Errors Page
Structures Online

Bridge Engineering

Content

Bridge Engineering helps get familiar with the process of designing a bridge from starting to completion. This work experience program is to hone your understanding of key concepts, your managerial judgment, and your ability to apply engineering concepts to real engineering problems.

Modules		Components	Work Objectives	
Module 1	Formulating the Engineering Problem	• Reading contract documents • Understand the survey data • Understand site conditions and requirements that would guide structural configurations • Alignment of the proposed structure	• Get familiar with the contract documents • Setup survey to gather requisite information with clear goals as to which data points are essential • Get geotechnical information from the field and interpret it objectively	Quest
Module 2	Calculate Actions according to Codes of Practice	• Actions on the structure based on the above formulation • Overview of the codes of practice • Applicable loads and load combinations	• The general understanding of the loads, including the atmospheric loads • Review of the codes of practice around the world • Try to understand the load combinations and selection of the appropriate loads that affect structure's service and failure	Quest
Module 3	Design of the Structure	• Designing of the structure for Moment and Shear • Design for Serviceability	• Based on the formulation and dominant actions, the design is to be done for the envelope of the load combinations effective	Quest
Module 4	Engineering Drawings	• Simplicity of Engineering Drawings • Drawing standards • Free hand sketches	• When to start making the drawing is essential • Understanding the look and feel of the drawing • Making hand drawings for converting them into CAD drawings with the help of detailers • Improving the drawings based on updated designs	Quest
Module 5	Execution and Design revisions	• Send drawings and design notes for Independent Review • Resolving review comments • How to close designs	• At this stage the drawings would be ready for the technical submission. Here, the discussion would be about closing a design (end-to-end) • How to work with reviewers to agree upon the codes of practice, load combinations, design methodology, etc. • Timely revisions based on site conditions	Quest