

583 Production and Operations Management (3)

Topics addressed include production process selection; capacity scheduling; inventory management; product and process quality control issues; supply chain management; service operations management; and project scheduling. Every semester. *Prerequisite: BMGT 571.*

584 Management Applications (3)

This course focuses on the learning and application of interpersonal and communication skills that are necessary for effectively managing people in the workplace. As such is a highly interactive course that will make extensive use of group case analysis and role-playing. *Prerequisite: BMGT 575 or equivalent.*

597r Individual Studies (2-4)

Designed to enable students to study selected topics in depth. Requires a written outline of work to be done, a statement describing the competencies to be developed and the method of assessment to be used in evaluation. *Prerequisites: approval of adviser and the Graduate Committee in Business.*

598r Research (3)

Designed to enable students to conduct independent research. *Prerequisites: admission to candidacy, approval of adviser and the Graduate Committee in Business and submission of a formal prospectus two weeks prior to registration.*

599r Thesis (3-6)

The development of a product of thesis magnitude and quality. Department and library copies of thesis required. Registration to be completed in one term or in two consecutive terms. *Prerequisites: admission to candidacy, approval of adviser and the Graduate Committee in Business and submission of formal prospectus two weeks prior to registration.*

Marketing (BMKT)

Business Marketing Courses for Graduate Students Only

Only students admitted to UTC as degree or transient graduate students may take 500-level business courses. A selection of the graduate business courses is offered in the evening each semester including the summer.

500 Independent Study in Business Administration (1-3)**540 Entrepreneurship and New Ventures (3)**

This course is designed to investigate the entrepreneurial process from a variety of perspectives. The primary focus is the activities that occur from conception to the birth of a new venture, although issues of report growth and harvest will also be covered. *Prerequisites: BFIN 582, BACC 585, BMGT 584, and BMKT 586.*

545 Family Business Concepts and Practice (3)

Critical issues in family business are covered with incidents, tools, readings, and selected cases to illustrate those issues. There will also be a comprehensive review of research studies and practices in the management of family businesses.

563 E-Business: Managing the Strategic Marketing Process (3)

The Internet has emerged as a key tool with computer mediated business environments changing traditional business models. This course provides hands-on coverage of the tools, terminology and strategic decision-making involved in e-business. Managing

the strategic marketing implications of the Internet will be examined across a range of organizational models—from entrepreneurial startups to small businesses and large corporations, in both for profit and not-for-profit sectors. *Prerequisites: BMKT 574 or equivalent.*

565 Problems in Marketing (3)

An application of marketing tools and concepts to problem solving decision making, and determination of market opportunity; areas include demand stimulation, channel selection and evaluation, marketing research, pricing, product development, and orchestration of marketing programs. *Prerequisite: BMKT 574 or equivalent.*

566 Seminar in Marketing (3)

Seminar designed to integrate the student's understanding of marketing. A participation seminar based on student papers, invited speakers, and other activities. *Prerequisite: BMKT 574 or equivalent.*

586 – Marketing Management (3)

The goal of this course is to provide a decision-oriented overview of marketing management. This course focuses on the management challenge of designing and implementing marketing strategies that maximize customer satisfaction and firm profitability. Every semester. *Prerequisites: ECON 501 and BACC 572.*

597r Individual Studies (2-4)

Designed to enable students to study selected topics in depth. Requires a written outline of work to be done, a statement describing the competencies to be developed and the method of assessment to be used in evaluation. *Prerequisites: approval of adviser and the Graduate Committee in Business.*

598r Research (3)

Designed to enable students to conduct independent research. *Prerequisites: admission to candidacy, approval of adviser and the Graduate Committee in Business and submission of a formal prospectus two weeks prior to registration.*

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Mathematics (MATH)

Courses for Graduate Students Only**501r Advanced Special Topics (3)**

Concentration in selected fields of study. *Prerequisite: approval of instructor.*

502 Transform Methods (3)

The Laplace and Fourier Transforms and solution methods of boundary and initial value problems in ordinary and partial differential equations, integral equations, and difference equations. Existence and characteristics of these transforms, inversion formulas, special functions, and generalized functions. Construction of other transforms via Sturm-Liouville theory and orthogonality. *Prerequisites: 255, 245 with minimum grades of C and graduate standing, or consent of instructor.*

515 Applied Mathematics for Science and Engineering I (3)

Topics in applied mathematics to be selected from series solution of ordinary differential equations including a treatment of the higher functions; Legendre polynomials, Bessel functions, Laguerre and Hermite polynomials, the Hypergeometric function; Sturm-Liouville problems; orthogonality; eigenfunction expansions and the generalized Fourier Series; solution of partial differential equations of physics and engineering; Fourier, Laplace, and other integral transforms; first order PDE systems via characteristics; special functions. *Prerequisite: 440 with minimum grade of C or consent of instructor.*

516 Applied Mathematics for Science and Engineering II (3)

Advanced topics in applied mathematics to be selected from partial differential equations with a discussion of quasi-linear systems and shock waves, integral equations, generalized and weak solutions; calculus of variations and control theory; nonlinear waves and evolution equations and hyperbolic conservation laws. *Prerequisite: 515 or consent of instructor.*

524 Operations Research III (3)

Topics in integer programming, Markov models, dynamic programming, and nonlinear programming and optimization. Course will be an extensive coverage of one or more of the above areas. *Prerequisite: 414 or 424 with minimum grade of C or consent of instructor.*

545 Numerical Analysis I (3)

Numerical solutions of equations in one variable; interpolation and polynomial approximation; numerical differentiation and integration; initial value problems for ordinary differential equations; direct methods for solving systems of linear equations.

547 Numerical Analysis II (3)

Iterative techniques for solving systems of linear equations; approximation theory; eigenvalue and eigenvector approximation; boundary value problems for ordinary differential equations; numerical solution to partial differential equations.

566 Numerical Analysis II

Iterative techniques for solving systems of linear equations; approximation theory; eigenvalue and eigenvector approximation; boundary value problems for ordinary differential equations; numerical solution to partial differential equations. *Prerequisites: Math 565 or consent of instructor.*

567 Numerical Solution of Partial Differential Equations I.

Finite difference methods for solving elliptic, parabolic, and hyperbolic equations; stability analysis; convergence properties; consistency of numerical schemes. *Prerequisite: Math 566.*

568 Numerical Solution of Partial Differential Equations II.

A continuation of topics covered in Math 567: Numerical Solution of Partial Differential Equations I with additional applications. *Prerequisite: Math 567.*

400-Level Courses That May Be Taken for Graduate Credit

There must be a substantial difference in expectations and work performance for graduate students. Graduate students will be challenged to read more extensively, to integrate the materials more thoroughly, and will be graded with higher standards and expectations than are undergraduate students.

The syllabus of each course offered for combined credit must contain a statement or statements describing specifically what will be required of graduate students.

All syllabi of courses offered for combined credit must be reviewed by a Graduate Council committee. Only those approved by that committee will be offered for graduate credit.

- 401 Mathematics of Interest (3)
- 403 Graph Theory and Combinatorics (3)
- 407 Introduction to Probability and Statistics (3)
- 408 Mathematical Statistics (3)
- 410 Number Theory (3)
- 412 Linear Algebra and Matrix Theory (3)
- 414 Operations Research (Linear) (3)
- 420 Applied Statistical Methods (3)
- 422 Introduction to Point Set Topology (3)
- 424 Operations Research (Nonlinear) (3)
- 428 Packages for Mathematical Computations (3)
- 430 The Historical Development of Mathematics (3)
- 440 Applied Analysis (3)
- 445 Advanced Differential Equations (3)
- 450 Modern Analysis (3)
- 452 Basic Concepts of Geometry (3)
- 454 Abstract Algebra (3)
- 460 Techniques of Applied Mathematics (3)
- 470 Introductory Complex Variables (3)
- 475 Research Seminar (1)
- 497r Research (1-4)
- 498r Individual Studies (1-4)
- 499r Group Studies (1-4)

Music (MUSIC)

Courses For Graduate Students Only**500r Graduate Ensemble (1)**

Participation in large or small ensembles as appropriate for the program of the student, and as approved by the student's graduate advisory committee. *Prerequisite: Division Jury.*

501r Special Topics (1-4)**502 Seminar in Music History and Research (3)**

Comprehensive survey of music history and methods of research in music history. Extensive experience with primary sources and style in scholarly writing on music. Research papers and in-class presentations on selected topics. Students will gain familiarity with library use skills and music materials. Areas covered will include music bibliography, research and writing techniques. Required of all candidates for the Master of Music degree.

503 Music Theory (2)

A comprehensive review of the elements of music theory. Credit may not be applied to degree program.

505 Seminar in Music Theory (3)

A survey of theoretical principles, with emphasis on techniques of analysis leading to the study of a musical score for performance.

507 Advanced Analysis (3)

Compositional, analytical techniques with emphasis on complex harmonic and procedural developments of the late nineteenth and twentieth centuries.