

DEPARTMENT OF INDUSTRIAL ENGINEERING AND ENGINEERING MANAGEMENT

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Mission

The Department of Industrial Engineering and Engineering Management (INME) mission is to provide technically competent graduates; have basic management and inter-personal skills; and contemporary and relevant engineering education to design and improve operations in the industry, business, and government for the global economy of the 21st century; and promote life-long learning.

Program Educational Objectives

The Bachelor of Engineering in Industrial Engineering (IE) is the only undergraduate degree awarded by the Industrial Engineering & Engineering Management Department at BAU. The Industrial Engineering (IE) program educational objectives were set and approved by the IE program's constituencies, i.e. Faculty, Alumni, Advisory Board, and Employers. The program has as its objectives that within a few years our graduates must:

1. be competent to identify and implement effective solutions to real problems by applying contemporary industrial engineering tools and cutting-edge technology in production, quality, safety, supply chain, optimization, economics, manufacturing, service and information systems.
2. be competent in formulating problems accurately, generating alternative solutions, evaluating those alternatives, and presenting the best solutions to clients or decision-makers in a fashion that facilitates decision-making processes.
3. assume leadership roles with strong communication skills and will be able to work competently and ethically alone and as a team member.

Learning Outcomes

The IEEM department has adopted the ABET Students Learning Outcomes (SLOs) "1 to 7" to ensure the quality of the Industrial Engineering Program Educational Objectives. Upon completion of the program graduates must attain:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Degree Requirements

The undergraduate curriculum for the degree of Bachelor of Engineering in Industrial Engineering consists of 150 credit hours of coursework + IC3 + 30 credits transferred from the Lebanese Baccalaureate or its equivalents.

Career Opportunities

Industrial engineering differs from other branches of engineering in essentially two ways. First, it applies to all types of industrial, commercial, and government activities. Second, it is a branch of engineering that is explicitly concerned with people, products, as well as processes and operations. Industrial engineers learn to make decisions concerning the best use of people, materials, and equipment in achieving organizational aims. They are spread across nearly all kinds of manufacturing. Recent data show that employment offerings are especially plentiful in manufacturing and service sectors, management consulting, chemicals, and food processing. Students develop skills in mathematics, the sciences, communications, and humanities. Therefore, an industrial engineering (IE) degree qualifies professionals for a diverse array of jobs, including Engineering Project Manager, Supply Chain and Operations Manager, Quality Engineer, Industrial Scheduling Engineer, Maintenance and Safety Engineer, Production Process Engineer, Service Process Engineer, Construction Management Engineer, and Industrial Management Engineer. A growing trend in the

IE profession, especially consulting, is in the services sector of the economy such as banking, transportation, logistics, and government.

Program Overview

The Student's Study Plan is provided to every IE student upon his/her enrollment. The IE curriculum consists of the following components:

I. Common Requirements		Credits
General Education Requirements		20
Basic Sciences and Mathematics		24
General Engineering topics		12
II. IE Program-Specific Requirements		Credits
A.	Industrial Engineering core	77
B.	Industrial Engineering Technical Electives	12
C.	Final Year Project	4
D.	Internship	1

I. Common Requirements

The list of the General Education Requirements and Basic Sciences and Mathematics courses and their descriptions are presented in the introductory pages of the Faculty of Engineering section in this catalogue. The courses required as General Engineering topics for the INME program are:

Course	Title	Credits
INME221	Engineering Economy	3
CVLE 210	Statics	3
MCHE 201	Engineering Drawing and Graphics	3
COMP 208	Programming I	3

II. IE Program-Specific Requirements

A. Industrial Engineering Core Courses

The Industrial Engineering core courses are listed in the table below.

Course	Title	Crs	Pre-requisites
INME204	Introduction to Industrial Engineering	2	
INME206	Production Engineering	3	
INME211	Engineering Materials and Technology	3	PHYS282
INME212	Metal Shaping	3	INME206 and INME211
INME214	Manufacturing Processes	3	INME211
INME221	Engineering Economy	3	
INME222	Operations Research	3	MATH281
INME312	Computer Aided Design and Manufacturing	3	MCHE201
INME321	Management Information Systems	3	INME204
INME321L	Management Information Systems Lab	1	INME204 and Co: INME321
INME322	Organization Design	3	INME204
INME324	Production and Operation Management	3	INME222
INME325	Stochastic Operations Research	3	MATH381
INME326	Industrial Process Design	2	INME321
INME332	Industrial Measurements and Inspection	3	MATH284
INME333	Facility Planning and Design	3	INME204
INME335	Quantitative Methods for Decision Making	2	MATH381 and INME222
INME341	Engineering Safety	2	INME212 and INME214
INME422	Engineering Logistics and Supply Chain	3	INME325
INME423	Project Planning and Management	3	INME324
INME431	System Modeling and Simulation	3	COMP208 and INME326
INME431L	System Modeling and Simulation Lab	1	COMP208, INME326, Co: INME431
INME433	Maintenance Planning and Technology	3	INME332
INME434	Statistical Quality and Process Control	3	MATH381
INME442	Ergonomics	2	CVLE210
INME500	Research Methodology	2	pre ENGL300
INME521	Total Quality Management & Six Sigma	3	INME434

INME522	Management of Global Operations	3	INME422
INME531	Production Systems and Automations	3	INME333
INME535	Advanced Engineering Statistics	3	INME335

Description of Core Courses

INME 204-INTRODUCTION TO INDUSTRIAL ENGINEERING (2Cr.:2Lec,0Lab): The course is designed to familiarize first-year students with the concept and the various aspects of Industrial Engineering. Introduction to selected topics in Industrial Engineering, including facilities design, project management, production and operation management.

INME206 PRODUCTION ENGINEERING (3Cr.:3Lec,0Lab): Introduction to production and manufacturing engineering, Production of iron and steel, metrology, bench work, hand forging, and production cost analysis.

INME 211 ENGINEERING MATERIALS TECHNOLOGY (3Cr.:2Lec,2Lab): Introduction to material & material Properties. Structure of metals, principles of material properties and theory of elasticity, metal alloys, strengthening by heat treatment, material selection for different engineering applications, Phase diagram & diffusion of materials. *Pre-req.: PHYS282.*

INME 212 METAL SHAPING (3Cr.:2Lec,2Lab): Fundamentals of casting and metal casting processes. Metal forming: bulk and sheet metalworking. Material removal processes. *Pre-req.: INME211 and INME206.*

INME 214 MANUFACTURING PROCESSES (3Cr.:3Lec,0Lab): Assembly processes such as welding, brazing, soldering, and fastening, applications of nontraditional machining processes and thermal cutting processes, economics and process design considerations in machining, manufacturing processes of polymers & composites, and powder metallurgy. *Pre-req.: INME211.*

INME 221 ENGINEERING ECONOMY (3Cr.:3Lec,0Lab): Basics principles and techniques of economic analysis of engineering project, time value of money, cost allocation and estimation, evaluation of engineering projects and investments, depreciation, inflation, loan financing, after-tax cash flow analysis, selection among mutually exclusive alternatives using present worth, annual worth, internal rate of return, benefit to cost ratio.

INME 222 OPERATIONS RESEARCH (3Cr.:3Lec,0Lab): Introduction to deterministic operations research models, linear programming, simplex method and sensitivity analysis, network models, transportation, and assignment. *Pre-req.: MATH281.*

INME 312 COMPUTER AIDED DESIGN AND MANUFACTURING (3Cr.:1Lec,4Lab): Geometric/solid modelling, design optimization, graphical and computational features of CAD, engineering analysis and design execution and implementation, manual code programming G code, finite element analysis (FEA).. *Pre-req.: MECH201.*

INME 321 MANAGEMENT INFORMATION SYSTEMS (3Cr.:3Lec,0Lab): This course covers an introduction to Management Information Systems (MIS) & examines the role of Information Systems (IS) in supporting a wide range of organizational functions. Use of IS in supporting administrative operations, decision-making & overall strategic initiatives and corporate philosophies. Introduction to e-commerce and knowledge management and a preview of supply chain management and customer relationship management systems. *Pre-req.: INME204.*

INME 321L MANAGEMENT INFORMATION SYSTEMS LAB (1Cr.: 0Lec,2Lab): The content of this lab is directly related to the course INME321. Students will implement the concepts of managing information by building simple, real-life systems with database management software such as ACCESS and ORACLE. *Pre-req.: INME204 and Co-req.: INME321.*

INME 322 ORGANIZATION DESIGN (3Cr.:3Lec,0Lab): Introduction to organizations and organizational effectiveness, the roles of stakeholders and managers, organization ethics, organization design, organization culture, and types of organizations. *Pre-req.: INME204.*

INME 324 PRODUCTION AND OPERATIONS MANAGEMENT (3Cr.:3Lec,0Lab) Fundamentals of forecasting time series and linear regression, capacity of production systems, aggregate planning, material requirement

planning MRP, enterprise resource-planning ERP. *Pre-req.: INME222.*

INME 325 STOCHASTIC OPERATION RESEARCH (3Cr.:3Lec,0Lab): Introduction to stochastic processes, Markov chains, first passage times, ergodic and absorbing chains, birth-death processes, Poisson processes, integer linear programming, optimization theory. *Pre-req.: MATH381.*

INME326 INDUSTRIAL PROCESS DESIGN (2Cr.:2Lec,0Lab): Topics include business process diagnosis, design, and development, process simplification and optimization, and performance improvement. *Pre-req.: INME321.*

INME 332 INDUSTRIAL MEASUREMENTS AND INSPECTION (3Cr.:3Lec,0Lab): Theory of measurements with emphasis on standardization, dimensional and geometrical tolerance on part components, different monitoring systems, vibration monitoring analysis of signals, application of Matlab software to analyze vibration signal. *Pre-req.: MATH284.*

INME 333 FACILITY PLANNING AND DESIGN (3Cr.:3Lec,0Lab): Fundamentals of developing efficient layouts of various production/service systems, travel chart, layout procedures, time study, facility location, single-facility and multi-facility location problems, material handling system design for production facilities. *Pre-req.: INME 204.*

INME 335 QUANTITATIVE METHODS FOR DECISION MAKING (2Cr.:2Lec,0Lab): Topics include decision theory, decision-making techniques under certainty, uncertainty, and risk, sensitivity analysis, utility functions, and game theory. *Pre-req.: MATH381 and INME222*

INME 341 ENGINEERING SAFETY (2Cr.:2Lec,0Lab): Engineering principles to control hazards, maintaining optimally safe systems, types of Hazards, Personal Protective Equipment, construction and manufacturing safety. *Pre-req.: INME212 and INME214.*

INME 422 ENGINEERING LOGISTICS AND SUPPLY CHAIN (3Cr.:3Lec,0Lab): Introduction to supply chain management and logistics, managing inventory in the supply chain and risk pooling, network planning, supply chain contracts, supply chain integration, information sharing, and strategic partnering. *Pre-req.: INME325.*

INME 423 PROJECT PLANNING AND MANAGEMENT (3Cr.:3Lec,0Lab):) Principles of project planning, network construction (activity on arrows, activity on nodes), CPM and PERT applications, cost estimation, earned value analysis, crashing of schedules, resource allocation and levelling, computer-based project management. *Pre-req.: INME324*

INME 431 SYSTEM MODELING AND SIMULATION (3Cr.:3Lec,0Lab): Principles of simulation, Systems concepts, design and analysis of network flows for material and information, modelling of discrete and continuous systems, advanced system modelling, case studies with verification and validation. *Pre-req.: COMP208 and INME326.*

INME 431L SYSTEM MODELING AND SIMULATION Lab (1Cr.: 0Lec,2Lab): The content of this lab is directly related to the courses INME431. *Pre-req.: COMP208, INME326 and Co-req.: INME431.*

INME 433 MAINTENANCE PLANNING AND TECHNOLOGY (3Cr.:3Lec,0Lab): Maintenance strategy, maintenance organization, maintenance systems, condition-based maintenance, maintenance awareness in design, cost of the maintenance team, effectiveness, and case studies. *Pre-req.: INME332.*

INME 434 STATISTICAL QUALITY AND PROCESS CONTROL (3Cr.: 3Lec,0Lab): The course covers the foundations of modern quality control and improvement methods that may be applied to manufacturing industries. It aims to introduce students to the tools and techniques of quality control used in industrial applications. The course emphasizes the philosophy and fundamentals of quality control, the statistics foundations of quality control, statistical process control, and acceptance sampling *Pre-req.: MATH381.*

INME 442 ERGONOMICS (2Cr.:2Lec,0Lab): Introduction to ergonomics, applied anthropometry, anatomical and physiological factors underlying the design of equipment and workplaces, measurement and specification of heat, light, and sound with respect to the design of the work environment, and biomechanical factors governing physical workload and motor performance. *Pre-req.: CVLE210.*

INME 521 TOTAL QUALITY MANAGEMENT AND SIX SIGMA (3Cr.:3Lec,0Lab) Total quality systems in manufacturing and services, strategic quality management, quality culture, customer satisfaction and retention, employee empowerment, teamwork, the six-sigma paradigm, benchmarking, Pareto analysis, cause-effect, Flow chart, Swim and lane diagrams, and quality function deployment. *Pre-req.: INME434.*

INME 522 MANAGEMENT OF GLOBAL OPERATIONS (3Cr.:3Lec,0Lab): Introduction to international operations and multi-national enterprises, the study of factors affecting operations in a global environment with a focus on international economic issues. *Pre-req.: INME422.*

INME 531 PRODUCTION SYSTEMS AUTOMATION (3Cr.:3Lec,0Lab): Types of automation, production systems, time Study, system efficiency, mathematical models, automation strategies, cost analysis of automated production line, assembly systems, manual assembly lines, material handling. *Pre-req.: INME333.*

INME 535 ADVANCED ENGINEERING STATISTICS (3Cr.:3Lec,0Lab): Topics cover advanced statistical tools for engineers. Those include the design of experiments and analysis of variance, Simple Regression, Multiple Regression, model building and diagnosis, and categorical data analysis. *Pre-req.: INME335.*

B. Industrial Engineering Technical Elective Courses

The IE curriculum includes three 3-credit hour courses as technical electives. The courses are chosen from the courses listed in the table below with their descriptions given thereafter.

Course	Title	Credits	Pre-requisites
INME331	Engineering Design	3	INME212 and INME214
INME414	Industrial Scheduling	3	INME333
INME416	Industrial Packaging	3	INME214
INME418	Plastic Engineering	3	INME214
INME421	Reliability	3	MATH381
COMP428	Artificial Intelligence and Robotics for Engineers	3	COMP208
INME432	Failure Analysis	3	INME211
INME516	Advanced Manufacturing Processes	3	INME214
INME518	Strategic Manufacturing Planning	3	INME214 and INME333
INME539	Reverse Engineering and Prototyping	3	INME312

Description of Technical Elective Courses

INME 331 ENGINEERING DESIGN (3Cr.:3Lec,0Lab): General principle of machine design, the basic design principle of machine elements, fasteners and fittings, shaft, gears, and bearings selection. *Pre-req.: INME 212 and INME 214.*

INME 414 INDUSTRIAL SCHEDULING (3Cr.:3Lec,0Lab): Basic scheduling models for single machines, parallel machines, flow shops and flexible flow shops, applications in production and services and algorithms will be explained from theoretical and applied perspectives. *Pre-req.: INME333*

INME 416 INDUSTRIAL PACKAGING (3Cr.:3Lec,0Lab): This course provides an overview of packaging materials selection. It introduces a systematic process for Manufacturing food packaging. It focuses on packaging machinery, packaging line, and filling systems. By participating in interactive problem-solving activities, discussions, and projects, you'll gain important insights into the process of packaging materials and containers. *Pre-req.: INME214.*

INME 418 PLASTICS ENGINEERING (3Cr.:3Lec,0Lab): Plastic materials and their processing, review of the pertinent organic chemistry of polymer materials, classification, properties, characteristics and applications of plastics; applications, process parameters, quality, economics and tooling considerations. *Pre-req.: INME214.*

INME 421 RELIABILITY (3Cr.:3Lec,0Lab): Life distribution and their applications in reliability, system reliability models, design by reliability and probabilistic design, reliability analysis through FMECA and FTA, reliability estimation and measurement by testing for binomial, exponential and Weibull distribution. *Pre-req.: MATH*

COMP 424 Artificial Intelligence and Robotics for Engineers (3Cr.: 3Lec, 0Lab): Introduction to artificial intelligence and machine learning. Introduction to robotics. Programming in Python: data type, expressions, functions, loops and control. Data plotting and analysis. Smart agent models. Supervised and unsupervised learning. Knowledge representation and reasoning. *Pre-req.: COMP 208.*

INME 432 FAILURE ANALYSIS (3Cr.:3Lec,0Lab): Brittle fracture, ductile fracture, stress residual, Griffith's theory and Irwin's theory, crack initiation, crack propagation and spreading, fracture toughness, reasons for failures, procedures of failure analysis, metallurgical failure analysis, fatigue, creep, case studies. *Pre-req.: INME211.*

INME 516 ADVANCED MANUFACTURING PROCESSES (3Cr.: 3Lec,0Lab): Advanced topics in manufacturing materials and processes, including integrated manufacturing systems, microfabrication technologies, nanofabrication technologies, rapid prototyping and additive manufacturing. *Pre-req.: INME214.*

INME 518 STRATEGIC MANUFACTURING PLANNING (3Cr.:3Lec,0Lab): Formulate a framework for developing and implementing a manufacturing strategy, develop a framework for the strategic management of manufacturing, technical tools and frameworks that directly apply to operational decisions that can be useful in adding value to manufacturing firms. *Pre-req.: INME214 and INME333.*

INME 539 REVERSE ENGINEERING AND PROTOTYPING (3Cr.:3Lec,0Lab): Concept, techniques, analysis and applications of engineering design, fundamentals of design and design principles, conceptual design, importance of sketching, reverse engineering principles. *Pre-req.: INME312.*

C. FINAL YEAR PROJECT

INME 500 RESEARCH METHODOLOGY (2Cr.:2Lec,0Lab): Steps for conducting successful research: formulating a research problem, literature review, constructing an instrument for data collection, writing a research proposal, collecting data, processing & displaying data, writing a research report. *Pre-req.: ENGL300.*

INME 501 FINAL YEAR PROJECT I (1Cr) After completing 120 credits of coursework, the student becomes eligible to sign up for the Final Year Project (FYP) that extends over two semesters. The FYP experience requires students to work in teams to complete a specific project, submit a technical report, and give a presentation on a significant, relevant, and comprehensive engineering problem. The FYP is intended to stimulate student creativity and critical thinking, and build skills in formulating, designing, developing, building, communicating, and managing engineering projects. The project aims to provide students with a transitional experience from the academic world to the professional world. *Co-req.: INME500 and INME221.*
Refer to the Final Year Project Policy for more details

INME 502 FINAL YEAR PROJECT II (3Cr) After completing 120 credits of coursework, the student becomes eligible to sign up for the Final Year Project (FYP) that extends over two semesters. The FYP experience requires students to work in teams to complete a specific project, submit a technical report, and give a presentation on a significant, relevant, and comprehensive engineering problem. The FYP is intended to stimulate student creativity and critical thinking, and build skills in formulating, designing, developing, building, communicating, and managing engineering projects. The project aims to provide students with a transitional experience from the academic world to the professional world. *Pre-req.: INME501*
Refer to the Final Year Project Policy for more details

D. INTERNSHIP

INME 499 INTERNSHIP (1Cr) This is professional training which should not be less than four weeks. The training is followed by a presentation session where the students are supposed to present what they have learned.
Refer to the department policy for further details.

Study Plan
Bachelor of Engineering in Industrial Engineering (150 Credits)

First Semester (16 Credits)		Crs.	Pre/Co-requisites
MCHE 201	Engineering Drawing and Graphics	3	
MATH 281	Linear Algebra	3	MATH 112
PHYS 281	Electricity and Magnetism	3	
CHEM241	Principle of Chemistry	3	
COMP 208	Programming I	3	
BLAW 001	Human Rights	1	

Second Semester (17 Credits)		Crs.	Pre/Co-requisites
MATH 282	Calculus	3	MATH 111
INME 206	Production Engineering	3	
PHYS 282	Materials properties and Heat	3	
INME 204	Introduction to Industrial Engineering	2	
INME 221	Engineering Economy	3	
CVLE 210	Statics	3	

Summer Semester (8 Credits)		Crs.	Pre/Co-requisites
ARAB001	Arabic Language	2	
ENGL001	English Language	2	
	Elective (General)	2	
	Elective (General)	2	

Third Semester (18 Credits)		Crs.	Pre/Co-requisites
MATH 381	Probability and Statistics	3	Pre: MATH 282
MATH 283	Differential Equations	3	Pre: MATH 281 and MATH 282
INME 211	Engineering Materials and Technology	3	Pre: PHYS 282
INME 321	Management Information Systems	3	Pre: INME 204
INME 321L	Management Information Systems Lab	1	Pre: INME 204 Co: INME 321
INME 322	Organization Design	3	Pre: INME 204
ENGL 211	Advanced Writing	2	Pre: ENGL001

Fourth Semester (17 Credits)		Crs.	Pre/Co-requisites
INME 312	Computer Aided Design and Manufacturing	3	Pre: MECH 201
MATH 284	Numerical Analysis	3	Pre: MATH 283
INME 222	Operations Research	3	Pre: MATH 281
INME 212	Metal Shaping	3	Pre: INME 211 and INME 206
INME 214	Manufacturing Processes	3	Pre: INME 211
INME 326	Industrial Process Design	2	Pre: INME 321

Summer II Semester (8 Credits)		Crs.	Pre/Co-requisites
MGMT 002	Entrepreneurship	2	
ENGL 300	Speech Communications	2	Pre: ENGL 211
	Elective (General)	2	

Elective (General)		2	
Fifth Semester (18 Credits)		Crs.	Pre/Co-requisites
INME325	Stochastic Operations Research	3	Pre: MATH 381
INME 335	Quantitative Methods for Decision Making	2	Pre: MATH 381 and INME 222
INME 324	Production and Operation Management	3	Pre: INME 222
INME 341	Engineering Safety	2	Pre: INME 212 and INME 214
INME 333	Facility Planning and Design	3	Pre: INME 204
	Technical Elective	3	
INME 500	Research Methodology	2	pre: ENGL 300
Sixth Semester (17 Credits)		Crs.	Pre/Co-requisites
INME 422	Engineering Logistics and Supply Chain	3	Pre: INME 325
INME 434	Statistical Quality and Process Control	3	Pre: MATH 381
INME 332	Industrial Measurements and Inspection	3	Pre: MATH 284
INME 423	Project Planning and Management	3	Pre: INME 324
INME 442	Ergonomics	2	Pre: CVLE 210
	Technical Elective	3	
Summer III Semester (1 Credit)		Crs.	Pre/Co-requisites
INME 499	Internship	1	
Seventh Semester (17 Credits)		Crs.	Pre/Co-requisites
INME 535	Advanced Engineering Statistics	3	Pre: INME335
	Technical Elective	3	
INME 433	Maintenance Planning and Technology	3	Pre: INME 332
INME 531	Production Systems and Automations	3	Pre: INME 333
INME 431	System Modeling and Simulation	3	Pre: COMP 208 and INME 326
INME 431L	System Modeling and Simulation Lab	1	Pre: COMP 208, INME326, Co: INME 431
INME 501	FYP 1	1	Co: INME 500 and INME 221
Eighth Semester (13 Credits)		Crs.	Pre/Co-requisites
INME 522	Management of Global Operations	3	Pre: INME 422
INME 521	Total Quality Management and Six Sigma	3	Pre: INME 434
ENGR 001	Engineering Ethics	1	
	Technical Elective	3	
INME 502	FYP 2	3	Pre: INME 501

Courses offered for other majors.

The Department of Industrial Engineering and Engineering Management offers one course for other engineering majors. These courses are described below.

INME 482 ENGINEERING PROJECT MANAGEMENT (3Crs.: 3Lec, 0Lab) The course covers the characteristics, techniques and challenges associated with initiating, planning, executing, controlling and closure projects. Project management skills are discussed as they apply to projects, with a special focus on leadership, teaming, and coordinating individual and group efforts. MS Project is introduced to provide hands-on practical skills in building a project plan, scheduling tasks, assigning resources, managing dependencies, monitoring progress and costs, keeping projects on track, and communicating project data through Gantt charts. **Pre: ENGL 300**