

DEPARTMENT OF INDUSTRIAL MANAGEMENT AND TECHNOLOGY

Contact Information

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The department prepares students for a wide array of management-oriented positions within manufacturing, construction, fabrication and oil field service as well as educational and governmental organizations.

The Educational Objectives of the Industrial Management and Technology Program are:

1. To prepare students for technology-related careers within industry, education, business and government.
2. To provide students with an academic base for advanced studies and life-long learning opportunities and expectations.
3. To provide students with a sense of ethics and ethical responsibility to their profession and society.

Faculty

Dakeev, Ulan Assistant Professor, Department of Industrial Management and Technology; B.S., International Black Sea University (Georgia); M.S., University of Northern Iowa; Ph.D., University of Northern Iowa.

De Los Reyes, Maria Professor of Practice, Department of Industrial Management and Technology; Assistant Dean of Rio Grande Valley Engineering Initiative, Frank H. Dotterweich College of Engineering; B.S., The Matamoros Institute of Tehcnology (Mexico); M.B.A., The University of Texas at Brownsville; Ph.D., The University of Texas at Austin.

Heidari, Farzin Associate Professor, Department of Industrial Management and Technology; Chair; B.S., St. Cloud State University; M.S., St. Cloud State University; Ph.D., University of Idaho.

Marsh, Bruce Associate Professor, Department of Industrial Management and Technology; B.S., University of Southwestern Louisiana; M.I.T., Bowling Green State University; D.I.T., University of Northern Iowa.

Polastri, Patricia Assistant Professor, Department of Industrial Management and Technology; B.S., Orebro University (Sweden); M.S., Central Michigan State University; Ph.D., Indiana State University.

Courses

Industrial Management and Technology (ITEN)

ITEN 1201 Careers in Industrial Tech **2 SCH (2-1)**
 An overview of career fields within the field of Industrial Technology. Course activities explore technological systems in manufacturing, construction, communication, energy, transportation and computer applications used within the field of Industrial Technology.
 Fee: \$5.00

ITEN 1311 Technical CAD **3 SCH (3-1)**
 An introduction to a variety of mechanical drafting applications and techniques, including orthographic projection, pictorials, geometric dimensioning and tolerancing in pencil and Computer Assisted Drafting and Design.
 Fee: \$5.00

ITEN 1315 Intro to Manufacturing Process **3 SCH (3-1)**
 Manufacturing processes of products using metal, plastic and wood. Laboratory experiences include projects related to machine tool operations, injection molding, thermoforming, CNC lathe and milling machining.
 Fee: \$5.00

ITEN 2301 Industrial Electronics **3 SCH (3-1)**
 Industrial applications of electricity and electronics, including passive components, power utilization, solid state devices and electronic production techniques. Prerequisites: MATH 1314.
 Fee: \$5.00

ITEN 2303 Topics in Industrial Mgmt **3 SCH (3)**
 Content examination in a topic area relating to the field of industrial management and technology. May be repeated up to a total of 6 semester hours.

ITEN 2320 Industrial Materials **3 SCH (3-1)**
 An introduction to the sources, properties and testing of a variety of industrial materials. Laboratory experiences include destructive and nondestructive materials testing. Prerequisite: CHEM 1405 or equivalent and PHYS 1375 or equivalent.
 Fee: \$5.00

ITEN 2330 OSHA for General Industry **3 SCH (3-0)**
 An introduction to OSHA's general industry standards and an overview of the requirements of the more frequently referenced standards. Standards will be reinforced with laboratory exercises and related problems.

ITEN 3300 Manufacturing Technology **3 SCH (3-1)**
 An introduction to basic manufacturing concepts, processes and tools, with examples in machine tool operations and mass production. Prerequisite: junior standing.
 Fee: \$5.00

ITEN 3306 Manufacturing Processes **3 SCH (3-1)**
 A survey of traditional and nontraditional manufacturing processes used in product development and production. Prerequisite: ITEN 1315.

ITEN 3308 Industrial Plastics **3 SCH (2-2)**
 A survey of the characteristics and the processes utilized in producing products from industrial plastics. Includes laboratory experiences in fabrication, injection molding, laminating and vacuum-forming. Prerequisites: CHEM 1405 and ITEN 3300 or equivalent.
 Fee: \$5.00

ITEN 3310 Fluid Power 3 SCH (3-1)

Systems, instruments, and concepts utilized in the area of fluid power with emphasis on fundamental theories of operation, system design, component selection, maintenance and safety considerations. Includes an overview of fluid logic and electrical control circuits. Prerequisite: 3 SCH of PHYS counting toward degree.

Fee: \$5.00

ITEN 3311 Manufacturing Facilities 3 SCH (3)

Study of principles, methods and techniques utilized in planning, operating and maintaining manufacturing and industrial facilities.

ITEN 3313 Energy Systems 3 SCH (3-1)

An introduction to the basic principles of energy and power transmission for industrial technologists and non-engineers. Prerequisite: 3 SCH of PHYS counting toward degree.

ITEN 3315 CAD/CAM 3 SCH (3)

Survey of computer-aided design (CAD) and manufacturing (CAM) that includes 2D and 3D geometry construction and tool path creation.

Prerequisites: ITEN 1315 and credit or registration in ITEN 3300.

Fee: \$5.00

ITEN 3321 Architectural CAD 3 SCH (3-1)

Planning, design and drafting of residential and commercial buildings.

Prerequisite: ITEN 1311 or consent of instructor.

Fee: \$5.00

ITEN 3323 Cost Estimating 3 SCH (3)

Practical methods used in development of cost estimates in industrial management and technology, with emphasis on software used in the construction industry. Prerequisite: junior standing.

ITEN 3324 Industrial Controls 3 SCH (3-1)

Digital electronics and the application of microprocessors to industrial control. Laboratory experiences include problems in programming and control system interfacing. Prerequisite: junior standing.

Fee: \$5.00

ITEN 3331 Construction Technology 3 SCH (2-2)

Systems, materials and equipment utilized in residential and commercial construction. Includes regulatory and economic analysis of construction projects.

Fee: \$5.00

ITEN 3333 Industrial Scheduling 3 SCH (3)

Planning, scheduling and monitoring of construction projects including development of critical path networks (CPM & PERT), GANTT bar charts and construction cost control and reporting practices. Prerequisite: credit or registration in ITEN 3323.

ITEN 3336 Industrial Hygiene I 3 SCH (3)

An introduction to industrial hygiene and recognition of industrial hazards. Prerequisite: ITEN 2330.

ITEN 3338 Industrial Hygiene II 3 SCH (3)

Industrial hazard evaluation and control methods, duties of safety professionals and government regulations. Prerequisites: ITEN 2330, credit in ITEN 3336 recommended.

ITEN 3343 Adv Manufacturing Processes 3 SCH (3)

A survey of the latest manufacturing processes that are used in order to produce products that cannot be produced with conventional manufacturing processes. Processes covered will include, non-traditional machining methods, abrasive machining, advanced casting methods, specialized welding methods and other high-end manufacturing processes used in manufacturing industries.

ITEN 3345 Advanced Graphics and Modeling 3 SCH (3)

Advanced graphics with an emphasis in 3D design and solid modeling. Prerequisite: credit or registration in ITEN 3300.

ITEN 3349 Lean Production (WI) 3 SCH (3)

Planning and developing benchmarks for manufacturing operations; measuring, assessing, and enhancing productivity within industrial settings, including an overview of Lean Production concepts.

Prerequisite: junior standing.

ITEN 3352 Inspection and Gaging 3 SCH (3-1)

Systems, instruments and concepts utilized in the area of inspection and gaging with emphasis on traditional instruments and overviews into in-process and post-process inspection, contact and noncontact gaging and digital gaging.

Fee: \$5.00

ITEN 3399 Industrial Internship I 3 SCH (3)

Supervised on-the-job experience in an industrial/technical area related to the field of Industrial Technology. Prerequisites: junior or senior standing and an internship position within an industrial environment/company approved prior to course scheduling.

ITEN 4303 Selected Topics 3 SCH (3)

Investigations with industrial experts on one or more topics in current technologies. May be repeated up to a total of 6 semester hours.

Prerequisite: senior standing.

ITEN 4320 Safety Program Administration 3 SCH (3)

An examination of safety administration issues that affect the workplace including safety awareness and loss control, regulation and compliance, and behavior assessment and modification. Prerequisites: ITEN 3336 or ITEN 3338.

ITEN 4330 Manufacturing Systems 3 SCH (3)

A holistic overview of manufacturing; design and solid modeling, robotics, CAD/CAM principles and tradition and nontraditional manufacturing concepts with an emphasis in design analysis and production enhancement. Prerequisites: ITEN 3306 and ITEN 3315 or ITEN 3345.

ITEN 4332 Hazardous Waste and Fire Safe 3 SCH (3-0)

Study of fire prevention and hazardous substances. Hazard mitigation and containment polities will be reviewed. Prerequisites: CHEM 1405 or CHEM 1311/CHEM 1111.

ITEN 4333 Industrial Scheduling II 3 SCH (3)

Resource allocation and resource leveling, money and network schedules, project monitoring and control are covered with an emphasis on integrating costs and schedule, earned value, CPM in dispute resolution and litigation, schedule risk management. Prerequisite: ITEN 3333.

ITEN 4335 Senior Projects 3 SCH (3)

Individual solution of selected problems in industrial technology under the direct supervision of a faculty member. Prerequisite: senior standing in industrial technology.

ITEN 4336 Industrial Employment Research 3 SCH (3-0)

Survey of career opportunities in construction, manufacturing, and oil field service through class discussion, field trips and independent research. Includes job hunting skills development, resume development, and mock interviews. Prerequisite: junior standing.

ITEN 4340 Leadership and Supervision 3 SCH (3)

Supervision in industrial settings; ways and means to assess, motivate and train technical employees to help meet production goals and safety guidelines. Emphasis on the supervisor's functional and essential areas of knowledge, relations with others and personal development. Prerequisites: ITEN 3300 and ITEN 3331.

ITEN 4352 Quality Assurance 3 SCH (3-1)

Methods used to ensure quality production through the measurement and maintenance of desired product characteristics in manufacturing processes. Prerequisite: MATH 1316 or equivalent. Laboratory fee, \$5. Fee: \$5.00

ITEN 4353 Construction Management 3 SCH (3)

Study of management techniques to solve the unique problems associated with a construction project. Emphasis on the management of manpower, materials, money and machinery. Prerequisite: ITEN 3331 or equivalent.

ITEN 4362 Data Analy and Decision Making 3 SCH (3-1)

Concepts of data analysis, distributions, probability, regression analysis and other statistical analysis techniques with technological and industrial applications, reinforced by laboratory exercises using a spreadsheet application program. Prerequisite: junior standing.

ITEN 4399 Industrial Internship II 3 SCH (3)

Supervised on-the-job experience in an industrial/technical area related to the field of Industrial Technology. Prerequisites: senior standing, ITEN 3399, and an internship position within an industrial environment/ company approved prior to course scheduling.

Degree Requirements

Major

- Industrial Management and Applied Engineering Technology, B.S. with a Certificate in Business Administration (<https://catalog.tamuk.edu/undergraduate/engineering/industrial-management-technology/industrial-management-technology-bs-certificate-business-administration>)

Minor

- Industrial Technology, Minor (<https://catalog.tamuk.edu/undergraduate/engineering/industrial-management-technology/industrial-technology-minor>)