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

SLO 4: Highly proficient in their knowledge of the fundamental relationships between the structure, properties, performance and process
It is expected that graduates of the Ph.D. program in Metallurgical Engineering will be highly proficient in their knowledge of the fundamental relationships between the structure, properties, performance and processing of materials.

Related Measures

M 7: All students will score an average of B or better on all course work
All students will score an average of B or better on all course work
Source of Evidence: Academic direct measure of learning - other

M 8: All students must pass a qualifying exam with a score of 70% or better.
All students must pass a qualifying exam with a score of 70% or better.
Source of Evidence: Academic direct measure of learning - other

SLO 5: Highly proficient in their chosen area of specialty
It is expected that graduates of the Ph.D. program in Metallurgical Engineering will be highly proficient in their chosen area of specialty.

Related Measures

M 9: Students are expected to produce published work from their Dissertation in peer reviewed archival journals
Students are expected to produce published work from their Dissertation in peer reviewed archival journals. We expect a minimum of 80% of graduates to publish a minimum of one (1) article from their dissertation in a peer reviewed archival journal, but we aim for 100%
Source of Evidence: Academic direct measure of learning - other

M 10: The Dissertation Committee is charged with evaluating the students Proposal Defense
The Dissertation Committee is charged with evaluating the students Proposal Defense, along with the Qualifying Examination, and the Dissertation Defense. A score of 70% or better is required on each.
Source of Evidence: Academic direct measure of learning - other

SLO 6: It is expected that graduates will have demonstrated the ability to perform basic or applied research
It is expected that graduates will have demonstrated the ability to perform basic or applied research, employ critical thinking skills, have the ability to analyze and synthesize data, and to apply knowledge gained to new problems and situations; and communicate their results.

Related Measures

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Source of Evidence: Academic direct measure of learning - other

M 11: Recent alumni will be surveyed for two years after graduation
Recent alumni will be surveyed for two years after graduation.
Source of Evidence: Academic direct measure of learning - other

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtcn 1: Program Quality
The program will improve and sustain a high level of recognized quality.

Related Measures

M 1: Student Average GRE Score
The number of Ph.D. metallurgical and materials engineering students admitted to the program with a GRE score above the UA average for entering Ph.D. students
Source of Evidence: Standardized test of subject matter knowledge

M 2: Faculty and National Lab Appointments
The number of Metallurgical and Materials engineering Ph.D. graduates receiving appointments to faculty positions and national labs as reported by UA Career Center
Source of Evidence: Administrative measure - other
OthOtcm 2: Program Optimal Enrollment
The program will build and sustain an optimal level of annual program enrollments and degree completions.

Related Measures

M 3: Number of Majors
The number of students majoring in the Ph.D. Metallurgical and Materials Engineering program
Source of Evidence: Academic indirect indicator of learning - other

M 4: Number of Degree Completions
The number of students majoring in the Ph.D. program in Metallurgical and Materials Engineering
Source of Evidence: Academic indirect indicator of learning - other

OthOtcm 3: Program Highly Valued
The program will be highly valued by its program graduates and other key constituencies it serves

Related Measures

M 5: Employment Rates
Employment Rates for Metallurgical and Materials engineering Ph.D. graduates reported by UA Career Center
Source of Evidence: Administrative measure - other

M 6: Satisfaction by Graduating Ph.D. Students
Percentage of PHD candidate Survey Respondents from Metallurgical and Materials Engineering reported being "Very Satisfied" with the Educational Experience at UA
Source of Evidence: Administrative measure - other

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Enhanced Communication Skills
Based on faculty assessment, students' communication skills should be enhanced. This will allow the students to be better prepared in expressing their demonstration of the ability to perform basic or applied research.

Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: The Dissertation Committee is charged with evaluating the students Proposal Defense
Outcome/Objective: It is expected that graduates will have demonstrated the ability to perform basic or applied research

Implementation Description: This will be accomplished by requiring students to give oral presentations at professional meetings and at metallurgical and materials engineering departmental seminars.
Responsible Person/Group: The Dissertation Committee
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