MMET - MFG & MECH ENGR TECH

**MMET 610 Cyber-Enabled Manufacturing**  
Credits 3. 3 Lecture Hours.  
Theory and technologies related to integrating humans, smart-machines and information within a connected networked manufacturing environment; technologies including sensors and sensor networks; Internet of Things and Industry 4.0 concepts; topics include total quality control, sensor fusion, analytic modeling and adaptive control algorithms.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 612 Manufacturing Supply-Chain Capability Management**  
Credits 3. 3 Lecture Hours.  
Supply chain operations, associated business processes and their relation to the financial performance of a manufacturing company; methodologies for the optimal use of company assets and resources to achieve coordinated material flows between and within suppliers, manufacturers and distributors.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 629 Technical Project and Personnel Supervision**  
Credits 3. 3 Lecture Hours.  
Techniques and methods for effective project and personnel management; legal aspects of projects including labor laws, unions, safety and reporting; globalization and impact on project management; financial justification and cost accounting of project budgets; leadership and management skills; engineering and technology supervision.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 641 Data Analysis, Simulation and Experimental Methods for Industry**  
Credits 3. 3 Lecture Hours.  
Parametrize and simulate physical systems; use of successive substitution technique for system modeling and optimization purposes; optimization techniques including calculus-based search methods; experimental methods for industry applications will include two-level factorial experimental design; multivariable data fitting and error propagation analysis.  
**Prerequisites:** STAT 601; graduate classification or approval of instructor.

**MMET 651 Advanced Materials Technology**  
Credits 3. 3 Lecture Hours.  
Concepts, properties and behavior of common traditional and non-traditional materials; mechanical behavior including fracture, fatigue and creep; electrical, thermal, magnetic, optical properties; degradation of material systems; material testing and characterization using commonly established tools and procedures; material selection for specific applications.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 652 Advanced Manufacturing Technology**  
Credits 3. 3 Lecture Hours.  
Advanced manufacturing practice in industry; principles and applications of 3D printing, particulate materials processing, microfabrication and high energy beam materials processing.  
**Prerequisites:** MMET 181; MMET 206; MMET 207, or approval of instructor; graduate classification.

**MMET 661 Product and System Lifecycle Management**  
Credits 3. 3 Lecture Hours.  
Aspects of product and system design presented in a lifecycle context; emphasis on systems engineering, product development and lifecycle management concepts; decision making tools, economic and environmental assessment methods presented and used to evaluate engineered products and systems.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 663 Machine Elements in Mechanical Design Applications II**  
Credits 3. 3 Lecture Hours.  
Applications of principles of analysis and design of machines and machine elements including linkages, robots, cam and follower systems, shafts, gears, clutches, belt and chain drives; introduction to the mathematical tools for the analysis and design of these machines and machine elements.  
**Prerequisite:** MMET 363 or equivalent.

**MMET 681 Seminar**  
Credit 1. 1 Other Hour.  
Selected topics presented by the faculty, students and outside speakers.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 684 Professional Internship**  
Credits 1 to 6. 0 Lecture Hours. 1 to 6 Other Hours.  
Directed internship in an organization to provide students with on-the-job training with professionals in settings appropriate to the student's professional objectives. Must be taken on a satisfactory/unsatisfactory basis.  
**Prerequisite:** Graduate classification in Master of Science in Engineering Technology.

**MMET 685 Directed Studies**  
Credits 1 to 12. 1 to 12 Other Hours.  
Directed study of topics not within scope of thesis research and not covered by other formal courses. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 689 Special Topics In...**  
Credits 1 to 4. 1 to 4 Other Hours.  
Selected topics in an identified area of engineering technology. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 691 Research**  
Credits 1 to 23. 1 to 23 Other Hours.  
Research for thesis or dissertation. May be repeated for credit.  
**Prerequisites:** Graduate classification or approval of instructor.

**MMET 692 Professional Study**  
Credits 1 to 23. 1 to 23 Other Hours.  
Approved professional study of project.  
**Prerequisites:** Approval of instructor.