

CONCRETE INDUSTRY MANAGEMENT (CIM) STUDENT OUTCOMES

The Course Learning Outcomes support the achievement of the following CIMT Student Outcomes and TAC of ABET Criterion 9 requirements

Student Outcome a - an ability to select and apply the knowledge, techniques, skills, and modern tools of their disciplines to broadly-defined engineering technology activities;

Course Learning Outcome – Understand the ACI 211 design technique, in conjunction with job specific plans and specifications determine concrete mix proportioning.

Student Outcome b - an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;

Course Learning Outcome – Design the most efficient mix proportion for economics while understanding the availability of raw materials and the environment.

Student Outcome d - An ability to design systems, components or processes for broadly-defined engineering technology problems appropriate to program educational objectives;

Course Learning Outcome- Design a concrete mix design that meets a standard set of specifications, test the plastic and hardened concrete following the ACI guidelines and writing a detailed report based on the findings.

Student Outcome f - an ability to identify, analyze, and solve broadly-defined engineering technology problems;

Course Learning Outcome – Identify, test, and report on the most efficient concrete proportion design that can be used for various applications using aggregates in the lab.

Student Outcome g - an ability to communicate effectively regarding broadly-defined engineering technology activities;

Course Learning Outcome – Students work in lab groups collecting data and share technical information in which they will individually prepare professional caliber lab reports.

Student Outcome g - An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;

Course Learning Outcome - Students will be required to research various technical topics utilizing appropriate technical literature, and present at least 1 lab project related report to the class in a peer review setting.

Student Outcome k – A commitment to quality, timeliness and continuous improvement;

Course Learning Outcome - Students will complete on time and present materials in a professional manner.

Student Outcome l – Producing and utilizing design, construction and operations documents;

Course Learning Outcome - Students will review plans and specifications for a particular job and properly design a concrete mix that meets the project specifications.

Student Outcome n – Selecting appropriate construction materials and practices

Course Learning Outcome – Students will learn how to select and proportion aggregates, and admixes to achieve a specific need and how adjustments in proportions affect the overall product.

Student Outcome p - Applying basic technical concepts to the solution of construction problems involving hydraulics and hydrology, geotechnics, structures, construction scheduling and management and construction safety;

Course Learning Outcome – Employ various ACI, AMRL, OSHA, and ASTM specifications and techniques to safely determine concrete and aggregate material properties.

Student Outcome q – Performing standard analysis and design in at least one technical specialty within construction engineering technology that is appropriate to the goals of the program;

Course Learning Outcome - Employ various ACI, AMRL, OSHA, and ASTM specifications and techniques to safely determine concrete and aggregate material properties, and determine if properties meet the requirements of the job specifications