

368 Science, Technology and Society
Fall. 3(3-0) Interdepartmental with Sociology. Administered by Department of Sociology. RB: (LBS 133) or some familiarity with basic concepts and methods in sociology. R: Not open to freshmen or sophomores.

Role of science and technology in social change. Values and ethics in contemporary perspectives, controversies, and cases. Science and technology as forms of knowledge.

415 Methods of Theoretical Physics
Spring of odd years. 4(4-0) Interdepartmental with Physics. P: (MTH 234 or concurrently or LBS 220 or concurrently or MTH 254H or concurrently) and (LBS 271 or PHY 183 or PHY 193H) and (LBS 272 or PHY 184 or PHY 294H) RB: (MTH 235 or concurrently or MTH 255H or concurrently)

Mathematical methods as applied to physical problems in mechanics, electromagnetism, and thermodynamics. Topics include multiple integration, vector calculus, Fourier series, ordinary and partial differential equations, eigenvector problems, coordinate transformations, and complex analysis. Applications include Newtonian mechanics, rigid body dynamics, heat flow, electrostatics, harmonic motion, and wave propagation.

425 American and European Health Care since 1800
Spring. 4(4-0) Interdepartmental with History. Administered by Department of History. P: Completion of Tier I writing requirement. R: Not open to freshmen.

Social and cultural transformation in health care delivery since 1800, primarily in North America and western Europe. Therapeutic revolutions. Medical education and professionalization. Social and alternative medicine. Managed care.

483 Literature and Medicine
Spring. 3(3-0) Interdepartmental with English. Administered by Department of English. P: Completion of Tier I writing requirement. R: Not open to freshmen or sophomores.

Human dimensions of medicine as seen in literature. Health, illness, mortality. Medical dilemmas. Physical and psychological self. Psychological theories used in interpreting literature.

490A Advanced Directed Study--Multidisciplinary
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School.

Directed advanced studies involving at least two LBS curricular areas: biology, chemistry, physics, mathematics, science and technology studies, computing.

490B Advanced Directed Study--Biology
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School.

Directed advanced studies in biology.

490C Advanced Directed Study--Chemistry or Physics

Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School.
Directed advanced studies in chemistry or physics.

490D Advanced Directed Study--Mathematics
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Open only to Lyman Briggs School majors.

Directed advanced studies in mathematics.

490E Advanced Directed Study--Science and Technology Studies
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School.

Directed advanced studies in science and technology studies.

492 Senior Seminar
Fall, Spring. 4(4-0) RB: (LBS 239 or LBS 330 or LBS 331 or LBS 332 or LBS 333 or LBS 334 or LBS 335 or LBS 355 or LBS 490E or HST 425 or ENG 483) and completion of Tier I writing requirement. R: Open only to juniors or seniors in Lyman Briggs School.

Selected problems in the study of science and technology as human activities, using philosophical, historical, literary, social science or interdisciplinary perspectives or methods. Development and defense of thesis paper.

493 Field Experience
Fall, Spring. 1 to 10 credits. A student may earn a maximum of 10 credits in all enrollments for this course. R: Open only to juniors or seniors in Lyman Briggs School.

Experiential learning related to the public or private practice of science and technology.

315 Managing Human Resources and Organizational Behavior
Fall, Spring, Summer. 3(3-0) R: Open only to juniors or seniors in the College of Business and to students in programs for which MGT 315 is a catalog-listed requirement. Not open to students in The School of Hospitality Business. SA: MGT 310

Formulation and administration of human resource policies in the business enterprise. Personnel planning, job analysis and evaluation, staffing. Compensation and labor relations. Employee safety. Training, development, and performance appraisal. Issues of diversity and ethics.

325 Management Skills and Processes
Fall, Spring, Summer. 3(3-0) R: Open only to juniors and seniors in programs for which MGT 325 is a catalog-listed requirement. SA: MGT 302

Managerial skills and processes in goal-directed institutions.

409 Business Policy and Strategic Management
Fall, Spring, Summer. 3(3-0) R: Open only to seniors in the College of Business. Not open to students in The School of Hospitality Business.

Techniques for building and maintaining consistent and effective policy and strategy. Major functions within a firm. Strategic integration, ethics, and international competition.

411 Organizational Staffing
Fall. 3(3-0) P: (MGT 315 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business.

Job and organizational analysis. Personnel planning, recruitment, selection and placement. Employment interviewing and testing. Validation of selection procedures, equal opportunity employer (EEO) guidelines, and affirmative action. Issues and diversity of ethics.

412 Compensation and Reward Systems
Spring. 3(3-0) P: (MGT 315 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business.

Designing compensation systems. Job evaluation, internal and external equity. Pay-for-performance plans and financial incentives. Wage and salary surveys. Benefits administration. Diversity and ethical considerations.

413 Personnel Training and Development
Spring. 3(3-0) P: (MGT 315 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business.

Designing and implementing training and development programs. Career stages and career planning. Needs analysis. Experimental design and program evaluation. Learning theories. Issues and diversity of ethics.

414 Diversity in the Workplace
Fall. 3(3-0) P: (MGT 315 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business.

Problems experienced by racial, ethnic, physically disabled, and other minorities in work organizations. Awareness training for managers. Ethical issues.

MANAGEMENT MGT

Department of Management The Eli Broad College of Business and The Eli Broad Graduate School of Management

293 Cooperative Education for Business Students

Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. Interdepartmental with Marketing and Supply Chain Management; Accounting; Economics; Finance; Hospitality Business. Administered by Department of Marketing and Supply Chain Management. R: By permission of the Department only.

Integration of pre-professional educational employment experiences in industry and government with knowledge and processes taught in the student's academic program. Educational employment assignment approved by the Department of Marketing and Supply Chain Management.

Management—MGT

- 460 Capstone for Management Majors (W)**
Fall, Spring. 3(2-2) P: (MGT 315 or concurrently) R: Open only to seniors in the Human Resource Management or General Management major.
Topics in management and organizational behavior.
- 490 Independent Study**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.
Supervised program of independent library research designed to supplement classroom study.
- 491 Special Topics in Human Resource Management**
Spring of even years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: (MGT 315 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospital-ity Business.
Topics in human resource management such as advanced organizational behavior, managing labor relations, organizational development, and organiza-tional theory and design.
- 804 International Management**
Spring of even years. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Business or approval of de-partment.
Management challenges and roles in a multinational business. Strategic planning in global firms, manag-ing people in international organizations, leadership, and the future of international management.
- 805 Special Topics in Management**
Spring of even years. 3(3-0) A student may earn a maximum of 9 credits in all enroll-ments for this course. P:M: (MBA 824) R: Open only to graduate students in the Col-lege of Business or approval of department. SA: MGT 815
Organizational behavior, organizational theory and design, human resource management, and strategic management.
- 810 Human Resource Management for General Managers**
Fall. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Human resource management functions performed by all managers. Design, administration, and evaluation of human resource activities. Needs assessment, program implementation and evalua-tion, information management and decision support, and international human resource management.
- 811 Human Resource Staffing**
Spring. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Scientific, legal, and administrative issues in the selection, placement, and promotion of individuals in organizations. Job analysis, recruitment, testing, interviewing, performance appraisal, and affirmative action.
- 813 Human Resource Training**
Spring. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Planning, implementing, and evaluating training programs. Career stages and career planning. Matching individual and organizational development needs.
- 821 Managing Internet Commerce**
Spring. 3(3-0) RB: Familiarity with a web browser. R: Open only to graduate students in the College of Business or approval of department. Not open to students with credit in MGT 820.
Managing Internet access and use. Evolution, infra-structure, technology and governance of the Inter-net. Commercial applications of the Internet. New business opportunities. Security of transactions. Legal issues.
- 822 Human Resource Compensation**
Fall. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Application of compensation principles to organiza-tional objectives. Strategic use of compensation systems for attracting, motivating, and retaining employees. Managerial aspects of paying employ-ees at all organizational levels.
- 824 Management and Organizational Behavior**
Spring. 3(3-0) R: Open only to students in Business Management of Manufacturing, non-business masters students, or doctoral students in all majors. SA: MGT 806
Micro and macro models of organizational behavior applied to the management of people, group pro-cesses, and organization design. Motivation, diver-sity, leadership, group performance, organization structure and culture.
- 831 Managing Power, Empowerment, and Involvement**
Fall. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Assessment and evaluation of power and empow-erment in organizations. High-involvement man-agement and organizational effectiveness. Ethical issues in the use of power and empowerment as managerial tools.
- 832 Negotiation and Conflict Management**
Spring. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Negotiation and bargaining to manage people and interpersonal relations. Developmental processes, stages, and types of conflict. Conflict management and resolution.
- 840 Leadership and Team Management**
Fall, Spring. 3(2-2) P:M: (MBA 824) R: Open only to graduate students in the College of Business or approval of department.
Development of leadership abilities through readings and laboratory application.
- 842 Change Management and Evaluation**
Spring of even years. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Business or approval of de-partment.
Analysis and management of the change process in organizations. Micro- and macro-organizational interventions.
- 852 Entrepreneurship: New Business Planning and Initiation**
Fall. 3(3-0) P:M: (MBA 824) R: Open only to graduate students in the College of Busi-ness or approval of department.
Assessment of the viability of a business idea. De-velopment of market analysis, project strategy, and plan to initiate the business. Identification and analysis of factors critical to new business financing and success.
- 871 Business Processes and Strategies**
Summer. 3(3-0) Summer: Exec Dev Center. RB: Undergraduate degree in accounting. R: Open only to Master of Science students in Accounting and Business Processes.
Organizational goals, design, and control of the global business enterprise. Strategies for creating value and sustaining competitive advantage across the firm's value chain.
- 875 Change Management**
Spring. 2(2-0) R: Open only to students in the Master of Science in Logistics and the Master of Science in Manufacturing and In-novation.
Role and process of organizational change man-agement. Types of change, identifying need for change, and change management process.
- 890 Independent Study**
Fall, Spring, Summer. 1 to 3 credits. A stu-dent may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Business. Approval of department.
Faculty-supervised independent study.
- 906 Seminar in Organizational Research Methods**
Spring. 3(3-0) R: Open only to Ph.D. stu-dents.
Methods for scientific research in the areas of or-ganizational behavior, personnel and organizational theory. Theory building, hypothesis formation and testing, reliability theory, construct validity, external validity, research design.
- 907 Seminar in Organizational Behavior**
Fall of even years. 3(3-0) R: Open only to Ph.D. students.
Directed readings on the behavior of individuals within organizations. Theory and empirical research on perception, decision-making, work motivation, work attitudes, leadership and group dynamics.
- 908 Seminar in Organizational Theory**
Fall of odd years. 3(3-0) RB: (MGT 906) R: Open only to Ph.D. students.
Formal organizations viewed as rational, natural and open systems. Survey of contemporary theory and empirical research.
- 909 Seminar in Human Resource Management**
Spring of odd years. 3(3-0) R: Open only to Ph.D. students.
Classic and current empirical research. Job analy-sis, personnel selection, training, and incentive systems.
- 910 Seminar in Strategic Management**
Fall of even years. 3(3-0) R: Open only to Ph.D. students.
Review of recent research literature. Topics include developments in strategic types, identification of strategic groups, strategy formulation, implementa-tion, and decision making.
- 914 Applied Regression Models in Business Research**
Spring. 3(3-0) Interdepartmental with Statis-tics and Probability. RB: (STT 430 or STT 441) or equivalent R: Open only to doctoral students in Business Administration.
Seminar on design and analysis of regression-based statistical models. Modeling issues arising in busi-ness research.

999 Doctoral Dissertation Research
 Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to Ph.D. students in Management.
 Doctoral dissertation research.

MARKETING AND SUPPLY CHAIN MANAGEMENT MSC

Department of Marketing and Supply Chain Management The Eli Broad College of Business and The Eli Broad Graduate School of Management

293 Cooperative Education for Business Students
 Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. Interdepartmental with Accounting; Economics; Finance; Management; Hospitality Business. R: Approval of department.

Integration of pre-professional educational employment experiences in industry and government with knowledge and processes taught in the student's academic program. Educational employment assignment approved by the Department of Marketing and Supply Chain Management.

300 Managerial Marketing
 Fall, Spring, Summer. 3(3-0) R: Open only to juniors or seniors in the Eli Broad College of Business. Not open to students in The School of Hospitality Business. SA: ML 300, MTA 300 Not open to students with credit in MSC 327.

Analysis 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.

302 Consumer and Organizational Buyer Behavior
 Fall, Spring, Summer. 3(3-0) P: (MSC 300) R: Open only to juniors or seniors in the Eli Broad College of Business or Food Industry Management major. SA: ML 302, MTA 302

Application of consumer behavior principles to customer satisfaction, market planning, and marketing mix decisions. Ethical, diversity, and international issues.

303 Introduction to Supply Chain Management
 Fall, Spring, Summer. 3(3-0) R: Open only to juniors or seniors in the Eli Broad College of Business and to students in programs for which MSC 303 is a catalog-listed requirement. Not open to students in The School of Hospitality Business. SA: MGT 303, ML 303, MTA 303

Objectives, processes, and functions of supply chain management activities including procurement, manufacturing, and logistics. The role of supply chain processes in creating competitive advantage with respect to quality, flexibility, lead-time, and cost.

305 Supply Chain Management
 Fall, Spring, Summer. 4(4-0) P: (MSC 303) R: Open only to juniors or seniors in The Eli Broad College of Business or the Business-Supply Chain Management cognate in the Engineering Arts major.

Supply chain operating practices and principles. Strategies for customer service, quality, procurement, manufacturing, logistics, and integrated supply chain management.

310 International and Comparative Dimensions of Business
 Fall, Spring, Summer. 3(3-0) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business. SA: ML 310, MTA 310

International and cross-cultural study of business decisions, enterprises, markets, and institutions. Globalization of industries and firm competitiveness. International business transactions and entry strategies.

313 Personal Selling and Buying Processes
 Fall, Spring. 3(3-0) SA: ML 313

The nature of channel relationships. Buying behavior and sales processes. Applications to differing industries and kinds of channel relationships.

317 Quantitative Business Research Methods
 Fall, Spring, Summer. 3(3-1) Interdepartmental with Statistics and Probability. P: (STT 315) R: Open only to juniors or seniors in The Eli Broad College of Business. Not open to students in The School of Hospitality Business. SA: ML 317, MTA 317

Application of statistical techniques, including forecasting, to business decision making. Includes applications of linear regression and correlation, analysis of variance, selected non-parametric tests, time series, and index numbers.

319 Marketing Research
 Fall, Spring. 3(3-0) P: (MSC 300 and MSC 317 or concurrently) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: ML 319, MTA 319

Research methods designed to obtain information for marketing decisions. Research design, data collection, and interpretation of information to provide a customer orientation.

327 Introduction to Marketing
 Fall, Spring, Summer. 3(3-0) R: Open only to juniors or seniors in programs for which MSC 327 is a catalog-listed requirement. Not open to students with credit in MSC 300.

Survey of marketing topics - buyer behavior, segmentation, positioning, demand analysis, information, pricing, promotion, channels, product policies, and ethics in consumer, reseller, industrial, and service markets.

351 Retail Management
 Fall, Spring, Summer. 3(3-0) Interdepartmental with Food Industry Management. P: (MSC 300 or MSC 327) R: Open only to juniors or seniors in the Eli Broad College of Business or the Food Industry Management or Merchandising Management major. SA: ML 351, MTA 351

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.

401 Procurement and Supply Management
 Fall, Spring, Summer. 3(3-0) P: (MSC 305 and MSC 317) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: MGT 401, ML 401, MTA 401

Strategic issues in procurement and supply management. Purchasing process, procurement cycle, purchasing research, relationships with suppliers, negotiation, and commodity planning. Cost, price, and value analysis.

402 Manufacturing Planning and Control
 Fall, Spring, Summer. 3(3-0) P: (MSC 305 and MSC 317) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: MGT 402, ML 402, MTA 402

Production planning, demand management, master scheduling, materials requirements, and capacity planning. Shop floor control, computer-integrated manufacturing, and just-in-time systems.

410 Product Innovation and Management
 Fall. 3(3-0) P: (MSC 300 and MSC 317) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: ML 410

Analytic, decision-making, and planning concepts and tools available to product managers. New product policy and development, organizational issues, and product modification and deletion.

412 Marketing Technology and E-Commerce
 Fall, Spring. 3(3-0) Interdepartmental with Information Technology Management. P: (MSC 300 and MSC 317 and ITM 309) R: Open only to juniors or seniors in the Eli Broad College of Business, and to students in programs in which MSC 412 is a catalog-listed requirement.

Enabler technologies and their role in creating marketing opportunities, efficiencies, and innovations. Tools, applications, platforms, and infrastructures. Determination of business configurations that foster value creation from enabler technologies.

413 Sales Management
 Fall, Spring. 3(3-0) P: (MSC 300 and MSC 317) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: ML 413, MTA 413

Planning, implementing, and controlling the firm's personal selling function. Analysis of sales territories. Management of recruitment, selection, training, and motivation of sales personnel. Evaluation of sales performance. Discussion of diversity and ethical issues.

415 International Marketing Management
 Fall, Spring. 3(3-0) P: (MSC 300) and (MSC 310 or EC 340) R: Open only to juniors or seniors in The Eli Broad College of Business. SA: ML 415, MTA 415

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.

420 New Product Design and Development
 Spring. 3(3-0) P: (MSC 300 and MSC 317) R: Open only to seniors in The Eli Broad College of Business.

Practical training and experiences in design and testing of new products.