis of business strategic planning, models and methods. The relationship of strategic intent, business missions and planning hierarchies. Linking marketing, financial, and human resource strategic plans.

822*. Marketing Management (AMP)
 Spring. 3(3-0)
 P: MTA 818 (AMP) R: Masters of Business Administration Business Business Administration 23 60 Advanced Management Program students only
 Strategic and decision-making aspects of marketing analysis, coordination, and execution of marketing programs. Includes segmentation, marketing mix, market response modeling, and ethics.
 QP: NONE QA: MTA 805

824*. Marketing Channel Management
 Spring. 3(3-0)
 P: MTA 805 R: Graduate Business
 Development of marketing channel strategies, analysis of marketing institutions, and management of marketing channel relationships. Design, selection, and performance measurement of channel structures in domestic and international settings.
 QP: MTA 805 QA: MTA 824

831*. Food Marketing Management
 Fall. 3(3-0) Interdepartmental with the Department(s) of Agricultural Economics.
 P: MTA 805 or approval of department
 R: Graduate Business or approval of department
 Marketing management decisions in food firms. Dialogue with executives, current readings, and case-studies. Consumer orientation, computer technologies, food system cost reduction, global opportunities, environmental and social issues.
 QP: MTA 805 QA: MTA 831

841*. Materials and Logistics Policy (MLM)
 Fall, Spring. 3(3-0)
 Interdepartmental with the Department(s) of Management.
 P: MTA 809 and MGT 801 R: Masters Business
 Comprehensive case analysis of materials and logistics management strategy, policy, and planning. Cases emphasize customer satisfaction, quality, organization, information use, and strategic alliance issues.
 QP: MTA 809 MGT 803 QA: MTA 841

860*. International Business
 Fall, Spring. 3(3-0)
 R: Graduate Business
 Management of the firm in the changing multinational environment. Assessment of opportunity afforded by international modes of operations, markets, financial strategies, services, and resources. Evaluation of competitive strategy.
 QA: MTA 860

862*. International Marketing
 Spring. 3(3-0)
 P: MTA 805 & MTA 860 R: Graduate Business
 Marketing decisions, strategy, performance and operations of the international firm. Multinational enterprises, exporters, service marketers, contractors and other business entities engaged in business across international boundaries.
 QP: MTA 860 ANDMTA 805 QA: MTA 862

865*. Frontiers of Business
 Spring. 3(3-0)
 R: Masters Business MBA Second-year status in the MBA Program
 Analysis of emerging issues in business administration. Perspectives on new and evolving areas of business that are of importance to business managers.
 QP: MTA 805

880*. Seminar in Marketing & Logistics
 Fall, Spring. 3(3-0) May reenroll for a maximum of 6 credits.
 P: MTA 805 R: Graduate Business
 Frontier topics in marketing and logistics. Meet specialized needs caused by an environment of rapid change.
 QP: MTA 805

MARKETING AND TRANSPORTATION ADMINISTRATION

- 881*.** **Professional Development Seminar**
Fall. 1(1-0)
R: Masters Business Approval of Department
Development of strategic direction to students' professional careers. Professional managerial skills enhancement via participating in a dialogue and learning activities with expert consultants in the field and with industry executives.
- 890*.** **Special Problems**
Fall, Spring, Summer. 1 to 3 credits.
May reenroll for a maximum of 6 credits.
P: MTA 805 R: Graduate Business Approval of department
An individually designed course to meet the needs of graduate students in marketing and transportation.
QP: MTA 805 QA: MTA 890
- 905*.** **Theory Development & Research Design in Marketing**
Fall. 3(3-0)
R: Doctoral
Research concepts and scientific methods for the study of marketing. Design & research, formulation of hypotheses, concepts of measurements, and use of quantitative methods.
QA: MTA 905
- 906*.** **Quantitative Methods in Marketing**
Spring. 3(3-0)
P: MTA 905 or approval of department
R: Doctoral
Advanced concepts and quantitative methods in the scientific investigation of marketing phenomena. Focuses on the use of multivariate analytic tools.
QP: MTA 905 QA: MTA 906
- 907*.** **Causal Modelling in Marketing**
Fall. 3(3-0)
P: MTA 906 R: Doctoral
Lecture and discussion of advanced quantitative statistical methods in marketing. Substantial emphasis on causal modelling.
QP: MTA 906 QA: MTA 907
- 908*.** **Marketing Decision Models**
Fall. 3(3-0)
P: MTA 906 R: Doctoral
Marketing models for decision-making purposes. Focuses on applications in new product development, pricing, distribution, advertising, and sales promotion.
QP: MTA 906 QA: MTA 908
- 920*.** **History of Marketing Thought**
Fall. 3(3-0)
P: MTA 805 or equivalent R: Ph.D. Business
Traces the evolution of marketing institutions, techniques, theories and criticisms. The influence of changing environmental and technological factors in marketing practice and thought.
QP: MTA 805 QA: MTA 920
- 921*.** **Theories of Competition in Marketing**
Spring. 3(3-0)
P: MTA 920 R: Doctoral Business
Examine the relationships among competition, marketing, and corporate and economic growth. Competition phenomena are studied through a variety of disciplines, including marketing, economics, political science, and sociology and social psychology.
QP: MTA 920 QA: MTA 921
- 922*.** **Seminar in Social Sciences in Marketing**
Spring. 3(3-0)
P: MTA 906 or concurrent R: Ph.D. Business
Application of social science topics in marketing.
QP: MTA 906 QA: MTA 922
- 923*.** **Seminar in Spatial/Temporal Marketing**
Spring. 3(3-0)
P: MTA 920 R: Ph.D. Business
Examines the current state of theory concerning the planning and implementation of marketing strategies and programs in logistics, channels, and pricing to identify future research requirements.
QP: MTA 920 QA: MTA 923
- 924*.** **Special Topics Seminar**
Fall, Spring. 3 to 3 credits in increments of 3 credits. May reenroll for a maximum of 6 credits.
R: Ph.D. Business
To allow doctoral students to pursue directed reading and research on an issue of interest in Marketing.
QP: MTA 921 QA: MTA 924
- 930*.** **Theory of Transportation-Distribution Systems**
Fall of odd-numbered years. 3(3-0)
P: MTA 805 or equivalent R: Ph.D. Business
The micro-level course in transportation-distribution research which examines system integration. Develops the relevant elements of networks, systems and economic theory with empirical design. Applications to the design, evaluation, and control of log
QP: MTA 809 QA: MTA 930
- 931*.** **Transportation/Distribution Research Methods**
Spring of odd-numbered years. 3(3-0)
P: MTA 930 R: Ph.D. Business
Research methodology in the design and administration of transportation and distribution systems. Emphasis on techniques and methodology for conducting system design, customer service and policy studies.
QP: MTA 930 QA: MTA 931
- 932*.** **Transportation & Distribution Development Policy**
Fall of even-numbered years. 3(3-0)
P: MTA 805 or equivalent R: Ph.D. Business
The macro-level research and theory course in Transportation Distribution. The interaction of government, carrier, and user logistics and distribution strategies, particularly at the macro-corporate and national policy levels.
QP: MTA 931 QA: MTA 932
- 940*.** **International Business Theory**
Fall of even-numbered years. 3(3-0)
P: MTA 860 or MTA 862 R: Ph.D. candidate
Comprehensive review and evaluation of theories explaining International Business phenomena. Varying perspectives on International Business activities, concepts, and frameworks.
QP: MTA 860 OR MTA 862
- 941*.** **International Business Research Issues**
Spring of odd-numbered years. 3(3-0)
P: MTA 940 R: Ph.D.
Perspectives on application of scientific method of international business research. Research design, measurement, data analysis and interpretation. Evolution of research in International Business
QP: MTA 862 QA: MTA 863
- 945*.** **Directed Research Paper**
Fall, Spring, Summer. 1(1-0)
P: MTA 921 R: Doctoral Business MTA
In this course a MTA Doctoral Student will write a publishable research paper under the direction of a senior faculty member.
QP: MTA 921
- 999*.** **Doctoral Dissertation Research**
. 1 to 24 credits. May reenroll for a maximum of 99 credits.
R: Ph.D. Approval of Department
QA: MTA 999

MATHEMATICS

MTH

- 0823.** **Intermediate Algebra**
Fall, Spring, Summer. 0(4-0)
R: Designated score on mathematics placement test.
Properties of real numbers. Factoring. Roots and radicals. First and second degree equations. Linear inequalities. Polynomials. Systems of equations.
QA: MTH 082 / 1043
- 110.** **College Algebra and Finite Mathematics**
Fall, Spring, Summer. 5(5-0)
P: MTH 0823 or designated score on mathematics placement test. R: Not open to students with credit in MTH 116 or MTH 120.
Functions and graphs. Equations and inequalities. Systems of equations. Matrices. Linear programming. Simplex algorithm. Probability.
QP: MTH 108 QA: MTH 110
- 116.** **College Algebra and Trigonometry**
Fall, Spring, Summer. 5(5-0)
P: MTH 0823 or designated score on mathematics placement test. R: Not open to students with credit in MTH 110 or MTH 120.
Functions and graphs. Equations and inequalities. Exponential and logarithmic functions. Trigonometric functions. Systems of equations. Binomial theorem.
QP: MTH 108 QA: MTH 111 MTH 109 MTH 108
- 120.** **Algebra and a Survey of Calculus**
Fall, Spring, Summer. 5(5-0)
P: MTH 0823 or designated score on mathematics placement test. R: Not open to students with credit in MTH 110 or MTH 116 or MTH 120.
Functions and graphs. Equations and inequalities. Systems of equations. Limits. Continuous functions. Derivatives. Applications of derivatives. Integrals. Fundamental theorem of calculus.
- 124.** **Survey of Calculus with Applications I**
Fall, Spring, Summer. 3(3-0)
P: Designated score on mathematics placement test. R: Not open to students with credit in MTH 120 or MTH 132 or MTH 152H.
Study of limits, continuous functions, derivatives, integrals and their applications.
QP: MTH 108 ORMTH 111
- 126.** **Survey of Calculus with Applications II**
Fall, Spring, Summer. 3(3-0)
P: MTH 120 or MTH 124. R: Not open to students with credit in MTH 133 or MTH 153H.
Application of partial derivatives, integrals, optimization of functions of several variables and infinite series
- 132.** **Calculus I**
Fall, Spring, Summer. 3(3-0)
P: MTH 116 or designated score on mathematics placement test. R: Not open to students with credit in MTH 120 or MTH 124 or MTH 152H.
Limits, continuous functions, derivatives and their applications. Integrals and the fundamental theorem of calculus.
QP: MTH 109 ORMTH 111 QA: MTH 112 MTH 122