Summary

Shiley-Marcos School of Engineering Programs Learning Assessment

Student learning outcomes assessment is conducted on an ongoing basis for all the Shiley-Marcos School of Engineering programs. The School offers a dual BA/BS degree in three engineering majors: Electrical Engineering, Industrial & Systems Engineering, and Mechanical Engineering.

All engineering programs are accredited by the Engineering Accreditation Commission of ABET and have continuously maintained this accreditation to cover all graduates of the programs. The assessment of student learning outcomes in each program is based upon the Engineering Accreditation Commission of ABET’s (a)-(k) student learning outcomes that apply to each graduate. Programs may incorporate additional student learning outcomes; the Electrical Engineering program does incorporate one additional outcome (related to application of the probability and statistics). Student outcome achievement is assessed at the program level with a linking of program courses to student learning outcomes and faculty linking student performance on specific coursework assignments to course learning outcomes.

Program-level review of this occurs at the course-level at least annually with metrics used to indicate whether overall student learning outcome achievement meets desired levels. Continuous improvement may result from course-level assessment or from overall results for a particular student learning outcome. All outcomes are meeting satisfactory levels of achievement, but, even then assessment metrics may be used as a rationale for improvement. In 2013, electrical engineering faculty interchanged the sequencing of two required electrical engineering program courses in digital design, ELEC 310 and ELEC 340. In 2012, mechanical engineering faculty established a requirement of an elective in simulation to strengthen students’ exposure to modern computational tools.

All School of Engineering programs were part of an Engineering Accreditation Commission of ABET accreditation review in 2009-10 and successfully maintained accreditation with criteria that requires continuous improvement. All degree programs continue to monitor student learning as part of curricular decision-making.