Engineering Program Objectives

The Department of Engineering provides a quality engineering education which, produces graduates who

- Exhibit evidence of successfully applying their learned skills throughout their professional pursuits
- Have the enthusiasm and aptitude to continuously pursue learning
- Have the ability to communicate and work well on teams that include engineers and colleagues from other disciplines
- Are recognized as qualified engineers with high ethical standards

Engineering Program Outcomes

Following is the list of engineering department program outcomes selected as attributes of our graduates:

1. Graduates will have knowledge in the core industrial engineering areas (probability and statistics, work design and measurement, human factors, operations research and manufacturing systems).
2. Graduates will have knowledge in broad areas of industrial engineering beyond the core areas.
3. Graduates will have proficiency in developing solutions to problems involving systems integration.
4. Graduates will have the ability to communicate effectively.
5. Graduates will have the ability to function in teams.
6. Graduates will have an awareness of the complex environment (involving professional and ethical responsibilities) in which they will practice their profession.
7. Graduates will have the ability to educate themselves and be prepared for lifelong learning and professional development.
8. Graduates will have experience in solving real life problems.
9. Graduates will have a broad education necessary to understand the impact of engineering solutions in a societal context.
Process for Input, Evaluation, and Revision of Program Outcomes

Program Educational Objectives, Criterion 3(a-k), IE Requirements

Program Outcomes
- Knowledge in core IE areas
- Knowledge in broad IE areas
- Proficiency in systems integration
- Specialized knowledge in selected areas
- Ability to communicate effectively
- Ability to function in teams
- Awareness of the complex environment in which engineering is practiced
- Experience in solving real life problems
- Understand the impact of engineering solutions in a societal context

Key Program Input
- IE Curriculum with core area courses, breadth of topics covered & technical electives for depth of understanding
- Industry-based capstone projects
- Designated courses with open-ended, industry-based projects & plant tours
- General education component
- Laboratory experience
- Competent faculty
- Opportunities to be involved

Tools to Measure Program Outcomes
- Faculty self-assessment of courses
- Course portfolio (each year)
- Alumni survey (every 2 years)
- Exit survey of graduating seniors (each quarter)
- Senior Project evaluation by Industry sponsors & Industrial Advisory Board members (each quarter the course is offered)

Application of Assessment Results
- Curriculum and Assessment Committee (CAC) Review
- CAC Review
- Department Chair Review
- CAC Review
- CAC Review
- CAC Review

Result

Implementation of faculty approved changes in catalog

Presentation of results and proposed changes to IAB in December (each year)

Program Educational Objectives/Processes will be reviewed every three years and the Outcomes Assessment Processes will be reviewed every other year
Assessment Process

The flow diagram below summarizes the assessment and evaluation process for program outcomes.

We have decided to use the following assessment tools for the evaluation of outcomes achievement:

1. Course portfolio (each quarter).
2. Survey and interview with graduating seniors (every quarter).
3. Alumni survey (every other Fall).
4. Senior project evaluation by Faculty/Sponsors/IAB (each Winter/Spring).
5. Mock program evaluation by IAB (every year).
6. Faculty self-assessment of courses (every year).

Mapping of Program Outcomes and Assessment Tools.

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