

## **Engineering Students' Ability to Conduct Calculations Related to Environmental Engineering**

### **Environmental Engineering MS – College of Engineering and Computer Sciences**

#### **Step 1: Student Learning Outcome**

Understanding basic principles and ability to conduct calculations related to environmental engineering;

- Understanding basic principles (chemistry, hydraulics, and/or hydrology) related to environmental engineering
- Ability to conduct calculations on fate and transport of chemicals in the environment and/or hydraulics/hydrology related to environmental engineering

#### **Step 2: Methods and Measures**

The program maintains a four-year assessment cycle which maps the Performance Indicators (PIs) to Student Learning Outcomes (SLOs) and identifies the course in which assessment will take place by semester. Assessment is administered to all students enrolled in the course.

Direct measures are selected from the following depending on the course;

- Homework assignment
- SLO assessment exam
- Project report
- Oral presentation

In 2016-2017, the program assessed an SLO Assessment Exam administered in CE 570.

#### **Step 3: Criteria for Success**

The exams are graded on a scale of 100, with >70/100 considered satisfactory.

#### **Step 4: Results**

A total of 61 students in the course were assessed.

For assessment questions; (a) Understanding basic principles (chemistry, hydraulics, and/or hydrology) related to environmental engineering, the average score was 84/100, which exceeded the target of 70/100.

For assessment questions; (b) Ability to conduct calculations on fate and transport of chemicals in the environment and/or hydraulics/hydrology related to environmental engineering, the average score is 82/100 - exceeding the target of 70/100.

#### **Step 5: Improvement Actions**

The assessment result indicates that both scores well exceeded the target score of 70/100. No improvement actions will be taken. This SLO will be reassessed in 2018-2019.