Example Assessment Plan for Academic Programs – Sciences

Including Student Learning, Educational Program and Student Achievement Outcomes

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| Program/Unit Name | Environmental Engineering, B.S. |
| Description of Faculty Involvement | The Environmental Engineering faculty meet regularly to develop outcomes, assess the extent to which those outcomes are achieved and implement improvements based on that assessment. A subgroup of Environmental Engineering faculty belongs to the assessment committee that oversees this process. During the first spring faculty meeting in 2015-2016, the current outcomes and means of assessment were approved.  |

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| Outcome Names(short) | Outcomes(Service or Student Learning) | Means of Assessment(what will be assessed, by whom, when, and how) | Criteria for Success(standard of excellence) |
| **Student Learning** |
| Student Learning – Knowledge  | Graduates Student of the EE Program will be expected to have an ability to apply knowledge of mathematics, science, and engineering. | Students will be given an exam as part of Engr 400 (which all students must take, typically as seniors) and their knowledge will be assessed with a consistent set of questions that will be applied each year. At least some of the questions will come from the exam that has been used for a number of years. | For each question on the exam, at least 75% of students will answer correctly. |
| Students of the EE program take a set of core engineering courses, which include direct measures. A set of these direct measures will be collected for EE students at least once a year, but may be available more frequently. Measures from Engr 309 (statics), Engr 310 (engineering mathematics), Engr 321 (thermodynamics), and CEE 364 (water & wastewater engineering) will be used. | At least 60% of students will answer correctly on each of the direct measures.  |
| Student Learning – Professional and Ethical Responsibilities | Graduates from the Environmental Engineering Program at the University of Mississippi will understand the ethical responsibilities of a practicing engineer. | Students enrolled in Engr 400 will be asked to complete an ethics assignment via a graded written essay entitled "Personal Reflection of Leadership and Professionalism" designed to demonstrate an understanding of professional and ethical responsibilities. Essayed will be graded using a rubric assessing how the student integrated what they heard in class with their own perspectives on leadership, organization, knowledge of responsibilities, etc.  | For each component, 80% of students will earn a 6 out of 10, which is labeled as “satisfactory.” |
| As part of the graduation survey, students from the program will be asked how well they agree that this outcome was achieved.  | On a scale of 1 to 5, at least 70% of students will “agree” or “strongly agree.” |
| **Educational Program** |
| Educational Program – Advising | The Environmental Engineering program provides effective advising.  | The graduating student survey asks students about their advising experience (e.g., #34 level of satisfaction with … “academic advising in your school or department” and #90 for the musical theatre department “student advising was adequate”) | For each relevant question, on a scale of 1 to 5, at least 80% of students will mark “agree” or “strongly agree” that advising in the department was effective. |
| After each advising appointment, students will be emailed a link to anonymously fill out a survey about the effectiveness of that appointment (e.g., “This session helped me understand my career or graduate school options” and “I understand what courses I need to take to reach those goals”)  | For each relevant question, on a scale of 1 to 5, at least 75% of the students will “agree” or “strongly agree.” |
| Education Program – Retention  | The Environmental Engineering program supports the retention of students.  | Junior to Senior retention rates for Environmental Engineering majors are available for Intuitional Research, Effectiveness, and Planning. | At least 80% of junior majors will still be in the major their senior year.  |
| If students change their major between junior and senior year, they will be asked to complete a survey about their experiences. A qualitative analysis summarizing common responses and themes will also be provided. | Fewer than 10% of students changing majors will state they are doing so due to lack of academic support.  |
| **Student Achievement** |
| Student Achievement – Post-Graduation | Graduates of the Bachelor of Engineering program are prepared for employment and/or postgraduate educational opportunities. | Questions 13-16 on the graduating student survey ask about post graduation plans.  | At least 75% of graduates will have post-graduation plans consistent with their degree program.  |
| The graduating student survey asks students about whether they feel prepared to assume the responsibilities of their chosen profession (question 22).  | At least 75% of students will “agree” or “strongly agree” (on a scale of 1 to 5) that their experiences prepared them to assume the responsibilities of their chosen profession.  |