
Merchandising and Hospitality Management

6510. Topics in Algebra. 3 hours. Groups, rings, modules, fields and other algebraic structures; homological and categorical algebra. Multiplicative and additive number theory, diophantine equations and algebraic number theory. May be repeated for credit.

6610. Topics in Topology and Geometry. 3 hours. Point set and general topology, differential geometry and global geometry. May be repeated for credit.

6620. Algebraic Topology. 3 hours. Topics from algebraic topology such as fundamental group, singular homology, fixed point theorems, cohomology, cup products, Steenrod powers, vector bundles, classifying spaces, characteristic classes and spectral sequences. Prerequisite(s): MATH 5530 and 5620. May be repeated for credit.

6710. Topics in Applied Mathematics. 3 hours. Optimization and control theory, perturbation methods, eigenvalue problems, generalized functions, transform methods and spectral theory. May be repeated for credit.

6810. Probability. 3 hours. Probability measures and integration, random variables and distributions, convergence theorems, conditional probability and expectation, martingales, stochastic processes. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each.

6940. Individual Research. Variable credit. To be scheduled by the doctoral candidate engaged in research. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

circulation; exact solutions; turbulence; boundary layer theory; free surface flow; compressible flow. Prerequisite(s): MATH 2730, MEEN 3120.

5200. Principles of HVAC. 3 hours. Thermodynamics and psychometrics applied to the HVAC system calculations, energy estimating methods, ducts and piping systems, heat pump and heat recovery systems, air-processing, refrigeration and heating equipment.

5210. Solar Energy. 3 hours. Fundamentals of radiation processes, blackbody and gray-body; and gray-body radiation; solar radiation flat-plate and parabolic collectors; concentration optics and practical solar concentration devices; central receivers, solar ponds, power cycles of solar plants; thermal storage subsystems and system design.

5220. Computational Fluid Dynamics and Heat Transfer. 3 hours. Finite difference, finite volume, and finite element computational methods; techniques for building geometry and meshing; commercial software; modeling and numerically solving real-world fluid flow and heat transfer problems. Prerequisite(s): MEEN 3120, MEEN 3210.

5250. Dispersed Multiphase Flow and Heat Transfer. 3 hours. Characteristics of particles, bubbles and drops; conservation equations, creeping flow solution, flow and heat transfer at higher Reynolds numbers; the treatment of non-spherical particles, bubbles, and drops; effects of rotation and shear; two-way effects of turbulence; effects of higher concentration, molecular and statistical description.

5900-5910. Special Problems in Mechanical and Energy Engineering. 1–6 hours. Special problems in mechanical and energy engineering for graduate students only. Prerequisite(s): Approval the student's supervisor and/or consent of department. May be repeated for credit.

5950. Masters Thesis. 3 or 6 hours. A minimum of 6 hours of thesis work is required. No credit is assigned until the thesis is filed and approved by the dean of the graduate school. Continuous enrollment is required once thesis work has begun. Prerequisite(s): approval of the student's supervisor and/or consent of department.

Mechanical and Energy Engineering

Mechanical and Energy Engineering, MEEN

5100. Advanced Energy Conversion. 3 hours. Axiomatic presentation of the law of thermodynamics including corollaries and applications related to energy conversion, the exergy method and entropy dissipation method for the evaluation of thermodynamic systems and cycles, thermodynamic equilibrium and stability, irreversible thermodynamics, chemical equilibria and applications in combustion.

5110. Alternative Energy Sources. 3 hours. Introduction to the physics, systems and methods of energy conversion from non-conventional energy sources, such as solar, geothermal, ocean-thermal, biomass, tidal, hydroelectric, wind and wave energy. Advantages and disadvantages of alternative energy sources and engineering challenges for the harnessing of such forms of energy; energy storage; fuel cells.

5112. Nuclear Energy. 3 hours. Atomic physics and the structure of the atom; radioactivity; interactions of neutrons with matter; nuclear cross-sections; nuclear fuels and fuel elements; elements of nuclear reactors; components and operation of nuclear power plants. Notable accidents of nuclear reactors. Breeder reactors.

5120. Advanced Fluid Dynamics. 3 hours. Fundamentals of vector and tensor notation and formulation of governing equations; model of inviscid and viscous flow, vorticity and

Mechanical Engineering Technology

see Engineering Technology

Merchandising and Hospitality Management

Merchandising and Hospitality Management, SMHM

5000. Merchandising and Hospitality Management Study Tour. 1–3 hours. Experience fashion, home furnishings and hospitality industries through visits to manufacturing facilities, retail establishments, museums, historical structures, hotels, restaurants and industry support organizations. Includes field study in industry centers for fashion (New York), home furnishings (High Point, N.C.), hospitality (Las Vegas) or other selected destinations. Pre-trip and post-trip classes required.

5080. Merchandising Ventures. 3 hours. Exploration of the merchandiser's role in establishing new ventures with fashion and home furnishings products. Includes non-traditional merchandising formats.

5090. Virtual Merchandising. 3 hours. (2;2) Study and application of visual merchandising in a virtual format. Emphasis on merchandising processes that convey product characteristics to the consumer from production through distribution. Prerequisite(s): SMHM 2360, and SMHM 2490 or 2400.

5200. Survey of Beverages in the Hospitality Industry. 3 hours. Examination of wines, beers, and distilled spirits with a focus on vinicultural techniques, beer and distilled spirit production and classification, styles of wine and other beverages, and theory of wine and food pairing. Prerequisite(s): students must be 21 years of age or older.

5240. Global Fashion Retailing. 3 hours. A strategic perspective of fashion-oriented products in a dynamic marketplace. Included are case analyses of merchandising principles practiced by representative companies. Interpretations of global trends and issues affecting multi-channel distribution.

5250. Restaurant Development. 3 hours. The identification, examination and application of restaurant development principles. Topics include menu planning, service styles, dining room and kitchen design, materials purchasing and receiving, food production techniques, accounting and financial management, and merchandising.

5260. Hospitality Business Strategies. 3 hours. Critical thinking and strategic planning processes for hospitality operations. Analyze financial business plans, human resources plans and marketing plans for hospitality organizations; address leadership issues and global dimensions of management for hospitality organizations; analyze ethical issues and legal issues in managing hospitality enterprises, create solutions for hospitality operations from corporate and entrepreneurial perspectives. Utilize case study analysis and computer applications to apply principles. Prerequisite(s): SMHM 3260 or consent of school.

5280. Hotel and Restaurant Operations: Theory and Analysis. 3 hours. A study of hotel and restaurant management operations problems, including the areas of budgeting, human resource scheduling and payroll control, sales forecasting, costing and financial statement analysis. Students will be actively involved in writing and discussing cases on current operations issues.

5300. Research Methods in Merchandising and Hospitality Management. 3 hours. Critical evaluation of research methods in merchandising and hospitality management fields. Develop research framework and formulate research design questions. Enhance research skills through writing a thesis proposal or research proposal.

5350. Contemporary Issues and Trends in Merchandising and Hospitality Management. 3 hours. An analysis of current issues, trends and future projections influencing the field of either hotel and restaurant management or fashion merchandising.

5400. Research Applications in Merchandising and Hospitality Management. 3 hours. Execute research projects with implications for marketers in textile, apparel, home furnishings or hospitality industries. Emphasis is on conceptualizing problems, analyzing and interpreting data, and writing for industry and/or scholarly dissemination. Prerequisite(s): SMHM 5300; statistics; or consent of instructor.

5440. Consumer Theory. 3 hours. Classic and contemporary consumer theories analyzed in situational contexts. Emphasis on formulating integrated consumer behavior models for strategic decision-making in both domestic and international consumer-driven markets in merchandising and hospitality industries.

5460. Human Capital Development in Merchandising and Hospitality Management. 3 hours. Major areas of human relations skills necessary for managing employees and customers in merchandising and hospitality management are studied. Topics include employee supervision, motivation, communication, training, management development, problem-solving, decision making and stress management.

5480. Hospitality Industry Finance. 3 hours. Critical evaluation of financial management issues in the hospitality industry. Analysis and evaluation of asset structures, capital structures, costs of capital and capital budgeting for hospitality firms. Determination of financial aspects of hotel valuation. Evaluation and comparison of the financial value, worth and health of hospitality firms. Prerequisite(s): ACCT 2010 and SMHM 2480 or consent of school.

5500. Merchandising Strategies. 3 hours. Merchandising theory, principles and practice applied to the strategic planning, developing and presenting of textile, apparel and home furnishings product lines. How consumer driven markets motivate product sourcing, pricing, assortment, styling and timing in the global distribution pipeline.

5520. Global Tourism Systems. 3 hours. In-depth analysis of the global travel and tourism industries from a systems perspective. Models of tourism system used as methodological tools to understand this complex global industry. Topics include historical, contemporary and future effects of travel and tourism as related to social, economic, cultural and environmental issues.

5550. Promotional Strategies. 3 hours. Analyze internal, external and situational factors that influence promotion strategies including advertising, public relations, promotions and salesmanship. Formulate and judge promotion strategies that generate added economic value to textile, apparel, home furnishings, or hospitality products or companies.

5600. Managing Customer Experiences. 3 hours. Explore creating and managing customer experiences of tangible and intangible products and services that link merchandising and hospitality segments. Apply merchandising strategies of planning, developing and presenting products to consumers with the experiential components of the hospitality industry to provide a total concept-based experience.

5630. Event Management. 3 hours. Focus on event management in relation to tourism, business/industry and special events. Topics include the planning and design of managing medium to large events; implementation of communication and marketing strategies; and the impact of events management on the tourism industry. Addresses the major trends and successful practices in event management.

5650. Global Merchandising. 3 hours. Critical analysis of merchandising principles and practices in a global context with emphasis on economic, political, environmental, cultural and social issues; geographic distribution; trade theory; trade data; and technological developments. Contrast the global dominance of textile, apparel and home furnishings industries on world trade and on consumer-driven markets by country and geo-political regions.

5660. Advanced Merchandising Applications. 3 hours. Capstone experience where students apply merchandising theory, principles and practices to solve industry case studies. Emphasis on problem solving, case analysis, creative thinking, fact finding, data analysis and data interpretation to operate a for-profit business.

5700. Service Excellence. 3 hours. Explores the dynamics of service excellence in the merchandising and hospitality industries. How consumer-driven trends motivate service approaches, management and training procedures, and their impact in the marketplace.

5730. Hotel and Restaurant Management Systems. 3 hours. In-depth analysis of revenue management in hotel and restaurant operations. Integration of the principles of marketing, finance and managerial economics to maximize revenues within the constraints and parameters of hospitality management operational issues and guest behavior. Utilization of computer simulations to model cost and revenue flows in a realistic manner to achieve operational and financial goals of the hospitality enterprise. Emphasis on analysis, report writing and formal business presentations. Prerequisite(s): SMHM 4210, MKTG 3650 or consent of school.

5750. Electronic Merchandising. 3 hours. Analysis and application of electronic information exchange technology related to textile, apparel, home furnishings and other fashion-oriented products. Emphasis on product development, manufacturing/production, distribution, merchandising, e-commerce and sales.

5790. Field Experiences in Various Areas of Concentration. 3 hours. Arranged.

5800. Seminar in Various Areas of Concentration. 3 hours. May be repeated for credit as topics vary.

5820. Facilities Planning, Equipment Layout and Design. 3 hours. (2;2) Principles of hospitality property management and design with analysis of efficient work spaces for hospitality operations emphasizing space utilization and work flow, ADA adherence, environmental concerns and regulations, and the creation of a safe and secure work environment. Prerequisite(s): SMHM 4250 (may be taken concurrently) or consent of instructor.

5830. Legal and Regulatory Aspects of Merchandising and Hospitality Management. 3 hours. Introduction to the laws and regulations which influence business and management decisions in merchandising and the hospitality industry. Provides a practical knowledge of the law and operation of the legal system. Focuses on the management techniques for minimizing risks associated with legal liability.

5850. Brand Development. 3 hours. Students plan, develop and present a merchandise group for private label apparel or home furnishings goods using a multi-functional team approach. Includes application of computer software.

5860. Strategic Issues in Hospitality Management. 3 hours. Application and exploration of critical issues associated with the hospitality strategic management process. Topics include the hospitality industry internal and external contexts of strategic planning and execution; growth and competitive advantage strategies for hospitality organizations; organizational resource and capability analysis; prevention and management of crisis situations in the hospitality industry including food-borne diseases and the impact of natural disasters on the tourism industry; entrepreneurial strategies for electronic tourism; and global strategic management of hospitality corporations. Cases

of hospitality-specific companies, readings, and lectures/discussion are utilized. Prerequisite(s): SMHM 5260 or consent of instructor.

5900-5910. Special Problems in Various Areas of Concentration. 3 hours each. Arranged. Prerequisite(s): consent of instructor.

5920. Problem in Lieu of Thesis. 3 hours. No credit given until problem in lieu of thesis is completed.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Military Science

see *Undergraduate Catalog*

Music

- MUAG — Music Applied General Courses
- MUAM — Music Applied Private Lessons (Major)
- MUAC — Music Applied Private Lessons (Concentration)
- MUAS — Music Applied Private Lessons (Secondary)
- MUCM — Chamber Music
- MUCP — Music Composition
- MUED — Music Education
- MUEN — Music Ensembles
- MUET — Music Ethnomusicology
- MUGC — Music General Courses
- MUMH — Music History and Literature, and Musicology
- MUJS — Music Jazz Studies
- MULB — Music Laboratories
- MUSM — Sacred Music
- MUTH — Music Theory

Courses that may be repeated for credit are MUAG 5000, 5210, 5390, 5640, 5650, 5660, 5800, 5810, 5850, 5860, 5890 and 6850; all courses in MUAM, MUAC and MUAS; all courses in MUCM; MUCP 5180, 5190, 6190, 6200 and 6400; MUED 5300, 5821, 5822, 5823, 5831, 5832, 5840, 5880 and 6480; all courses in MUEN; MUET 5210; MUJS 5470 and 5760; all courses in MULB; MUMH 5711, 6160, 6520, 6530 and 6540; MUTH 5001, 5002, 5003, 5090 and 6680; and MUGC 5890, 5900-5910, 5930, 5950, 6900-6910 and 6950.

Applied General Courses, Music, MUAG

5000. Choral Techniques. 3 hours. Choral organizations, singing, conducting, performing, repertoire and history. Actual experience in a model a cappella choir.

5210. Studies in Vocal Literature. 2 hours. An intensive study of a style period or genre of solo vocal literature. May be repeated for credit as topics vary.