NEW UNDERGRADUATE COURSE:

Design and Evaluation of Steel Highway Bridges

SPRING 2026 Tu/Th 01:30-2:45 PM HAMP 1113

CE 49700-001 (3.0 Cr) | CRN: 39700 | Prerequisite: CE 37100

Instructed by Francisco Bonachera Martin Ph.D., P.E. | Visiting Professor

COURSE OBJECTIVES

This course provides students with the necessary tools to perform the design of straight steel I-girder bridge superstructures with non-slender webs. The course focuses on practical application of the current AASHTO LRFD bridge design and load rating procedures.

This includes capacity calculations for I-girder sections, tension and compression members, design and evaluation of bolted and welded connections, and calculation of camber and screed elevations. These will be as detailed in the AASHTO LRFD Bridge Design Specifications and the Manual for Bridge Evaluation.

Finite element analysis software used by bridge design firms will be used to illustrate the theoretical background and to apply the course content.

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