Institutional Effectiveness Report
2018-19

Program: Chemical Engineering BS

College and Department: College of Engineering – Chemical Engineering

Contact: Holly Stretz

Mission: The Department of Chemical Engineering at Tennessee Technological University strives to develop the 21st Century Renaissance Engineer through development and implementation of novel learning environments anchored by the award-winning Renaissance Foundry Model. The foundation of this platform is rooted in the guidelines provided by the National Academy of Engineering's Vision for the Engineer of 2020. Educational protocols within the department are consistent with the mission and vision statements given below:

course. The evaluators ask questions of the team members and provide feedback on the technical quality of the projects and oral presentations using an established ABET Criteria-based rubric.

3. Course Level Assessment

are used, a score of three out of five, with five being the most positive score is generally considered the minimum expected outcome. Where qualitative inputs are provided, as is the case of input from the BOA, generally positive feedback is considered the expected minimum outcome. As an example, generally

Student Outcome 1: FORMULATE & SOLVE ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics

Assessment Process

Student Outcome 3: COMMUNICATION ability to communicate effectively with a range of audiences.

Assessment Process	2018-19
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Student Outcome 7 – KNOWLEDGE ACQUISITION: An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Assessment Process

was restructured to include student training in performing as functional teams during hands-on integration of course material via the creation of a prototype of innovative technology. The training consisted of multiple activities in which students acquire and apply (or transfer) knowledge regarding the attributes of a functional team, including but not limited to the need for a strong social contract and assessment of the contracts built. Even after this level of intensive and systematic teamwork training, when placed in a new environment, i.e. CHE 4410, this training does not seem to translate into improved team behaviors. The Department is evaluating and developing additional strategies in an effort to make substantive improvements in student application of skills acquired across the curriculum.

Appendices

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Appendix 1: Curriculum Map

Articulation Matrix Mapping of Student Outcomes and the Courses of the Curriculum

Course No.

ABET – Assessed Student Outcome for ABET continuous improvement purposes, courses shown in bold.