University of Louisiana at Lafayette

Detailed Assessment Report
2015-2016 Chemical Engineering MS
As of: 11/18/2016 09:06 AM CENTRAL
(Includes those Action Plans with Budget Amounts marked *One-Time, Recurring, No Request*.)

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: General Engineering Knowledge
An ability to demonstrate breadth of knowledge across the general field of engineering.

Related Measures

M 1: Oral Exam
An oral exam of all degree candidates.

Source of Evidence: Academic direct measure of learning - other

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met
10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating the general engineering knowledge of the student during the oral defense. The average score over all defenses was 4.1. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys
Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
> **Measure:** Oral Exam | **Outcome/Objective:** Advanced Demonstration of Knowledge
> | General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills
> **Measure:** Written Thesis | **Outcome/Objective:** Advanced Demonstration of Knowledge
> | General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.
Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

M 2: Written Thesis
An evaluation of the written thesis document for all thesis degree candidates, or the evaluation of the written project report for all non-thesis degree candidates.

Source of Evidence: Senior thesis or culminating major project

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met

10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during evaluation of the thesis the general engineering knowledge of the student. The average score over all defenses was 4.0. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys

Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Oral Exam | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills
Measure: Written Thesis | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.
Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

SLO 2: Advanced Demonstration of Knowledge
An ability to demonstrate depth of knowledge in an area of specialization beyond the level of a B.S. degree in engineering.

Related Measures

M 1: Oral Exam
An oral exam of all degree candidates.

Source of Evidence: Academic direct measure of learning - other

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met

10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during the oral defense
advanced knowledge of the student related to the specific research topic . The average score over all defenses was 4.0. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys

Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

      Measure: Oral Exam | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

      Measure: Written Thesis | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.

Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

M 2: Written Thesis

An evaluation of the written thesis document for all thesis degree candidates, or the evaluation of the written project report for all non-thesis degree candidates.

Source of Evidence: Senior thesis or culminating major project

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met

10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during evaluation of the thesis the advanced knowledge of the student related with the research topic. The average score over all defenses was 4.2. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys

Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):

      Measure: Oral Exam | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

      Measure: Written Thesis | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.

Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

SLO 3: Practical Problem Solving Skills

An ability to demonstrate competence in solving practical problems in the field of engineering.

Related Measures

M 1: Oral Exam
An oral exam of all degree candidates.

Source of Evidence: Academic direct measure of learning - other

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met
10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during the oral defense the practical problem solving skills of the student related to the specific research topic . The average score over all defenses was 3.9. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys
Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Oral Exam | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills
Measure: Written Thesis | **Outcome/Objective:** Advanced Demonstration of Knowledge
| General Engineering Knowledge | Potential of PhD Success | Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.
Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

M 2: Written Thesis
An evaluation of the written thesis document for all thesis degree candidates, or the evaluation of the written project report for all non-thesis degree candidates.

Source of Evidence: Senior thesis or culminating major project

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met
10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during evaluation of the thesis the practical problem solving skills of the student related to the research topic. The average score over all defenses was 3.7. This is good score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys
Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015

Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
>**Measure:** Oral Exam | **Outcome/Objective:** Advanced
>Demonstration of Knowledge
>| General Engineering Knowledge | Potential of PhD Success |
>Practical Problem Solving Skills
>**Measure:** Written Thesis | **Outcome/Objective:** Advanced
>Demonstration of Knowledge
>| General Engineering Knowledge | Potential of PhD Success |
>Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.
Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

SLO 4: Potential of PhD Success
An ability to demonstrate readiness to enter and succeed in an engineering PhD program.

Related Measures

M 1: Oral Exam
An oral exam of all degree candidates.

Source of Evidence: Academic direct measure of learning - other

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met
10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during the oral defense potential of the student to continue a PhD program. The average score over all defenses was 4.05. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys
Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
>**Measure:** Oral Exam | **Outcome/Objective:** Advanced
>Demonstration of Knowledge
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>**Measure:** Written Thesis | **Outcome/Objective:** Advanced
>Demonstration of Knowledge
>| General Engineering Knowledge | Potential of PhD Success |
>Practical Problem Solving Skills

Implementation Description: Graduate committees will complete rubrics at the time of the oral defense. These rubrics will be scored and averaged. A score above 3.0 out of 5.0 will be considered as mastering the outcome.
Responsible Person/Group: Graduate coordinator will be responsible for collection of rubrics and scoring.

M 2: Written Thesis

An evaluation of the written thesis document for all thesis degree candidates, or the evaluation of the written project report for all non-thesis degree candidates.

Source of Evidence: Senior thesis or culminating major project

Target:

An average score of 3.0 or higher, on a scale of 1 - 5, is required.

Finding (2015-2016) - Target: Met

10 surveys were provided to graduate student committee members with the objective of quantitatively evaluating during evaluation of the thesis the potential of the student to be successful in a PhD program. The average score over all defenses was 4.05. This is an excellent score and above the target.

Related Action Plans (by Established cycle, then alpha):

New Surveys

Metric rubrics for the oral presentations will be re-designed and established in the 2015-2016 cycle.

Established in Cycle: 2014-2015
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
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Analysis Questions and Analysis Answers

How were assessment results shared and evaluated within the unit?
Results are shared in faculty meetings. The results are discussed and suggestions are provided by faculty for improvement of the graduate program. For example, now all oral presentations of defenses are open to the public. The audience will have an opportunity to answer the survey questions.

Identify which action plans [created in prior cycle(s)] were implemented in this current cycle. For each of these implemented plans, were there any measurable or perceivable effects? How, if at all, did the findings appear to be affected by the implemented action plan?
A quantitative instrument to assess engineering knowledge was implemented at each MS defense. Findings are used to implement changes to the graduate program.

What has the unit learned from the current assessment cycle? What is working well, and what is working less well in achieving desired outcomes?
Proper coordination of defenses and agreement to implement surveys are necessary to collect data.