Academic year 2024-2025

ME-Industrial Engineering - ME-MEIE Learning Outcomes

Science

An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. The following rubric is used in assessment.

MEASURES	RESULTS	ACTIONS
Comprehensive Exam The comprehensive exam is given to all students before they graduate. It is case study questions similar to short questions in a job interview. Direct - Exam (Course) **Target** The comprehensive exam is a pass / fail test based on common interview questions. The target is 75% of students pass this exam in one try. The exam is graded by a faculty member. Target is set as a minimum standard. While the questions are easy, the exam is closed book and closed note on a wide range of topics.	**MET** Comprehensive Exam ■ Met ■ Approached *[bar chart]* 0% 100% Met: 95% Approached: 5% Met Total: 95% Not Met Total: 5% **Analysis** The students are able to give responses to interview questions from memory.	*No actions have been added.*
Design Project Entrepreneurship Course Design Project Entrepreneurship Course. *Special Topics: INEN 5101* **Target** 75% of students achieve a score of 3 or above on the attached rubrics. Three faculty members evaluate the rubrics. A total of 20 students are used in the assessment. The 75% target is set based on the standards of the rubric that are relatively high. The rubric results are converted to a final score by taking an average across all elements and rounding down. INEN 5301 SACS Scores.pdf outcome metrics IE Masters (3).docx	**NOT MET** Design Project Entrepreneurship Course ■ Met ■ Approached *[bar chart]* 0% 100% Met: 67% Approached: 33% Met Total: 67% Not Met Total: 33% **Analysis** The course did not cover the rubric items in the project. The team wanted to use the Design Project Entrepreneurship Course to demonstrate a wide range of skills. The choice was a poor choice due to the limited focus on design with greater focus on marketing, economic analysis, and project planning in the project. In past years when INEN 5445 projects were used for assessment, the outcome was meet by students. The faculty think this years result is due to selecting the wrong course for assessment.	**Gather Additional Data** COMPLETE INEN 5345 CIM will be used as the course for this metric. This project in INEN 5301 did not focus on design.

Design

An ability to apply engineering design to produce solutions appropriately. The following rubric is used in assessment.

MEASURES	RESULTS	ACTIONS
Comprehensive Exam The comprehensive exam is given to all students before they graduate. It is case study questions similar to short questions in a job interview. Direct - Exam (Course) **Target** The comprehensive exam is a pass / fail test based on common interview questions. The target is 75% of students pass this exam in one try. The exam is graded by a faculty member. The target is that 75% pass this exam. Target is set as a minimum standard. While the questions are easy, the exam is closed book and closed note on a wide range of topics.	**MET** Comprehensive Exam ■ Met ■ Approached 0% 100% Met: 95% Approached: 5% Met Total: 95% Not Met Total: 5% **Analysis** The students are able to answer common interview questions from memory.	*No actions have been added.*
Design Project Entrepreneurship Course. Design Project Entrepreneurship Course. *Special Topics: INEN 5101* **Target** 75% of students achieve a score of 3 or above on the attached rubrics. Three faculty members evaluate the rubrics. A total of 20 students are used in the assessment. The 75% target is set based on the standards of the rubric that are relatively high. The rubric results are converted to a final score by taking an average across all elements and rounding down. INEN 5301 SACS Scores.pdf outcome metrics IE Masters (3).docx	Design Project Entrepreneurship Course. ■ Met ■ Approached 0% 100% Met: 67% Approached: 33% Met Total: 67% Not Met Total: 33% **Analysis** The course did not cover the rubric items in the project. The team wanted to use the Design Project Entrepreneurship Course to demonstrate a wide range of skills. The choice was a poor choice due to the limited focus on design with greater focus on marketing, economic analysis, and project planning in the project. In past years when INEN 5445 projects were used for assessment, the outcome was meet by students. The faculty think this years result is due to selecting the wrong course for assessment.	**Gather Additional Data** **COMPLETE** INEN 5345 will be used to assess the outcome. Recommended Due Date: 06/01/2025

Systems

An ability to use modern engineering tools to produce engineering analysis in a systematic manner. The following rubric is used in assessment.

MEASURES	RESULTS	ACTIONS
Comprehensive Exam The comprehensive exam is given to all students before they graduate. It is case study questions similar to short questions in a job interview. Direct - Exam (Course) **Target** The comprehensive exam is a pass / fail test based on common interview questions. The target is 75% of students pass this exam in one try. The exam is graded by a faculty member. The exam is graded by a faculty member. Target is set as a minimum standard. While the questions are easy, the exam is closed book and closed note on a wide range of topics thus not all students are anticipated to pass.	**MET** Comprehensive Exam ■ Met ■ Approached 0%　　　　　　　　　100% Met: 95% Approached: 5% Met Total: 95% Not Met Total: 5% **Analysis** Students are able to answer common interview questions from memory.	*No actions have been added.*
Design Project Entrepreneurship Class project in Design Project Entrepreneurship Course. *Special Topics: INEN 5101* **Target** 75% of students achieve a score of 3 or above on the attached rubrics. Three faculty members evaluate the rubrics. A total of 20 students are used in the assessment. The 75% target is set based on the standards of the rubric that are relatively high. The rubric results are converted to a final score by taking an average across all elements and rounding down. INEN 5301 SACS Scores.pdf outcome metrics IE Masters (3).docx	**NOT MET** Design Project Entrepreneurship ■ Met ■ Approached 0%　　　　　　　　　100% Met: 44% Approached: 56% Met Total: 44% Not Met Total: 56% **Analysis** The project did not directly address system design. In past years when INEN 5445 projects were used for assessment, the outcome was meet by students. The faculty think this years result is due to selecting the wrong course for assessment.	**Revise Measurement / Assessment** COMPLETE INEN 5345 will be used to assess this outcome as it was done in past years. Recommended Due Date: 06/01/2025

ME-Industrial Engineering - ME-MEIE Success Outcomes

Employment NOT MET

Employment success of graduates.

MEASURES	RESULTS	ACTIONS
LinkedIn Search	**NOT MET**	**Other - [Encourage Thesis]**

70% of students with LinkedIn profiles have related jobs 3 months after graduate. Note, students who LinkedIn profiles can not be found are excluded from the analysis. This measure will tend to under estimate employment, since not all students will update their LinkedIn profile after finding employment. Thus, the standard is set to 70%.

Target

70% of students with Linked in profiles are employed.

Analysis

The percentage of students without jobs based on LinkedIn profile was 15 of 45 (33%), 66% with jobs related to degree. The performance in Fall 2025 was 9 of 19 not finding jobs. In the prior semesters, 6 of 24 did not find jobs. This result might be due to a weaking job market for our graduates who are mostly international students. Note, this result is based on a LinkedIn search that will underestimate true performance, since students might not update their LinkedIn profile after finding jobs. Note, 23 students have LinkedIn profiles that could be located and were excluded from the analysis. Discussions with students and popular press also indicate a weaking job market especially in the areas of IE closely related to software develop. This problem has been discussed in several faculty meetings.

IN PROGRESS

Students need to be able to present research project to companies to get hired. For most students, doing a thesis is the best way to develop a project that can be demonstrated to a company. The department will strongly encourage students to do thesis work instead of coursework option.

Recommended Due Date: 06/27/2025

Other - [AI and Robotics]

IN PROGRESS

The department will deploy teaching resources to support AI and robotics courses. These areas are important based on our advisory council feedback. The department has developed several AI and robotics course over the past 2 years. We will work on keeping them up to data and making sure our students have skills in these areas.

Recommended Due Date: 06/27/2025

Other - [Personal branding]

IN PROGRESS

Include "Personal branding" as part of department orientation and several courses (required programming course and PIC). We need to get the students excited about building their brands. A side effect is marketing our brand to their networks.

This short training could include some of the following:
1. Professional social media (LinkedIn) - describing your growth at Lamar is a part of branding.
2. Research publications (important) - Very important signal on resumes today.
3. Use electives to build a brand - Do not just take the easiest course.
4. Quality resume
5. Technical skills for their target job
6. Branding strategy.

Building a brand is important in a challenging global labor market.

Branding will also increase the percentage of students who use LinkedIn and make this measure more accurate.

Recommended Due Date: 06/27/2025

Conclusion

The labor market today is poor for international students. During a chair call with other university, the IE chair learned that all recent international graduates are having difficulty in IE. The improvement plans for this outcome should help and the department will continue to work on this issue with all faculty developing ideas to improve the employment chances for our students.