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

SLO 1: Advanced understanding of concepts
EES Graduate students will acquire an advanced understanding of concepts in areas related to their thesis research and area of specialty.

Related Measures

M 1: Thesis Rating
All graduate students will complete a research project, requiring the collection and interpretation of data. This will result in the construction of a thesis, which will be orally defended in front of the thesis committee and public. At this defense, all committee members will complete a faculty-derived rating rubric which will assess different components of the thesis: written thesis, critical thinking, supporting evidence, review of literature, scientific methods, and overall clarity. All components will be rated as follows: Component Fully Met (Rating = 3); Component Met (Rating = 2); Component Partially Met (Rating = 1); Component Not Met (Rating = 0).

Source of Evidence: Academic direct measure of learning - other
Target: Of all thesis defenses occurring in the reporting period, 80% of graduate students will have a rubric rating = 2 or higher for each of the following components of the thesis: written thesis, critical thinking, supporting evidence, review of literature, scientific methods, and overall clarity.

M 2: Abstract
All thesis abstracts submitted as part of a thesis defense will be scored using a faculty-derived rubric. Abstracts will be rated on clarity, organization, and scientific content.

Source of Evidence: Academic direct measure of learning - other
Target: Of all thesis abstracts submitted in the reporting period, 80% of graduate students will have a rubric rating = 2 or higher for each of the following three categories: clarity, organization, and scientific content.

SLO 2: Presentation
EES Graduate students will be able to construct and effectively competently present Earth and Environmental Science information and concepts information and concepts visually and verbally through oral presentations.

Related Measures

M 3: 6000-level Student Presentations
Graduate students in 6000-level graduate courses will be required to give oral presentations regarding a topic of relevance to the course. Each presentation will be rated using a faculty-derived rubric with the following categories: Eye contact, Facial expressions, Gestures/movement, Appropriate word choice, Proper pronunciation, Vocal variety, Self confidence, Professionalism, Enthusiasm, Timing/pace, and Components. Ratings will be based on whether the student appropriately and effectively exhibits or uses these categories either always (rating = 2), sometimes (rating = 1), or never (rating = 0).

Source of Evidence: Presentation, either individual or group
Target: Of all graduate presentations conducted in 6000-level courses in the reporting period, 80% of graduate students will have a rubric rating = 1 or higher for each of the rubric categories.

M 4: 5000-level Graduate Student Presentations
Graduate students in 5000-level graduate courses will be required to give oral presentations regarding a topic of relevance to the course. Each presentation will be rated using a faculty-derived rubric with the following categories: Eye contact, Facial expressions, Gestures/movement, Appropriate word choice, Proper pronunciation, Vocal variety, Self confidence, Professionalism, Enthusiasm, Timing/pace, and Components. Ratings will be based on whether the student appropriately and effectively exhibits or uses these categories either always (rating = 2), sometimes (rating = 1), or never (rating = 0).

Source of Evidence: Academic direct measure of learning - other
Target: Of all graduate presentations conducted in 5000-level courses in the reporting period, 80% of graduate students will have a rubric rating = 1 or higher for each of the rubric categories.

SLO 3: Technical writing
EES Graduate students will be able to explain in technical written format an advanced understanding of concepts in areas related to their thesis research and area of specialty.

Related Measures

M 5: Written assignment
All graduate students will complete a written assignment in the required Graduate Seminar course. These written assignments will be scored using a faculty-derived rubric and rated on clarity, organization, and scientific content. For each of these categories, the student's written assignment will be rated as follows: Outstanding (Rating = 3); Good (Rating = 2); Fair (Rating = 1); Poor (Rating = 0).
Source of Evidence: Written assignment(s), usually scored by a rubric

**Target:**
Of all written assignments submitted by graduate students in Graduate Seminar in the reporting period, 80% of graduate students will have a rubric rating = 2 or higher for each of the following three categories: clarity, organization, and scientific content.