

Assessment Plan

Western Michigan University

Industrial & Manufacturing Engineering

Mission Statement: Our mission is to provide the best possible education in engineering or engineering technology that emphasizes breadth of student learning through creation, contribution, and application of comprehended knowledge. We foresee that our graduates will become productive and informed members of their profession. The Industrial and Manufacturing Engineering Department offers programs that emphasize a strong relationship with industry, and which attract and foster students who interact with faculty and industry professionals focused on appropriate methods for improving processes, products, and systems.

Vision Statement: The vision of the Industrial and Manufacturing Engineering Department is to be recognized as a leader in educating students in state-of-the-art knowledge of each profession, and to provide programs with continuously improving, student-centered education and research environments that motivate students and faculty to create, contribute to, and apply knowledge and experience.

Outcome: 1.a. Electronic Tools

Ability to use electronic tools--CAD, electronic office, research, communication

Track: BS Engrg Graphics & Design Tech
BS Engrg Mgmt Tech
BS Mfg Engrg Tech
BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course-embedded measures	Instructors' evaluation of student work on use of electronic tools	every semester	Yes
Senior Engineering Design Project: Evaluate final senior design project presentations. Attendees (students, faculty, visitors, sponsors) complete evaluation forms.	Observe proper use of electronic tools in Senior Engineering Design Project presentations (interim and final) "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	Performed at end of each Fall and Spring semester	Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 210 - Engineering Cost Estimating
- * IME 246 - Introduction to Computer Aided Design
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 281 - Statics and Strength of Materials
- * IME 283 - Thermodynamics
- * IME 284 - Fluid Mechanics and Hydraulics
- * IME 307 - Computer Controlled Manufacturing
- * IME 308 - Computer Controlled Manufacturing Lab. Design Project
- * IME 312 - Systems Decision Making
- * IME 316 - Report Preparation
- * IME 318 - Stat. Quality Control
- * IME 320 - Engineering Cost Analysis
- * IME 326 - Operations Planning & Control
- * IME 328 - Quality Assurance and Control

- * IME 346 - Programming for Computer Aided Design
- * IME 358 - Computer Aided Manufacturing
- * IME 404 - Plant Layout and Material Handling
- * IME 414 - Material Handling and Facilities Design
- * IME 422 - Engineering Teams: Theory and Practice
- * IME 444 - Advanced Product and Machine Design
- * IME 446 - Computer Aided Design Applications
- * IME 448 - Computer-Aided Analysis
- * IME 458 - Manufacturing Systems Integration
- * IME 492 - Multidisciplinary Senior Project
- * IME 508 - Advanced Quality Management

Outcome: 1.b. Scientific Methods

Ability to apply scientific methods through experimentation.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course-embedded measures	Instructors' evaluation of student work on application of scientific method	every semester	Yes
Senior engineering design project	Observe proper use of scientific methods in Senior Engineering Design Project presentations (interim and final) "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	every semester	Yes

Related Courses

- * IME 250 - Plastics Properties and Processing
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 330 - Simulation Modeling and Analysis
- * IME 350 - Prod Thermo Process
- * IME 416 - Operations Control
- * IME 419 - IE Senior Design
- * IME 458 - Manufacturing Systems Integration
- * IME 492 - Multidisciplinary Senior Project

Outcome: 1.c. Statistical Techniques

Ability to apply statistical techniques

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course-embedded measures	Instructors' evaluation of student work on use of statistical techniques	every semester	Yes

Related Courses

- * IME 205 - Work Design
- * IME 246 - Introduction to Computer Aided Design
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 305 - Work Analysis
- * IME 312 - Systems Decision Making
- * IME 318 - Stat. Quality Control
- * IME 326 - Operations Planning & Control
- * IME 328 - Quality Assurance and Control
- * IME 330 - Simulation Modeling and Analysis
- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 456 - Process Testing and Measurement
- * IME 481 - Metrology
- * IME 508 - Advanced Quality Management
- * IME 516 - Design of Experiments and Regression Analysis

Outcome: 1.d. Logical Decision Making

Ability to apply logical decision-making techniques

- Track:** BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course-embedded measures	Instructors' evaluation of student work on ability to apply logical decision making techniques	every semester	Yes

Related Courses

- * IME 206 - Engineering Computation
- * IME 210 - Engineering Cost Estimating
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 310 - Engineering Economy
- * IME 311 - Introduction to Operations Research
- * IME 312 - Systems Decision Making

- * IME 320 - Engineering Cost Analysis
- * IME 326 - Operations Planning & Control
- * IME 328 - Quality Assurance and Control
- * IME 402 - Supervision Industrial Operations
- * IME 404 - Plant Layout and Material Handling
- * IME 412 - Industrial Systems Management
- * IME 414 - Material Handling and Facilities Design
- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 420 - Modern Industrial Systems
- * IME 444 - Advanced Product and Machine Design
- * IME 448 - Computer-Aided Analysis
- * IME 492 - Multidisciplinary Senior Project

Outcome: 1.e. Technical Problems

Ability to define problems, design solutions, and test alternatives to technical problems

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Engineering Design Project	Observe proper use of problem solving techniques in Senior Engineering Design Project presentations (interim and final) "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	every semester	Yes
Course-embedded measures	Instructors' evaluation of student work on use of problem solving techniques	every semester	Yes
Stakeholder Surveys	Rating of 3 or higher (1-4 scale) on IME Employer Survey of Graduates on Item #5 (design & conduct experiments and Item #6 (analyze & interpret data).	every two years (co-op surveys as needed)	Yes

Related Courses

- * IME 144 - Descriptive Geometry
- * IME 205 - Work Design
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 281 - Statics and Strength of Materials
- * IME 283 - Thermodynamics
- * IME 284 - Fluid Mechanics and Hydraulics

- * IME 305 - Work Analysis
- * IME 310 - Engineering Economy
- * IME 311 - Introduction to Operations Research
- * IME 320 - Engineering Cost Analysis
- * IME 326 - Operations Planning & Control
- * IME 330 - Simulation Modeling and Analysis
- * IME 348 - Designing for Production
- * IME 358 - Computer Aided Manufacturing
- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 444 - Advanced Product and Machine Design
- * IME 458 - Manufacturing Systems Integration
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project

Outcome: 2.a. Manufacturing Processes

Ability to critically analyze, evaluate, and improve manufacturing processes using knowledge of appropriate engineering materials

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course Review	Manufacturing processes and use of engineering materials covered in related courses.	every semester	Yes
Program Review	Manufacturing processes and use of engineering materials covered in related courses.	every three years	Yes

Related Courses

- * IME 150 - Introduction to Manufacturing
- * IME 205 - Work Design
- * IME 250 - Plastics Properties and Processing
- * IME 307 - Computer Controlled Manufacturing
- * IME 308 - Computer Controlled Manufacturing Lab. Design Project
- * IME 315 - Work Analysis and Design Lab
- * IME 326 - Operations Planning & Control
- * IME 330 - Simulation Modeling and Analysis
- * IME 350 - Prod Thermo Process
- * IME 352 - Metal Casting
- * IME 358 - Computer Aided Manufacturing
- * IME 404 - Plant Layout and Material Handling
- * IME 412 - Industrial Systems Management
- * IME 414 - Material Handling and Facilities Design

- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 444 - Advanced Product and Machine Design
- * IME 452 - Die Casting
- * IME 458 - Manufacturing Systems Integration
- * IME 481 - Metrology
- * IME 492 - Multidisciplinary Senior Project
- * IME 550 - Advanced Plastics Processing

Outcome: 2.b. Computer Aided Design

Ability to use and modify computer-aided design and computer-aided analysis tools.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course review	Use of CAD and computer-aided analysis tools is covered in related courses.	every semester	Yes

Related Courses

- * IME 246 - Introduction to Computer Aided Design
- * IME 308 - Computer Controlled Manufacturing Lab. Design Project
- * IME 346 - Programming for Computer Aided Design
- * IME 348 - Designing for Production
- * IME 358 - Computer Aided Manufacturing
- * IME 444 - Advanced Product and Machine Design
- * IME 446 - Computer Aided Design Applications
- * IME 448 - Computer-Aided Analysis
- * IME 481 - Metrology
- * IME 492 - Multidisciplinary Senior Project
- * IME 546 - Concurrent Engineering

Outcome: 2.c. Systems Theory and Management Techniques

Ability to apply systems theory and management techniques to manufacturing and service industries.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
course-embedded measures	Instructors' evaluation of student work on use of systems theory and management techniques	every semester	Yes

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
senior engineering design project	Observe proper use of systems theory and management techniques in Senior Engineering Design Projects "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	every semester	Yes

Related Courses

- * IME 205 - Work Design
- * IME 311 - Introduction to Operations Research
- * IME 312 - Systems Decision Making
- * IME 326 - Operations Planning & Control
- * IME 330 - Simulation Modeling and Analysis
- * IME 402 - Supervision Industrial Operations
- * IME 412 - Industrial Systems Management
- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 446 - Computer Aided Design Applications
- * IME 492 - Multidisciplinary Senior Project

Outcome: 2.e.Continuous Improvement

A commitment to quality, timeliness, and continuous improvement.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
course-embedded measures	Instructors' evaluation of student work on use of quality and CI techniques	every semester	Yes

Related Courses

- * IME 206 - Engineering Computation
- * IME 246 - Introduction to Computer Aided Design
- * IME 307 - Computer Controlled Manufacturing
- * IME 308 - Computer Controlled Manufacturing Lab. Design Project
- * IME 326 - Operations Planning & Control
- * IME 402 - Supervision Industrial Operations
- * IME 412 - Industrial Systems Management
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 456 - Process Testing and Measurement

- * IME 481 - Metrology
- * IME 492 - Multidisciplinary Senior Project
- * IME 505 - Continuous Improvement in Operations
- * IME 550 - Advanced Plastics Processing

Outcome: 2.f. Use Tools in Appropriate Program-Specific Settings

Ability to identify and use tools and technologies in appropriate program-specific settings.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
senior engineering design projects	Observe proper use of engineering tools in Senior Engineering Design Project presentations (interim and final) "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	every semester	Yes
stakeholder surveys	Rating of 3 or higher (1-4 scale) on IME Employer Survey of Graduates on Item #11 (use modern engineering/computer skills, techniques, and tools)	every 2 years	Yes

Related Courses

- * IME 210 - Engineering Cost Estimating
- * IME 254 - Machining Fundamentals
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 310 - Engineering Economy
- * IME 315 - Work Analysis and Design Lab
- * IME 318 - Stat. Quality Control
- * IME 326 - Operations Planning & Control
- * IME 358 - Computer Aided Manufacturing
- * IME 402 - Supervision Industrial Operations
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 420 - Modern Industrial Systems
- * IME 458 - Manufacturing Systems Integration
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project
- * IME 550 - Advanced Plastics Processing

Outcome: 3.a. Demonstration of Good Communication Skills

Demonstration of good oral, written, and graphical communication

Track: BS Engrg Graphics & Design Tech

BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
course-embedded measures	Instructors' evaluation of student work on communication skills.	every semester	Yes
senior engineering design projects	Observe proper use of communication skills in Senior Engineering Design Project presentations (interim and final) "B" or better on both the professional project report and the formal oral presentation at the SEDP conference.	every semester	Yes
advisory boards	Observe effective communication skills in Senior Engineering Design Projects.	every semester	Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 150 - Introduction to Manufacturing
- * IME 205 - Work Design
- * IME 206 - Engineering Computation
- * IME 210 - Engineering Cost Estimating
- * IME 246 - Introduction to Computer Aided Design
- * IME 250 - Plastics Properties and Processing
- * IME 261 - Engineering Statistics
- * IME 262 - Probability for Engineers
- * IME 305 - Work Analysis
- * IME 307 - Computer Controlled Manufacturing
- * IME 308 - Computer Controlled Manufacturing Lab. Design Project
- * IME 312 - Systems Decision Making
- * IME 315 - Work Analysis and Design Lab
- * IME 316 - Report Preparation
- * IME 318 - Stat. Quality Control
- * IME 326 - Operations Planning & Control
- * IME 330 - Simulation Modeling and Analysis
- * IME 350 - Prod Thermo Process
- * IME 357 - Fabrication, Assembly and Finishing
- * IME 402 - Supervision Industrial Operations
- * IME 412 - Industrial Systems Management
- * IME 414 - Material Handling and Facilities Design
- * IME 416 - Operations Control
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 420 - Modern Industrial Systems

- * IME 422 - Engineering Teams: Theory and Practice
- * IME 444 - Advanced Product and Machine Design
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project
- * IME 546 - Concurrent Engineering
- * IME 550 - Advanced Plastics Processing

Outcome: 3.b. Course Content

Mastery of course content and compliance with performance objectives

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
course-embedded measures	Instructors' evaluation of percent of objectives met	every semester	Yes
NOTE: Use of this outcome has been discontinued. Circular outcome--all courses must accomplish this outcome through addressing the other specific outcomes in our plan.			Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 144 - Descriptive Geometry
- * IME 206 - Engineering Computation
- * IME 246 - Introduction to Computer Aided Design
- * IME 281 - Statics and Strength of Materials
- * IME 283 - Thermodynamics
- * IME 284 - Fluid Mechanics and Hydraulics
- * IME 307 - Computer Controlled Manufacturing
- * IME 311 - Introduction to Operations Research
- * IME 316 - Report Preparation
- * IME 320 - Engineering Cost Analysis
- * IME 326 - Operations Planning & Control
- * IME 348 - Designing for Production
- * IME 352 - Metal Casting
- * IME 402 - Supervision Industrial Operations
- * IME 412 - Industrial Systems Management
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 422 - Engineering Teams: Theory and Practice
- * IME 444 - Advanced Product and Machine Design
- * IME 446 - Computer Aided Design Applications
- * IME 448 - Computer-Aided Analysis
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project

- * IME 546 - Concurrent Engineering
- * IME 550 - Advanced Plastics Processing

Outcome: 3.c. Lifelong Learning

A recognition of the need for, and an ability to engage in, lifelong learning, including participation in professional societies, lectures, and maintaining currency in one's profession.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
exit survey of graduating seniors	Evidence of maintaining currency in profession and engaging in learning outside the classroom 85% "yes" response or better to "Would you recommend the IME Department to a friend?"	every semester	Yes
stakeholder surveys	Rating of 3 or higher (1-4 scale) on IME Employer Survey of Graduates on Item #14 (have the requisite skills and abilities to learn and grow in their employment responsibilities.	Every two years (co-op surveys as needed)	Yes
Involvement in lifelong learning activities	85% of students attend 2 or more life long learning opportunities in IME 491/492	Every Semester	Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 316 - Report Preparation
- * IME 318 - Stat. Quality Control
- * IME 328 - Quality Assurance and Control
- * IME 422 - Engineering Teams: Theory and Practice
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project

Outcome: 4.a. Ethical Behavior

Understanding of ethical behavior in engineering and technology fields

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Course-embedded measures	Instructors' evaluation of student understanding ethical behavior.	every semester	Yes

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Ethics discussion, analysis, and response	Instructor's evaluation of case study and response.	every semester	Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 150 - Introduction to Manufacturing
- * IME 261 - Engineering Statistics
- * IME 316 - Report Preparation
- * IME 402 - Supervision Industrial Operations
- * IME 418 - IE Senior Seminar
- * IME 419 - IE Senior Design
- * IME 422 - Engineering Teams: Theory and Practice
- * IME 491 - Multidisciplinary Senior Proposal
- * IME 492 - Multidisciplinary Senior Project

Outcome: 4.b. Engineering Activities

Understanding of the professional, societal, and global impact of technology and engineering activities.

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Inactive

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Stakeholder Surveys	Rating of 3 or higher (1-4 scale) on IME Employer Survey of Graduates on Item #15 (understanding of the environmental and economic aspects of engineering practice)	every two years (co-op surveys as needed)	Yes
Course-embedded measures	Instructors' evaluation of student understanding of professional, societal, and global impact of technology and engineering activities	every semester	Yes

Related Courses

- * IME 102 - Technical Communication
- * IME 150 - Introduction to Manufacturing
- * IME 250 - Plastics Properties and Processing
- * IME 316 - Report Preparation
- * IME 352 - Metal Casting
- * IME 358 - Computer Aided Manufacturing
- * IME 402 - Supervision Industrial Operations
- * IME 422 - Engineering Teams: Theory and Practice
- * IME 458 - Manufacturing Systems Integration

* IME 491 - Multidisciplinary Senior Proposal

* IME 492 - Multidisciplinary Senior Project

Outcome: Mastery of Discipline

Appropriate mastery of the knowledge, techniques, skills, and modern tools of [students'] disciplines (TAC-a, EAC-k)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Advisory Board (AB) meetings and faculty discussion Assessment Method Category: External Boards, Advisory or Focus Groups	Action item identified in meeting	Meets annually in spring	Yes
Program review by engineering technology faculty using data from AB meetings and senior exit surveys Assessment Method Category: External Boards, Advisory or Focus Groups	High or low rating of course in curriculum	Reviewed as issues are raised	Yes
Course assessments performed by IME faculty. Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically on the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually.	Yes
Fundamentals of Engineering Exam (IEE only) Assessment Method Category: Exam-Licensure	National average pass rate for first time taking FE exam is 65%	Graduating IEE students take the FE exam each spring semester	Yes

Outcome: Apply Knowledge

Ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology (TAC-b, EAC-a)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Advisory Board meetings input Assessment Method Category: External Boards, Advisory or Focus Groups	Identified as action item in advisory board meeting	Review at next AB meeting in 2009	Yes
Course assessments performed by IME faculty Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically of the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually.	Yes

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Fundamentals of Engineering Exam (IEE only) Assessment Method Category: Exam-Licensure	National average pass rate for first time taking FE exam is 65%	Graduating IEE students take the FE exam in the spring semester	Yes
Program review by IME faculty using data from advisory board meetings and senior exit interviews. Assessment Method Category: External Boards, Advisory or Focus Groups	High or low rating of course in curriculum	Review as issues are raised	Yes

Outcome: Ability to Analyze

Ability to conduct, analyze, and interpret experiments and apply experimental results to improve processes (TAC-c, EAC-b)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Fundamentals of Engineering Exam (IEE only) Assessment Method Category: Exam-Licensure	National average pass rate for first time taking FE exam is 65%.	Graduating IEE students take the FE exam in the spring semester	Yes

Outcome: Ability to Apply

Ability to apply creativity in the design of systems, components, or processes appropriate to program objectives (TAC-d, EAC-c)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Advisory Board meeting input Assessment Method Category: External Boards, Advisory or Focus Groups	Identified as action item in 4/17/07 meeting	Review at next AB meeting in 2009	Yes
Program review by IME faculty using data from advisory board meetings and senior exit interviews. Assessment Method Category: External Boards, Advisory or Focus Groups	Identified as action item by advisory board and faculty	Review as issues are raised	Yes

Outcome: Team Ability

Ability to function effectively on teams (TAC-e, EAC-d)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each Semester	Yes
Program review by IME faculty using data from advisory board meetings and senior exit interviews. Assessment Method Category: External Boards, Advisory or Focus Groups	Identified as action item by advisory board and faculty	Review as issues are raised	Yes

Outcome: Technical Ability

Ability to identify, analyze, and solve technical problems (TAC-f, EAC-e)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Advisory Board meetings input Assessment Method Category: External Boards, Advisory or Focus Groups	Identified as action item in 4/17/07 meeting	Review at next AB meeting in 2008	Yes
Course assessments performed by IME faculty using embedded measures. Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically on the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually	Yes

Outcome: Communication Ability

Ability to communicate effectively (TAC-g, EAC-g)

Track: BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student Related Documents: Results from senior exit surveys and interviews.doc Results from senior exit surveys and interviews.doc	Review qualitative items, Summarize quantitative items	Each semester	Yes
Course assessments performed by IME faculty Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically on the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually.	Yes

Outcome: Lifelong Learning

A recognition of the need for, and an ability to engage in lifelong learning (TAC-h, EAC-i)

Track: BS Engrg Graphics & Design Tech
BS Engrg Mgmt Tech
BS Mfg Engrg Tech
BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Course assessments performed by IME faculty using embedded measures. Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically on the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually	Yes

Outcome: Understand Responsibility

Ability to understand professional, ethical, and social responsibilities (TAC-i, EAC-f)

Track: BS Engrg Graphics & Design Tech
BS Engrg Mgmt Tech
BS Mfg Engrg Tech
BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Survey Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Program review by IME faculty using data from advisory board meetings and senior exit interviews. Assessment Method Category: External Boards, Advisory or Focus Groups	High or low rating in curriculum	Reviewed as issues are raised.	Yes

Outcome: Diversity

A respect for diversity and a knowledge of contemporary professional, societal, and global issues (TAC-j, EAC-j)

- Track:** BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes

Outcome: Improvement

A commitment to quality, timeliness, and continuous improvement (TAC-k, EAC-none)

- Track:** BS Engrg Graphics & Design Tech
 BS Engrg Mgmt Tech
 BS Mfg Engrg Tech
 BSE Industrial

Outcome Status: Active

Means of Assessment			
Assessment Method	Criterion	Schedule	Active
Senior Exit Surveys Assessment Method Category: Survey-Student	Review qualitative items, Summarize quantitative items	Each semester	Yes
Program review by IME faculty using data from advisory board meetings and senior exit interviews Assessment Method Category: External Boards, Advisory or Focus Groups	High or low rating of course	Reviewed as issues are raised	Yes
Course assessments performed by IME faculty Assessment Method Category: Course-Embedded Measure	Measures in course assessments meet specified requirements, typically on the form "XX% of students achieved a YY% or higher."	Targeted courses reviewed annually.	Yes