Enterprise & Logistics Engineering.

GRADUATE STUDENTS INFORMATION HANDBOOK

Welcome to the

Panther Family

This handbook is your guide to the FIU programs under the division of Enterprise & Logistics Engineering. It will provide you with information about various practical aspects of the graduate life and is intended to help you navigate through the programs and its administrative procedures. In many cases, it is the quickest path to an answer. If, after consulting the handbook, you still have questions or unresolved issues, we welcome you to contact us with any additional questions.

We hope this handbook will help you plan your studies effectively, by providing you with useful information, and direct you to the resources you need.

FIU | **Engineering & Computing**
FLORIDA INTERNATIONAL UNIVERSITY

MASTER OF SCIENCE IN ENGINEERING MANAGEMENT (MSEM).

PROGRAM OVERVIEW

The *Master of Science in Engineering Management* (MSEM) program at the FIU College of Engineering and Computing is designed to develop future leaders of business and industry, working in almost every technical field. The program blends a carefully chosen mix of graduate courses offered by the FIU College of Engineering and Computing, the College of Law and the College of Business Administration. The MSEM program is delivered through multiple instructional modes in campus, off-site, and off-shore. It features a range of technical tracks and is also available in a fully online capacity.

The MSEM program is one of the leading engineering management degree programs for individuals who would like to advance to managerial positions in the industry and wish to acquire the necessary knowledge and skills for success. The curriculum design integrates theoretical concepts, case studies and a simulated business environment where students are challenged to make decisions that have organizational-wide impact. Students in the program will have the opportunity to learn and use contemporary engineering and business tools in a chosen field of study.

FIU is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS).

The MSEM program website is: https://em.fiu.edu/

MSEM PROGRAM COURSE REQUIREMENTS

The Program curriculum consists of 30 credit hours - 10 courses of 3 credit hours each. These ten courses consist of three (3) core courses, three (3) business courses and four (4) Engineering courses.

Core Courses (9 credit hours)

EIN 5226 – Total Quality Management for Engineers (3)
ESI 6455 – Advanced Engineering Project Management (3)
LAW 5072 – Business Law and Intellectual Property for Engineers and Entrepreneurs (3)

Business Courses (9 credit hours)

ACG 6026 – Accounting for Managers (3)
EIN 5359 – Industrial Financial Decisions (3)
EIN6105 – Technology Policies and Strategies (3)
EIN 6160 – Management of Innovations and Technology (3)
EIN 6324 – Technology Entrepreneurship (3)
EIN 6155 – Business Plan Development (3)
FIN 6406 – Corporate Finance (3)

FIN 6425 – Financial Management Policies (3)
FIN 6487 – Financial Risk Management - Financial Engineering (3)
MAN 6209 – Organization Design and Behavior (3)
MAR 6805 – Marketing Management (3)
MAN 6830 – Organization Information Systems (3)
MAN 6501 – Operations Management (3)
MAN 6167 – Leadership in the Global Environment (3)

Engineering Track Courses (12 credit hours)

Students could opt to follow their Engineering Management program with a specific concentration by choosing one of many technical tracks that this program has to offer. The available engineering track options include:

- **Biomedical Engineering Track**
- **Computer Engineering Track**
- **Computer Science Track**
- **Construction Management Track**
- **Electrical Engineering Track**
- **Enterprise Systems Track**
- **Engineering Entrepreneurship Track**
- **Environmental Engineering Track**
- **Information Technology Track**
- **Logistics Engineering Track**
- **Mechanical Engineering Track**
- **Operations Management of Orthotics and Prosthetics Track**

- **Production and Manufacturing Track**
- **Quality Engineering and Management**
- **Risk and Disaster Management Track**
- **Structural/Wind/Construction Track**
- **Systems Engineering Track**
- **Telecommunications Track**
- **Transportation Engineering Track**
- **Water resources Engineering Track**

MASTER OF SCIENCE IN LOGISTICS ENGINEERING (MSLE)

PROGRAM OVERVIEW

The *Master of Science in Logistics Engineering* (MSLE) program by the FIU College of Engineering and Computing will include student learning outcomes that address logistics from several complementary perspectives. Students will gain structural technical training dedicated to logistics engineering by teaching contemporary logistics systems, technology and operations. Students will gain the system engineering tools and techniques that apply to addressing emerging challenges in the industry with respect to design and development of logistics systems and technology. The program is delivered through multiple instructional modes, both in campus and online.

The Master of Science in Logistics Engineering is an emerging engineering field dedicated to an optimal design and operations of a logistics system that integrate various inter-enterprise business functions including:

- o Forecasting
- o Procurement
- o Transportation
- o Production and Manufacturing
- o Storage
- o Distribution
- o Warehousing, and
- o Capacity and demand management

These aims to create a seamless integration of material, information, and money flows throughout the supply chain network in order to best support the goals of the organization. The MSLE program prepares students to become full-fledged logistics systems engineers with in-depth knowledge of logistics operations, technology, and systems design techniques.

FIU is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS).

The MSLE program website is: https://em.fiu.edu/master-science-logistics-engineering

MSLE PROGRAM COURSE REQUIREMENTS

The Program curriculum consists of 30 credit hours - 10 courses of 3 credit hours each. These ten courses consist of four (4) courses in logistics practice, three (3) courses in systems engineering and three (3) courses in logistics systems and technology.

Core Courses (minimum of 12 credit hours required)

ESI 5010C – Forecasting and Demand Management (3)
EIN 5346 – Logistics Engineering (3)
EIN 5436 – Regulatory Compliance in Logistics and Supply Chain Management (3)
EIN 6336 – Advanced Production Planning and Control (3)

Systems Engineering Courses (minimum of 9 credit hours required)

EIN 5226 – Total Quality Management for Engineers (3)
EIN 5332 – Quality Engineering (3)
EIN 5359 – Industrial Financial Decisions (3)
ESI 6316 – Applications of OR in Manufacturing (3)
ESI 6440 – Integer Programing (3)
ESI 6455 – Advanced Engineering Project Management (3)
ESI 6470 – Stochastic Optimization (3)
ESI 6524 – Advanced Industrial Systems Simulation (3)
ESI 6546 – Network Flow Analysis (3)
EIN 6133 – Enterprise Engineering (3)

Logistics Systems and Technology Courses (minimum of 9 credit hours required)

EGS 5620 – Enterprise Systems Configuration (3)
EGS 5621 – Enterprise Systems Collaboration (3)
EGS 5622 – Enterprise Systems Integration (3)
EGS 5623 – Enterprise Systems Optimization (3)
ESI 5357 – Design of Production Systems (3)
ESI 5522 – Simulation Models of Engineering Systems (3)
EIN 6345 – Inventory Control Systems (3)
ESI 6324 – Advances in Logistics Technology (3)

GRADUATE CERTIFICATE IN ENGINEERING MANAGEMENT (GCEM)

This certificate program is designed for practicing engineers and graduate students in all engineering majors, who are interested in acquiring skills for managerial careers in the engineering and technology industries. The GCEM program is especially helpful for those engineers who are seeking to transition into management and wish to acquire the necessary perquisite knowledge and skills. More than a sequence of coursework, the certificate program also simulates a business environment where students learn and apply engineering tools, managerial theories, and best practices to design and operate industrial and engineering systems. Students in the program are expected to acquire contemporary engineering management theories and techniques. This certificate program is open to both degree- and non-degree seeking students.

Admission Requirements

A minimum undergraduate GPA of 2.75 is required for admission. International graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or 6.5 overall on the IELTS is required.

Certificate Requirements

Students must take at least 5 graduate courses from the list below and receive an average grade of "B" or higher. All the credits earned in this Certificate program with "B" or better may be used in the Master of Science in Engineering Management (MSEM) degree program provided the student is admitted to the MSEM degree program prior to the completion of no more than 12 Graduate Certificate credits. Additional courses may be considered, subject to approval of the program director.

EIN 5226 – Total Quality Management for Engineers (3)
EIN 5346 – Logistisc Engineering (3)
EIN 5359 – Industrial Financial Decisions (3)
EIN 6133 – Enterprise Engineering (3)
EIN 6160 – Management of Innovation and Technology (3)
EIN 6336 – Advanced Production Planning and Control (3)
EIN 6345 – Inventory Control Systems (3)
EIN 6357 – Advanced Engineering Economy (3)
ESI 5010C – Forecasting and Demand Management (3)
ESI 6455 – Advanced Engineering Project Management (3)
LAW 5072 – Business Law and Intellectual Property for Engineers and Entrepreneurs (3)

GRADUATE CERTIFICATE IN ENTERPRISE SYSTEMS (GCES)

This certificate program is designed for those who are interested in acquiring expertise and skills in the growing discipline of Enterprise Systems (ES). ES software utilizes the computational power with massive data storage and transmission capabilities to support enterprise processes, information flows, reporting, and data analytics within and among complex organizations. Typical Enterprise Systems include: Enterprise Resource Planning (ERP), Supply Chain Management (SCM), and Customer Relationship Management (CRM).

The software architecture aims on facilitating the flow of information among all business functions inside the organization and to outside stakeholders. Built on a centralized database and business intelligence, ES focuses on consolidating all business operations into a uniform, real time, and enterprise-wide system environment. This certificate program is open to both degree and non-degree seeking students. The Graduate Certificate in Enterprise Systems (GCES) program combines the optimal design of enterprise structures and operations with SAP implementation. The Certificate program consists of five required graduate courses.

Admission Requirements

A minimum undergraduate GPA of 2.75 is required for admission. International graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or 6.5 overall on the IELTS is required.

Certificate Requirements

Students must take at least 5 required courses and receive an average grade of "B" or higher. In addition, students who attain "B" or better in at least three courses will also earn a SAP certificate. All the credits earned in this Certificate program may be used in the Master of Science in Engineering Management (MSEM) degree program provided the student is admitted to the MSEM degree program prior to the completion of no more than 12 Graduate Certificate credits. Additional courses may be considered, subject to approval of the program director.

EIN 5367 – Design of Production Systems (3)
EIN 5346 – Logistisc Engineering (3)
ESI 5010C – Forecasting and Demand Management (3)
EIN 6336 – Advanced Production Planning and Control (3)
EIN 6345 – Inventory Control Systems (3)
EIN 6133 – Enterprise Engineering (3)
EGS 5620 – Enterprise Systems Configuration (3)
EGS 5621 – Enterprise Systems Collaboration (3)
EGS 5622 – Enterprise Systems Integration (3)
EGS 5623 – Enterprise Systems Optimization (3)

COURSES DESCRIPTIONS

Description of prefixes.

EGN-Engineering, General EGS-Engineering Support; EIN-Engineering, Industrial; ESI-Engineering Systems Industrial.

EIN 5226 – Total Quality Management for Engineers (3)
Fundamentals of TQM and its historical development. Integration of QC and management tools, QFD, benchmarking, experimental design for scientific management.

ESI 6455 – Advanced Engineering Project Management (3)
This course covers entire phases of project management including selection, planning, budgeting, scheduling, monitoring, and control. It focuses on the management of engineering projects through case studies and independent research assignment. Prerequisite: Permission of the instructor.

LAW 5072 – Business Law and Intellectual Property for Engineers and Entrepreneurs (3)
Focused on the formation, governance, operation, and legal protection of business; coverage includes contracts, malpractice, product liability, employment law, and intellectual property law.

MAR 6805 – Marketing Management in the Global Environment (3)
Analysis and application of theory and problem solving for marketing management in the global environment. Emphasis will be on the role of marketing in the organization; planning the marketing effort; management of the marketing organization; control of marketing operations; and evaluation of the marketing contribution.

EIN 5359 – Industrial Financial Decisions (3)
The use of financial techniques and data in planning, controlling and coordinating industrial activities. This course will familiarize the student with accounting concepts and analytical methods.

MAN 6209 – Organization Design and Behavior (3)
Covers how managers interact with organizations to accomplish complex tasks by examining how strategy, structure and systems interact with behavioral variables.

MAN 6245 – Organizational Behavior (3)
Individual, interpersonal, and small group behavior in complex organizations. Focus on behavior, its causes, and management interventions to improve organizational effectiveness. Research methods to study organizational behavior.

ACG 6026 – Accounting for Managers (3)
Presentation of the nature, techniques and uses of accounting from the perspective of people who manage businesses and investments in businesses. Covers both financial and management accounting.

EIN 6160 – Management of Innovations and Technology (3)
The course provides an integrated view of management of technology. The combination of theory and practice addresses the challenges of globalization, time compression, and technology integration.

EIN 6325 – Business Plan Development (3)
This course deals with the critical decisions and action steps that entrepreneurs must make in both planning and executing a new venture. It also covers how to develop an effective written plan.

FIN 6425 – Financial Management Policies (3)
Advanced theories and applications underlying financial decision making. Case studies and model building. Topics may include valuation, capital structure, dividend policy, restructuring, mergers and acquisition, corporate bankruptcy, agency theory, and initial public offerings.

FIN 6487 – Financial Risk Management - Financial Engineering (3)
A survey of financial instruments used for financial risk management, including forwards, futures, options and swaps. Emphasis is on identification of financial risks and designing optimal risk management program.

MAN 6830 – Organization Information Systems (3)
Introduction to information systems and their role in organizations from a user's viewpoint. Survey and application of the basic concepts necessary for understanding information systems. Study of the main activities in the development cycle used to acquire information systems capability.

MAN 6501 – Operations Management (3)
This course covers analysis, design, and operations of organizational systems. The systems approach is used to provide a framework or general model of analysis, to which specific concepts, quantitative techniques, and tools can be related. The material presented has application to any organization of people and machines, including hospitals, governmental agencies, service organizations, and industrial concerns.

MAN 6167 – Leadership in a Global Environment (3)
The course is designed to provide the student with a clear understanding of current thinking in the area of leadership. It focuses on the holistic nature of leadership and the impact leaders have on individuals, groups, and organizations.

ESI 5010 – Forecasting and Demand Management (3)
Emphasis on forecasting future trends and specific developments in the area of capabilities and needs.

EIN 5346 – Logistics Engineering (3)
Concepts and tools for effective design and management of supply chain systems. Includes logistics strategies, inventory management, customer service, supply chain integration and logistics network design.

EIN 6133 – Enterprise Engineering (3)
Enterprise processes and functions, enterprise engineering methodology and techniques, enterprise scalability, systems and vertical integration, systems design and implementation.

EIN 6345 – Inventory Control System (3)
Design of non-traditional inventory control systems. Development of several inventory system models. Exploration of methods of collecting appropriate demand and cost data for effective systems analysis.

EIN 5436 – Regulatory Compliance & Supply Chain Management (3)
Concepts that will cover the theoretical and practical approaches to understanding & managing the complexities of regulatory compliance landscape in the international logistics import/exports operations.

This course presents an insider's perspective on how logistics enterprise complies with today's international regulatory trade operations requirements.

EIN 5226 – Total Quality Management for Engineers (3)
Fundamentals of TQM and its historical development. Integration of QC and management tools, QFD, Benchmarking for scientific management. Prerequisite: Permission of advisor.

EIN 5332 – Quality Engineering (3)
Modern concepts for managing the quality function of industry to maximize customer satisfaction at minimum quality cost. The economics of quality, process control, organization, quality improvement, and vendor quality.

EIN 5359 – Industrial Financial Decisions (3)
Fundamental concepts of industrial financial decisions, financial planning and analysis tools, justification for industrial capital investments, and intermediate and long-term financing options.

ESI 5357 – Design of Production Systems (3)
The design of an industrial enterprise including feasibility, plant layout, equipment specifications, auxiliary services, economics and scheduling.

ESI 5522 – Simulation Models of Engineering Systems (3)
Simulation Methodology; design and implementation of models of engineering systems using computer software; case studies.

ESI 6316 – Applications of OR in Manufacturing (3)
Overview of OR techniques. Manufacturing system and product Selection. Shop loading, resource allocation, production scheduling, job sequencing, and plant layout problems. System performance evaluation.

ESI 6440 – Integer Programing (3)
Formulating and solving decision-making problems with discrete decision variables. Methods to solve large-scale integer/mixed- integer models.

ESI 6455 – Advanced Engineering Project Management (3)
Project planning, scheduling and control using activity network logic. System development techniques and strategies.

ESI 6470 – Stochastic Optimization (3)
Formulating and solving decision-making models with uncertain data. Exact and approximation techniques for large-scale stochastic models.

ESI 6524 – Advanced Industrial Systems Simulation (3)
Advanced simulation techniques with a focus on practical systems modeling using several user-oriented simulation languages. Projects involving design of high-performance simulation programs are required.

ESI 6546 – Network Flow Analysis (3)
Deterministic and stochastic network flow analysis; minimal cost flow, shortest route, max-flow, and out-of-kilter algorithms; constrained network analysis; and stochastic queuing networks.

EGS 5620 – Enterprise Systems Configuration (3)

Enterprise systems overview; major enterprise functions; standard operation procedures; system configuration and parameters; master data; user interfaces and reports; and hands-on experience. Prerequisite: Permission of the instructor.

EGS 5621 – Enterprise Systems Collaboration (3)

Collaborative engineering and environment; decision processes; changes management; virtual enterprise operation systems; and hands-on experience with a commercial enterprise operation system.

EGS 5622 – Enterprise Systems Integration (3)

Enterprise architectures; work flow modeling and design; systems integration methodology; vertical and horizontal integration; master data analysis and integration; and hands-on experience.

EGS 5623 – Enterprise Systems Optimization (3)

Supply networks overview; interactive supply network planning; optimal systems and process design; optimization techniques and heuristics; master and transaction data transfer; and hands-on experience.

EIN 6336 – Advance Production Planning and Control (3)

Production systems, demand forecasting, capacity planning, master production planning, material requirements planning, shop floor control, and assembly line balancing.

EGN 5435 Product Modeling (3).

Life cycle product data, geometry and form features, product information models and modeling techniques, product modeling systems, and product data standards.

EGN 5540 Quality and EH&S Management Systems (3).

Design of management control systems for quality, environmental, and occupational health and safety requirements. Principles and process of auditing. Review of related standards.

EGN 5550 Risk Analysis in Business Concept Development for Engineers and Entrepreneurs (3).

It integrates assumptions, risk/forecasting with engineering approach to new business development. The course uses exercises, cases and projects to develop practical experience with course theories.

EGN 5644 Commercializing Innovation (3).

Product development/process, innovation, commercialization; needs analysis; market segmentation; value proposition; prototyping, packaging and branding; modeling costs and margins; hands-on practice. Prerequisite: Permission of the instructor.

EGN 6436 Manufacturing Process Design (3).

Resources modeling, process plan modeling, and planning methodologies for process selection, operations selection, machining parameters selection, setup planning, and inspection planning.

EGN 6437 Manufacturing Systems Design (3).

System design for production and process planning, resource management, material handling, process control, and quality control. Prerequisite: Permission of the instructor.

EGN 6438 Manufacturing Engineering (3).

Manufacturing functions, product and process design, material processing and control, systems design and operations, resource and technology management, and analytical tools for manufacturing.

EGS 5914 Advanced Research Methods in Engineering and Computing (3).
Students will learn to review the literature, develop a research question and hypothesis or objective, design experiments, conduct collaborative research and present results in oral and written form.

EIN 5001 Quantitative Foundation for Engineering Managers (3).
Topics in operations research, engineering economic analysis and engineering data analysis considered quantitative foundation knowledge for engineering managers.

EIN 5106 Regulatory Aspects of Engineering (3).
A survey of the legal and regulatory requirements encountered by engineers. Included will be OSH Act, NIOSH, ADA, EEOC, Worker's Compensation and Product Liability.

EIN 5244 Cognitive Engineering (3).
Advanced topics in human factors and cognitive engineering. Theoretical aspects of applied situation awareness and decision making, and applications in a variety of engineering domains.

EIN 5249 Occupational Biomechanics (3).
Study of the theoretical fundamentals for the mechanics of the body. The link system of the body and kinematic aspects of body movement including applications of biomechanics to work systems.

EIN 5256 Usability Engineering (3).
The usability aspects of software systems design and testing. The theory of interface design for usability and the methods and techniques for designing and testing technology interfaces.

EIN 5322 Engineering Management (3).
Organization of engineering systems including pro duction and service organizations. Inputs of human skills, capital, technology, and managerial activities to produce useful products and services.

EIN 5605 Robotic Assembly Cell (3).
Concepts of robot manipulation and sensing, part design for robotic assembly, planning manipulator trajectories, machine vision, robot programming language, cell control, and material transfer.

EIN 6105 Technology Policies and Strategies (3).
Strategies and policies for managing all aspects of technology. Includes value chain integration, intellectual property, and internal processes and systems.

EIN 6117 Advanced Industrial Information Systems (3).
Review of the fundamental and theoretical foundation of industrial information systems. Application of the system design process and information system concepts to develop integrated engineering systems.

EIN 6131 e-Systems Design (3).
The study and application of engineering analysis and design methods for Internet-based systems. The integration of Internet technologies and applications into engineering information systems.

EIN 6132 Collaborative Engineering (3).

Product data management, visualization, collaboration, collaborative product commerce, document management, component supplier management, configuration management, enterprise application integration. Prerequisite: Permission of the instructor.

EIN 6246 Advanced Human-Machine Interaction Design (3).

The application of human factors analysis and design methods to complex system interaction. Interface design for technological systems in workplace and consumer domains.

EIN 6248 Advance Ergonomics (3).

Analysis of human factors in the design of engineering systems, with emphasis on the interphase of man-machine-media and human limitations in relation to equipment design and work environments.

EIN 6258 Ergonomic Design of Aerospace Systems (3).

Application of ergonomic criteria in design of civil and military aircraft cockpits and control systems. Ergonomic consideration in design of outer space vehicles, stations, and systems.

EIN 6259 Usability Engineering in E-commerce (3).

This advanced course applies usability engineering theories and methods to models of e-commerce. Usability models are presented and evaluated using case studies.

EIN 6319 Advanced Work Design (3).

Study of the various human physiologic systems and their responses as it relates to occupational work including endurance, fatigue, recovery, and energy cost of work.

EIN 6324 Technology Entrepreneurship (3).

Entrepreneurial process, evaluation of technology, startup operations and strategy, business plans and venture capital, intellectual property and rights, growth and technology management.

EIN 6327 Entrepreneurship and New Venture Initiation (3).

It covers critical factors of initiating new ventures: entrepreneurial networks, venture creation, strategies, evaluation, financing, legal considerations, market strategies, and feasibility analysis.

EIN 6329 Advanced Engineering Business Plan Development (3).

This course takes students through the process of writing a plan for a new business venture through to implementation. Heavy emphasis placed on research and case analysis.

EIN 6392 Product Design for Manufacturability and Automation (3).

Overview and integration of the design material manufacture process. Design considerations for manufacturability, assembly, and economical production. Concurrent engineering systems.

EIN 6393 Design and Implementation of Discrete Manufacturing Systems (3).

Methodology and techniques for design, planning and implementation of discrete production systems including process/machine selections, material handling and inspection technologies, cell control, etc.

EIN 6397 Advanced Topics in Manufacturing Automation (3).

Overview of manufacturing systems; evolution of controls and AI, material handling, automation clamps, jigs, and fixtures, cutting sensors, machine vision and autonomous manufacturing.

EIN 6398 Advanced Manufacturing Process Engineering (3).

Non-traditional manufacturing processes. Too L selection, jig and fixture design, material handling, tolerance and dimensioning. Product assembly engineering economics, and manufacturing process planning.

EIN 6603 Applied AI/Expert Systems in Industrial Engineering (3).
Application of artificial intelligence and expert systems as engineering tools. Exploring the use of PCs and symbolic machine with various AI/Expert Systems software. Several projects are required.

EIN 6606 Robotic Systems (3).
Basic robotic system principles, functional requirements of robotic systems, simulation of system preliminary design, and physical experimentation of robotic systems.

EIN 6908 Independent Study (1-3).
Individual supervised study by a faculty. A study plan and a final report are work required. Prerequisite: Departmental approval.

EIN 6910 Supervised Research (1-3).
Advanced research credits under the supervision of the dissertation advisor.

EIN 6932 Graduate Seminar (0).
An examination of recent technical findings in selected areas of concern. Emphasis is placed on presentations (oral and written), research activities, readings and discussions among participants.

EIN 6936 Design of Industrial Engineering Systems (3).
Overview of systems theories. Systems design process including: Problem definition, analysis, generation of alternatives, systems evaluation, selection of preferred system, and implementation.

EIN 6940 Industrial and Systems Engineering Internship (1-3).
To provide graduate students with work experience under approved industrial supervision. Prerequisite: Departmental approval.

EIN 6950 Engineering Management Masters Project (1-3).
Individual work culminating in a professional practice – oriented report suitable for the requirements of the Master
of Science in Engineering Management program. Prerequisite: Departmental approval.

EIN 6971 Master's Thesis (1-3).
The students following the thesis option should work on his/her thesis through this course.

ESI 5456 Productivity Management in the Global Organization (3).
Analysis of productivity management strategies. Major issues in performance and productivity management, domestic and global outsourcing, international labor standards and trade policies.

ESI 5602 Engineering Data Representation and Modeling (3).
The course will cover the life cycle of designing, developing, and implementing engineering database systems by applying the IDEFx methodology. Prerequisite: Permission of Instructor.

ESI 5603 Advanced Software Tools for ISE (3).

Algorithms and principles to integrate heterogeneous tools. Principles of XML, ASP, and other tools. Development of programming projects.

ESI 6319 Operations Research and Information Technology (3).
Principles and paradigms for the design and implementation of OR models, which may be integrated into an organization's existing information system and technologies.

ESI 6324 Advances in Logistics Technology (3).
Emerging logistics technology in financial transactions, communications, and material handling, scanning, tracking, monitoring, production, transportation, warehousing and distribution. Prerequisites: Permission of the instructor.

ESI 6460 Methods for Algorithm Development for Industrial Engineering Applications (3).
Methods for algorithm development for Industrial Engineering applications, with emphasis on powerful optimization techniques and analysis tools. Prerequisites:

ESI 6528 Advanced Topics in Simulation Modeling (3).
An examination of the role of artificial intelligence, object-oriented programming, and databases as enabling technologies in the simulation modeling process. Review of the literature and case studies.

ESI 6547 Stochastic Models of Industrial Systems (3).
Applications of models from gaming, decisions analysis, queueing, inventory and scheduling to assess the performance level of industrial systems operating under random conditions.

ESI 6601 Data Warehousing and Mining (3).
Knowledge discovery for effective design of data storage. Discussion of the difficulties associated with data warehousing and mining. Literature review and case studies

ADMISSION TO THE MSEM AND MSLE PROGRAMS.

Admission Policies

The applicant to both MSEM and MSLE program must have a bachelor's degree in engineering or a closely related field from a regionally accredited institution with a minimum of "B" average in upper-level undergraduate work, or a graduate degree from an accredited institution. In addition, international graduate student applicants whose native language is not English are required to submit a score for the Test of English as a Foreign Language (TOEFL) or for the International English Language Testing System (IELTS). A total score of 80 on the iBT TOEFL or 6.5 overall on the IELTS is required. The applicant whose GPA does not meet the minimum GPA requirement may be considered for conditional admission. For such consideration, the applicant must submit (1) three letters of recommendation; (2) a resume including education, training, and employment history, practical and research experience (such as projects and publications), skills and other pertinent information; and (3) a statement of objective in which the applicant must clearly state his/her intended engineering track, in addition to other information.

Conditional Admission Policy

Maintain a 3.00 cumulative GPA on your first 9 Graduate credits within the first three consecutive semesters

Please Note: If more than 9 credits are completed in the term when the 9 credit milestone is reached, all credits taken will be calculated in the cumulative GPA to determine if the condition has been met.

A student admitted under a 2-term conditional admission must submit a signed Acceptance Form, indicating that he or she understands and accepts the conditions of the admission, before he or she is allowed to register.

If the student meets the conditions of admission, he or she will be fully admitted to the University. If the student does not meet the conditions, he or she will be dismissed from the University and will not be able to enroll for the following three (3) semesters. After these three semesters have passed, the student can apply again for admission to a graduate program at FIU.

Tuition Payments

Students must agree to pay their tuition fees directly to FIU in a timely manner according to set deadlines. Students must abide by all FIU policies, regulations and tuition deadlines. Failure to timely pay tuition fees will be addressed in accordance with applicable policies and shall be cause for termination of students from the Program.

For additional information regarding payments, visit www.onestop.fiu.edu.

Course Registration

Registration for classes takes place online via my.fiu.edu. Before registering, meet with your program advisor to select the appropriate classes for your program. A list of the most important facts to review before registering for any class can be found at registrar.fiu.edu. The Academic Calendar will be your main reference for deadlines regarding registration, add/drop dates, etc. Please visit registrar.fiu.edu to view the calendar. ***Note: To register for business online electives and LAW 5072 you must send a registration request via email to Patricia Amado*** pamado@fiu.edu*; include student and course information.*

Students in the MSEM Online Program, MSEM China Program, MSEM Professional, & MSLE Regular and Online will submit course registration requests to the departmental staff prior to the beginning of each term for classes registration.

Email Account
Email is FIU's mechanism for official communication with students and expects that students will read official email in a timely fashion. All communication from students to university administration should be conducted with a FIU email account. For more information on FIU's email, click https://my.fiu.edu .

Name and Address Change
A student who changes a permanent or local street or email address must update their address information online by logging onto MyFIU.edu. Essential communications such as diplomas require up-to-date contact information. Students who change their name must provide documentation to the FIU One Stop Office to affect a name change.

PROGRAM TOOLS & RESOURCES

Student Services
FIU's Division of Student Affairs offers various services for students through their campus office or online.

Center for Excellence in Writing (CEW)

The CEW offers individual consultations about any writing students do throughout their years at FIU. Whether brainstorming, drafting, revising or polishing, writing consultants can assist students with most written projects. The CEW also programs several workshops throughout the year specific to graduate students. For more information, please visit their website at https://writingcenter.fiu.edu/ or call (MMC) (305) 348-6634 or (BBC) (305) 919-4036.

FIU College of Engineering and Computing EIC (Engineering Information Center)
Provides all FIU engineering students access to work from anywhere via the CITRIX Portal. Students are provided with CITRIX accounts to allow them to access software programs online anytime and from anywhere in the world by using EICApps. EIC offers a wide range of services to both students and faculty. For more information, please go to the following: https://eic.fiu.edu/how-to-login-to-eicapps/.

FIU Division of IT
The FIU Division of IT provides technical support to all FIU students. These include technical issues with connectivity, password help, configuring classroom software.
Website: https://it.fiu.edu/
Telephone

Call Center: (305) 348-2284
Monday - Friday: 8 a.m. – 6 p.m.

Course Management System: Canvas

FIU's course management system, called 'Canvas', is a web-based forum available for selected courses taught by FIU faculty. This system allows for many types of electronic interactions between faculty and students: discussion boards, class announcements, class rosters, assignment drop boxes, syllabi, multimedia files, and text documents can all be made available to students in selected courses.

To access Blackboard and see the frequently asked questions and tutorials, please click here: http://online.fiu.edu/student/about-canvas.

MyFIU.edu / Panthersoft

MyFIU.edu provides student web access to FIU's Panthersoft System. MyFIU, a PantherSoft Web portal, allows students to manage the content they care to see on their personal page when they log on to FIU. The PantherSoft System allows students to view all their information from one place. Through MyFIU.edu, students can see course enrollment, get an unofficial transcript and grades, see financial aid and student account information, update address and telephone numbers, check course enrollment levels, and more. Please refer to the help https://my.fiu.edu provides the information needed to navigate MyFIU.edu confidently and easily, and includes tip-sheets and tutorials.

The FIU Library
Off-Campus Access

Login to access library resources from anywhere in the world! Many of the databases offered by the FIU Libraries are restricted to currently registered students, staff, and faculty of the University. When connecting to these services from off campus you are required to let the system know you are currently affiliated with FIU. Please go here: https://login.ezproxy.fiu.edu/login.

Useful Links

- FIU Libraries for access to the Library's catalog, indexes, abstracts, and descriptions of library services.

FIU POLICIES and PROCEDURES

These are policies students must adhere to in order to maintain adequate academic progress and successfully complete the program. Students should familiarize themselves with the following policies governing all graduate students.

Academic Warning, Probation, and Dismissal

Graduate students are required by the University to maintain a cumulative grade point average (GPA) of 3.0 or higher.

> **Warning:** a graduate student whose cumulative GPA falls below 3.0 will be placed on warning for the following semester. Warning indicates academic difficulty.

> **Probation:** a graduate student on warning whose cumulative GPA remains below 3.0 will be placed on probation. The student will have one semester to raise his/her GPA. Probation indicates serious academic difficulty.

> **Dismissal:** a graduate student on probation (cumulative and semester GPA below a 3.0) who does not improve will be automatically dismissed from the program. The dismissal is for a minimum of one year. After one year, the student may apply for readmission to the University in the same or different program.

FIU Grievances Process

The purpose of this policy and procedure is to provide a means for graduate students to seek investigation and possible resolution of academic grievances, as defined below. This policy and procedure covers graduate academic grievances which are defined as any complaint or controversy alleging: 1) unprofessional conduct by a professor which adversely affects either a student's ability to satisfy academic expectations, whether in the classroom, the field, or a lab, or the student's actual performance; 2) improper admission counseling; 3) improper counseling by an adviser; 4) arbitrary grading for coursework, comprehensive examination, thesis or dissertation; and 5) arbitrary non-renewal of a graduate assistantship or arbitrary dismissal from a course or program.

This policy does not address issues related to sexual harassment or discrimination based on age, sex, religion, race, marital status, national origin or disability. The Equal Opportunity Programs office is responsible for handling such issues in accordance with procedures developed to comply with the Florida Equity Act. If the graduate student alleges unauthorized utilization of thesis, dissertation or research materials by a professor, resolution of the issue must be sought using the University's policy: Protocols for Investigating Research Misconduct. For full report, please visit the following: http://gradschooldev.fiu.edu/academic-grievance.shtml.

Cheating

Definition: Cheating is the unauthorized use of books, notes, aids or assistance from another person with respect to examinations, course assignment, field service reports, class recitations, or possession of unauthorized examination papers or course materials. Any student helping another cheat may be found guilty of academic misconduct. **The penalty for this academic misconduct may result in a student's**

dismissal from the program.

Attendance Policies

Students should abide by guidelines in regards to the attendance criteria as set forth by individual faculty in classes deemed it necessary. Should FIU be closed for any reason or classes disrupted/canceled, the faculty and staff of the Division of External Programs Director will communicate it to the students, and will work with the Faculty to make up any session(s) missed.

Attendance is considered as a minimum (though not sufficient) evidence of student's contribution to the learning process. Short breaks will be given at various intervals during class sessions. Students are required to be in class on time. Tardiness is considered a sign of disrespect and may result in penalties being imposed by the instructors.

Academic units may establish their own attendance policies with the approval of the Provost.
Lapses in enrollment for two consecutive semesters (not counting summer) require that the student apply for readmission subject to the admission procedures, criteria, and policies in effect at the time the reapplication is made. At the beginning of each semester, an audit will be conducted to identify graduate students who are active but not enrolled.

Course Evaluations

Each student is required to complete one course evaluation for each class taken within the program. Course evaluations are paper-based and are handed out two weeks before the conclusion of each course. These evaluations are kept anonymous.

Communication of Grades
Grades will be posted on PantherSoft within 1 – 2 weeks of class completion. The Division of External Programs office will not be the primary source of grade communication for students yet will be able to facilitate mediums for this to happen.

Incompletes

A student experiencing difficulties in completing a course or a session is encouraged to speak to his/her professor. In cases where just a single exam or an assignment is missing, but the student has a passing grade, it may be possible to receive an incomplete grade. In this case the student will not forgo his/her time and money invested in the program; the incomplete will allow the student to meet the course requirements at a later time.

The University policy is that an incomplete grade must be made up no later than two semesters from the time taken or it will automatically default to an F.

Degree Requirements and Conferment

Commencement and Graduation

At the beginning of the last semester in the program, the Program Director will email all graduating students on the deadlines to apply for graduation online. Students must complete and submit the online graduate application before the set deadline through Panthersoft.

Please note that a student must have at least a 3.0 cumulative GPA and a "C" or higher in all courses of the program in order to be eligible for graduation.

Graduation Requirements

The graduation requirements for the MSEM degree are as follows:

- Completion of the required semester hours of graduate level credit (no more than 6 graduate semester hours with a grade of "B" average or higher can be transferred from other accredited institutions).
- An overall GPA of 3.0. No grade below "C" will be accepted in the Program.
- Compliance with all FIU policies and regulations.
- Graduation is held at the FIU Modesto Maidique Campus in Miami, Florida.
- All students are required to be enrolled in classes during the term in which they graduate.

__Withdrawal from the Program__

Students that enter the program have made the commitment to complete the program in 12 months. In the case of a program withdrawal the student will be required to provide written notice documenting the reason why he/she will not be able to complete the program**.** Should a student withdraw from the program, he/she will not be refunded any tuition fees already incurred as a result of previous classes taken during the program, or from current classes registered at the time of withdrawal.

__Program Exit Survey__

It is mandatory that students complete a program exit survey in order to provide feedback on your experience while in the program and how it can be improved. This survey is also important for us to comply with SACS accreditation.

Students Resources

There are many resources to help you successfully transition to College of Engineering and Computing, get involved, succeed in your classes, find financial aid, and explore opportunities in and out of the classroom. Here is a brief overview of the resources you can find under our Advising Center:

Academic Advising Section

- Financial Aid

- Tutoring & Orientations
- Catalog & Flowcharts

- Information for Transfer and Prospective Students
- Admission Requirements and more

Career & Talent Development
- Finding Employment & Internship Opportunities
- Professional Development Workshops
- Resources for Employers
- Career Resources for Students
- Handshake Job Search Portal and more

Center for Diversity and Student Success
- Scholarships
- Engineering & Computing Student Organizations

- Engineering Research Centers (ERCs)
- K-12 & STEM Outreach Activities
- Summer Programming for K-12 Students
- Industry Engagement and more

Technology Support
- Add Computer Account
- Printing Services
- Work from Anywhere
- Many More Services

You can visit their website to get specific information: https://cec.fiu.edu/academics/student-resources

Academic Calendar

Fall 2020 Calendar

Event	Date
Fall A	
Classes Start	Monday, August 24, 2020
Last Day to Add/Drop	Monday, August 31, 2020
Last Day to Drop with a DR Grade	Monday, September 21, 2020
End of Term	Saturday, October 10, 2020
Commencement	TBA
Deadline for Faculty to Submit Grades	Wednesday, October 14, 2020
Grades Available for Students	Thursday, October 15, 2020
Fall B	
Classes Start	Monday, October 19, 2020
Last Day to Add/Drop	Monday, October 26, 2020
Last Day to Drop with a DR Grade	Monday, November 2, 2020
End of Term	Saturday, December 5, 2020
Deadline for Faculty to Submit Grades	Wednesday, December 16, 2020
Grades Available for Students	Thursday, December 17, 2020
Fall C	
Classes Start	Monday, August 24, 2020
Last Day to Add/Drop	Monday, August 31, 2020
Labor Day Holiday	Monday, September 7, 2020
Last Day to Drop with a DR Grade	Monday, November 2, 2020
End of Term	Saturday, December 5, 2020
Deadline for Faculty to Submit Grades	Wednesday, December 16, 2020
Grades Available for Students	Thursday, December 17, 2020
Winter Break 1 (University Closed) – December 24th, 2020	
Christmas Day (University Closed) – December 25h, 2020	

You can visit their website to get more specific information: https://onestop.fiu.edu/academic-calendar/

FACULTY OF ENTERPRISE & LOGISTICS ENGINEERING

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