

4050. Advanced Study of the Secondary Mathematics Curriculum. 3 hours. Study of mathematical topics in the secondary curriculum from an advanced viewpoint. Discussion of the relationship between the secondary and collegiate curricula. As each of the mathematical topics is studied, related issues involving cognitive development, pedagogical methods and the philosophy of teaching and learning are considered. Prerequisite(s): MATH 3510 and 4060, EDSE 3830, and acceptance into the secondary teacher education program.

4060. Foundations of Geometry. 3 hours. Selections from synthetic, analytic, projective, Euclidean and non-Euclidean geometry. Prerequisite(s): MATH 2520.

4100. Fourier Analysis. 3 hours. Comprehensive theory of Fourier transforms, Fourier series and discrete Fourier transforms, with emphasis on interconnections. The calculus of Fourier transforms. Operator algebraic formalism. Hartley transforms. FFT and other fast algorithms. High precision arithmetic. Introduction to generalized functions (tempered distributions). Applications to signal processing, probability and differential equations. Prerequisite(s): MATH 3410.

4200. Dynamical Systems. 3 hours. One-dimensional dynamics. Sarkovskii's theory, routes to chaos, symbolic dynamics, higher-dimensional dynamics, attractors, bifurcations, quadratic maps, Julia and Mandelbrot sets. Prerequisite(s): MATH 2520.

4430. Introduction to Graph Theory. 3 hours. Introduction to combinatorics through graph theory. Topics introduced include connectedness, factorization, Hamiltonian graphs, network flows, Ramsey numbers, graph coloring, automorphisms of graphs and Polyá's Enumeration Theorem. Connections with computer science are emphasized. Prerequisite(s): MATH 2510 or 2770.

4450. Introduction to the Theory of Matrices. 3 hours. Congruence (Hermitian); similarity; orthogonality, matrices with polynomial elements and minimal polynomials; Cayley-Hamilton theorem; bilinear and quadratic forms; eigenvalues. Prerequisite(s): MATH 2700.

4500. Introduction to Topology. 3 hours. Point set topology; connectedness, compactness, continuous functions and metric spaces. Prerequisite(s): MATH 2520.

4520. Introduction to Functions of a Complex Variable. 3 hours. Algebra of complex numbers and geometric representation; analytic functions; elementary functions and mapping; real-line integrals; complex integration; power series; residues, poles, conformal mapping and applications. Prerequisite(s): MATH 2730.

4610. Probability. 3 hours. Combinatorial analysis, probability, conditional probability, independence, random variables, expectation, generating functions and limit theorems. Prerequisite(s): MATH 2730.

4650. Statistics. 3 hours. Sampling distributions, point estimation, interval estimation, hypothesis testing, goodness of fit tests, regression and correlation, analysis of variance, and non-parametric methods. Prerequisite(s): MATH 4610.

4900-4910. Special Problems. 1-3 hours each.

Merchandising and Hospitality Management

Merchandising and Hospitality Management, SMHM

Courses numbered 4900-4910 are open to advanced undergraduate students who are capable of developing a problem independently. A project is chosen by the student and instructor, and developed through conferences and approved activities under the direction of the instructor, who may require a term paper. Not open to graduate students, these courses are scheduled only when other required courses are unavailable. Prerequisite: consent of instructor and approval of the dean.

1420. Food Sanitation. 1 hour. An introduction to food service sanitation, providing training in the regulations and procedures necessary to prevent food poisoning and food-borne diseases in a food service environment.

1450 (HECO 1322). Principles of Nutrition. 3 hours. An introduction to the scientific fundamentals of human nutrition as they relate to health. Prevention of illnesses such as cancer, heart disease, osteoporosis, gastrointestinal disorders and obesity is discussed. A healthful diet and lifestyle are emphasized to enhance long-term wellness. Food and nutrition controversies are critically evaluated. *Satisfies Wellness requirement of the University Core Curriculum.*

1470. Introduction to Professional Food Preparation. 3 hours. (2;3) A laboratory-based course designed to familiarize students with professional food preparation principles and techniques. Uniforms required. Prerequisite(s): SMHM 1420 (may be taken concurrently).

1500. Orientation to the Hospitality Industry. 2 hours. A course designed to survey the hotel, restaurant, club and food service industries, including history, scope, organization and career opportunities.

1650. Apparel Evaluation. 3 hours. (2;2) Analysis of quality issues relative to developing and producing ready-to-wear apparel. Concepts include apparel components, silhouettes, piece good selection, sizing, and costing. Includes application of software package.

2090. Introduction to Electronic Merchandising. 3 hours. Survey of electronic merchandising and its application to consumer products and services for business to business and business to consumer. Introduction to electronic merchandising theory, terminology, resources, industry participants and career opportunities.

2360. Aesthetics and Environment. 3 hours. (2;2) Introduction to elements and principles of visual merchandising, costume and furnishings from ancient cultures; aesthetic and functional consideration in material selection, and introduction of merchandising portfolio.

2380. AutoCAD for Interiors. 3 hours. (2;4) Application of computer-aided design, drafting and dimensioning to interior-built spaces in an AutoCAD environment. Prerequisite(s): ART 1340 and 2430.

2400. Introduction to the Furniture Industry. 3 hours. Overview of the furniture and home furnishings industry. Topics include product development, manufacturing, distribution and merchandising of these products. Introduction to industry terminology, resources and career opportunities.

Mechanical Engineering Technology

see Engineering Technology

2480. Hospitality Industry Managerial Accounting.

3 hours. Comprehensive application of accounting principles to the hospitality industry. Managerial accounting approach to accounting practices, financial statements and operating activities. Problem solving methods applied to managerial decisions for the hospitality industry. Prerequisite(s): ACCT 2010.

2490. Introduction to Apparel Merchandising.

3 hours. Survey of the apparel industry including development, merchandising and distribution. Introduction to apparel terminology, resources, industry participants and career opportunities.

2550. Restaurant Operations I.

3 hours. (2;5) A laboratory-based course designed to familiarize students with dining room service systems encompassing American, French, Russian, banquet and beverage service. Students apply organizational and management skills in the actual operation of a restaurant facility, the Club at Gateway Center. Uniforms required. Prerequisite(s): SMHM 1420 (may be taken concurrently).

2650 Textiles. 3 hours. Fibers, fabric construction and finishes applied to selection, use and care of fabrics.

2750. Consumers in a Global Market. 3 hours. Cross-cultural comparisons using systems, human needs, and consumer behavior frameworks are integrated with critical and creative thinking processes to develop a global perspective that is sensitive to diverse consumers' needs and preferences for products and services in a global market. *Satisfies the Cross-cultural, Diversity and Global Studies requirement of the University Core Curriculum.*

2800. Foundations of International Travel and Tourism.

3 hours. Travel and tourism examined from global, industry and developmental perspectives. Topics include historical, contemporary and future effects of travel and tourism as related to social, economic, cultural and environmental issues.

3200. Hospitality Industry Law. 3 hours. Study of business-related torts and contracts, real and personal property, with an emphasis on hotels, restaurants, resorts and associated businesses. Includes duties of innkeepers and food and beverage liability. Prerequisite(s): junior standing.

3260. Resort and Club Management. 3 hours. Introduction to managing resorts and private clubs. Emphasis on needs assessment, planning and development, marketing, hiring, staff evaluation and management, legal issues, and financial management. Prerequisite(s): BCIS 2610, junior standing or consent of instructor.

3300. Hospitality Industry Marketing and Sales. 3 hours. Application of marketing principles, methods and techniques to the hospitality service product. Analysis of principles of guest behavior, market research, promotion and marketing strategies. Function of convention and meeting sales related to lodging and tourism operations. Application of menu engineering techniques. Prerequisite(s): junior standing.

3350. Survey of Historic and Contemporary Styles. 3 hours. Survey of costume and furnishings in the built environment from the 16th century to the present. Emphasis on technological, cultural and social influences on historic and contemporary styles. Prerequisite(s): SMHM 2360.

3370. Fashion Theory and Trend Analysis.

3 hours. Theoretical frameworks are examined and used to interpret the meanings of dress in cultural patterns, social organizations, social interactions and personal identities. Current fashion trends are analyzed and interpreted through the study of popular culture and everyday life.

3380. Global Home Furnishings Industry.

3 hours. Overview of home furnishings industries with emphasis on international issues and factors affecting design, production and wholesaling of home furnishings. Prerequisite(s): SMHM 2400 or consent of instructor.

3405. Drawing and Planning for Home Furnishings.

3 hours. (2;2) Development of basic drawing and drafting skills. Emphasis on incorporating hand drafting techniques specific to the planning of cabinetry/fixture placement and home furnishings arrangements. Prerequisite(s): SMHM 2360 and 2400.

3410. CAD for Home Furnishings.

3 hours. (2;2) Concentration on CAD applications in the planning of home environments, including kitchen and other work zone areas. Focus on planning criteria for these spaces addressing function, aesthetics and economics. Prerequisite(s): SMHM 2360, 2400 and 3405 or consent of instructor.

3450. Presentation Techniques. 3 hours. (2;3) Development and improvement of professional presentation skills through planning, presenting and evaluating presentations. Refinement of written and oral communication techniques needed by professionals. Prerequisite(s): advanced standing. *Satisfies the Communication requirement of the University Core Curriculum.*

3510. Merchandising Problems. 3 hours. Techniques of merchandise planning and control, markup, turn-over, pricing, markdowns and open-to-buy. Prerequisite(s): ACCT 2010, MATH 1190 or 1400, and BCIS 2610 or demonstrated proficiency in *Excel*.

3570. Decorative Accessories Merchandising.

3 hours. Overview of decorative accessories in historical contexts and in current industry applications. Examination of production and merchandising of products including giftware, lighting, home accents, rugs, accent furniture, softgoods and tabletop. Prerequisite(s): SMHM 2090, 2400 or 2490, and SMHM 2360.

3600. Management of Human Resources in the Hospitality Industry.

3 hours. Effective management of human resources in the hospitality industry. Application of human resource management techniques to hotels, restaurants and other hospitality workplaces in planning, recruitment, selection, training, performance management, coaching, counseling and discipline, delegation and decision-making. Prerequisite(s): junior standing.

3650. Textile Evaluation. 3 hours. (2;2) Evaluate aesthetic, durability, comfort, care, and safety problems associated with consumer textile products. Use AATCC and ASTM standards and procedures, basic research methods, technical and consumer literature, and computer applications to prepare a comprehensive textile product evaluation report. Prerequisite(s): SMHM 1650 (or consent of instructor) and 2650.

3700. Hotel Operations. 3 hours. (3;1) Detailed study of different departments within hotel properties. Emphasis on front office, food and beverage, housekeeping, engineering, security, sales and marketing and accounting. Prerequisite(s): SMHM 1500 and ACCT 2010 and 2020 or concurrent registration, and junior standing or consent of school.

3750. Consumer Studies in Apparel and Home Furnishings.

3 hours. Exploration of motivations influencing consumer purchase and use of apparel and home furnishing products. A comprehensive theoretical and practical knowledge base is used to investigate various individual and environmental factors as they relate to the consumer purchase process and its outcomes.

3850. Promotion of Apparel and Home Furnishings.

3 hours. Promotion of apparel and home furnishings throughout production and distribution systems. Emphasis on promotion media, special events and computer applications.

3920. Recent Developments in the Hospitality Industry.

3 hours. An extensive study of current developments facing employers in the hospitality industry. Particular emphasis is given to selected readings and case studies dealing with societal, consumer and operational management issues and trends. Supported in part by Ben E. Keith Lectureship Series. Prerequisite(s): junior standing or consent of instructor.

4000. 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. Prerequisite(s): SMHM 1500, 2090, 2400 or 2490, approval of application, good standing and consent of school. Credit varies depending upon length of field study and destination. No more than 3 hours of field study may be used to fulfill degree requirements.

4010. Global Textiles and Apparel Industries.

3 hours. Overview of textile and apparel industries with emphasis on international issues and factors affecting processes from the production through distribution of textiles and apparel. Prerequisite(s): SMHM 2090 or 2490 or consent of instructor.

4080. Merchandising Ventures. 3 hours. Exploration of the merchandisers' role in establishing new ventures with fashion and home furnishings products. Includes non-traditional merchandising formats. Prerequisite(s): SMHM 2090, 2400 or 2490, 3510, and ACCT 2010.

4090. 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. Development of web site using computer software. Prerequisite(s): SMHM 2090, 2400 or 2490, and 2360.

4210. Hospitality Cost Controls. 3 hours. Study of the food, beverage and labor cost control systems used in the hospitality industry. Emphasis is on the use of control systems for managerial planning, analysis and evaluation. Includes the concept and terminology of costs; departmental income and expense statements; budgets; purchasing, receiving and inventory systems. Prerequisite(s): ACCT 2010 and 2020, and junior standing.

4250. Restaurant Operations II. 3 hours. (2;6) A laboratory-based course designed to provide students with an understanding of food production principles and techniques. Students apply organizational and management skills in the actual operation of a restaurant facility, the Club at Gateway Center. Uniforms required. Prerequisite(s): SMHM 1420, 1470, 2550 and 4210. BIOL 2380 recommended. Students must apply one term/semester in advance and pass departmental screening.

4260. Hospitality Business Strategies.

3 hours. Comprehensive study, strategic planning and analysis of the hospitality manager's role in operating a successful hospitality operation including applications of specialized computer software and human relations skills. Prerequisite(s): SMHM 3260 or consent of instructor.

4300. Survey of Beverages in the Hospitality Industry.

3 hours. A study of social beverages commonly used in the hospitality industry. Primary emphasis is on history, language, product identification and production and merchandising techniques for wines, beers, distilled spirits and non-alcoholic beverages. Prerequisite(s): student must be 21 years of age or older.

4400. Estimating for Home Furnishings.

3 hours. (2;2) Practical aspects of home furnishings and interior treatments; professional practices in home furnishings merchandising. Prerequisite(s): SMHM 2360, 2400, 3405, 3410 and consent of instructor.

4480. Hospitality Industry Finance.

3 hours. Comprehensive application of financial management for the hospitality industry. Managerial finance approach to ratio analysis, risk and value, timing and value of cash flows, project valuation, capital expenditures, financial markets and income taxes. Problem solving methods applied to managerial decisions for the hospitality industry. Prerequisite(s): SMHM 2480.

4500. Internship in Merchandising and Hospitality Management.

1-6 hours. Supervised work experience in business, agencies or institutions as related to major field. Each semester hour credit requires a minimum of 50 hours of work experience. Course requirements include internet-based assignments, educational activities and scheduled lecture times on campus. A student may not enroll in more than three additional classes during either long term/semester (fall/spring) or in more than one additional class during each summer term when completing the internship. Prerequisite(s): major in the School of Merchandising and Hospitality Management with advanced standing, minimum overall GPA of 2.0, minimum GPA of 2.25 in major, active UNT computer account, and consent of instructor.

4660. Advanced Merchandising Applications.

3 hours. Capstone course requiring students to 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. Prerequisite(s): SMHM 3510, 3850 and advanced standing in the major, or consent of school.

4730. Hotel and Restaurant Management Systems.

3 hours. (2;1) In-depth analysis of the systems approach to marketing management in the hospitality industry. Students utilize computer simulations to gain an understanding of hotel operations and menu engineering principles. An overall understanding of quality management is emphasized. Prerequisite(s): MKTG 3650 and SMHM 4210.

4750. Managing a Diverse Work Force.

3 hours. Exploration of current issues affecting management of a global work force. Managing a diverse workforce requires working effectively with people who vary by nationality, ethnicity, culture, religion, gender, language, age, abilities and unique personal characteristics. Prerequisite(s): senior standing; to be taken during last year of course work. *Satisfies the Cross-cultural, Diversity and Global Studies requirement of the University Core Curriculum.*

4820. Facilities Planning, Equipment, Layout and Design.

3 hours. (2;2) Principles of hotel and restaurant property management and facilities layout and design, emphasizing equipment selection, space allocation, guest and production/service traffic flow patterns and facility operations management. Prerequisite(s): SMHM 4250 (may be taken concurrently).

4850. 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. Prerequisite(s): SMHM 1650, 2090 or 2400, 2360, 2650, and advanced standing in major, or consent of school.

4900-4910. Special Problems. 1-3 hours each.

Military Science

see Aerospace Studies

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

MUTH — Music Theory

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Courses that may be repeated for credit are MUAG 1102, 1107, 1117, 1121, 1124, 1125, 1202, 1207, 1217, 1221, 1224, 1225, 4360, 4370, 4740; all courses in MUAM, MUAC, MUAS and MUCM; MUCP 2080, 4080, 4180, 4680; all courses in MUEN; MUJS 3470; all courses in MULB; MUET 3030.

Applied General Music, MUAG

1001-1002. Piano Class for Non-Music Majors. 1 hour each. (0;3) Fundamentals of keyboard technique for beginning piano students: levels I and II (non-major).

1011-1012 -1013 -1014. Keyboard Skills for Music Majors. 1 hour each. (0;3) Functional keyboard skills combined with the application of music theory principles at the piano (progressions, sight reading, harmonization and transposition) for beginning students: levels I-IV (includes the Piano Proficiency Exam).

1102 (MUSI 1168)-1202 (MUSI 2168). Brass Class. 1 hour each. (0;3) Trumpet, trombone, French horn and tuba; general brass pedagogy; and acquiring ability to play simple melodies and scales.

1107-1207. Guitar Class. 1 hour each. (0;3) Classical guitar for beginners. Students provide instruments. Secure recommended specifications from instructor. Prerequisite(s): enrollment only by audition and consent of college.

1117 (MUSI 1188)-1217 (MUSI 2188). Percussion Class. 1 hour each. (0;3) All major percussion instruments; proper playing techniques and methods for teaching fundamentals.

1121 (MUSI 1190)-1221 (MUSI 2190). Strings Class. 1 hour each. (0;3) Basic techniques of violin, viola, cello and bass.

1124 (MUSI 1183). Voice Class for Non-Music Majors. 1 hour. (0;3) Fundamentals of correct breathing, tone production and diction. For non-music majors with little or no previous voice training. May be repeated for credit.

1224. Voice Class for Music Majors. 1 hour. (0;3) Fundamentals of correct breathing, tone production, diction and basic vocal pedagogy. For instrumental music majors.

1125 (MUSI 1166)-1225 (MUSI 2166). Woodwinds Class. 1 hour each. (0;3) Basic technique and general pedagogy of flute, oboe, clarinet, bassoon and saxophone.

1270. Piano Literature. 3 hours. (3;0) Bach through the early romantics. Survey of major composers, styles and forms; individual topics.

1905. English Diction for Singers. 1 hour. (2;0) Diction/pronunciation skills for singing in English. Introduction to phonetic analysis of vocal music in English.

1906. French Diction. 1 hour. (2;0) Diction/pronunciation skills for singing in French; introduction to phonetic analysis of vocal music in French.

1907. German Diction. 1 hour. (2;0) Diction/pronunciation skills for singing in German; introduction to phonetic analysis of vocal music in German.

1909. Italian Diction. 1 hour. (2;0) Diction/pronunciation skills for singing in Italian; introduction to phonetic analysis of vocal music in Italian.

2210. Introduction to Vocal Literature. 1 hour. (2;0) Performance class in classical solo vocal idioms, including song, opera and oratorio from all national schools.

2900. Special Problems. 1-3 hours. Prerequisite(s): consent of college.

3240. Techniques of Piano Accompanying. 3 hours. Review of sight-reading skills; repertoire from Italian anthology; simpler songs of Schubert, Schumann and Faure; arias. Concerto accompaniments from classic repertoire; discussion and demonstration of piano reductions. Prerequisite(s): consent of college.

3250. Techniques of Piano Accompanying. 3 hours. Study of Lieder and art-song repertoire, arias, concerti and instrumental solos. Prerequisite(s): MUAG 3240 or consent of college.

3270. Piano Literature. 3 hours. (3;0) The late romantics to the present. Survey of major composers, styles and forms; individual topics.

3800. Fundamentals of Conducting. 2 hours. (3;0) Fundamentals of conducting, including beat patterns, various gestures for attack, release and phrasing. Includes the use of the left hand, score reading, development of aural skills, rehearsal techniques and interpretation. Prerequisite(s): junior standing and completion of MUTH 2500/2510. MUAG 3800 is a prerequisite for MUAG 3820 and 3870.