

Course Name:

Design of Steel Bridges

Course Number: 20-243	Credit: 3
Program: Graduate	Course Type: Technical Selective
Prerequisite: -	Corequisite: -

Course Description (Objectives):

This course covers the design methods for bridge superstructure and substructure components in accordance with the AASHTO LRFD 2020 specifications.

Course Content (outline):

- Chapter 1: History of bridge construction
- Chapter 2: Common bridge systems
- Chapter 3: Bridge loading according to AASHTO standards, Iranian Code 139, and AASHTO specifications
- Chapter 4: Design of concrete decks
- Chapter 5: Design of simple girder-slab systems
- Chapter 6: Design of composite girder-slab systems
- Chapter 7: Design of plate girder systems
- Chapter 8: Design of neoprene bearings
- Chapter 9: Design of abutments
- Chapter 10: Introduction to SAP2000 software and moving load analysis
- Chapter 11: Overview of seismic design of bridges based on Iranian Code 463
- Chapter 12: Design of girder-slab systems using the L-method

References:

- Bridge Engineering, Zhao & Tonias, 3rd edition, 2012, McGraw-Hill.
- AASHTO, LRFD Bridge Design Specification, 9th edition, 2020.
- Highway Bridge Superstructure Engineering, Narendra Taly, crc Press, 2015.