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Spring 2019

CE 637-102: Short Span Bridge Design

Richard Schaefer

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New Jersey Institute of Technology
Department of Civil and Environmental Engineering

CE 637 Short Span Bridge Design Section: 102	Tuesday Nights 6PM-9PM - Spring 2019
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Texts:	<p><i>AASHTO LRFD Bridge Design Specifications- Customary US Units, 6th Edition. Published by the American Association of State Highway and Transportation Officials. ISBN: 1-56051-523-4</i></p> <p>Portions of the above text will be provided to you</p> <p>Optional text: <i>Bridge Engineering, Third Edition Hardcover – March 5, 2012, Zhao/Tonias</i></p>
Instructor:	Adjunct Professor: Richard Schaefer, P.E. email rschaefer@hntb.com
<i>Prerequisites: undergraduate courses in steel design, concrete design, surveying</i>	

Week	Date	Topic
1	1/22/2019	Introduction to Bridges: History, Anatomy, and Theory of Design
2	1/29/2019	Bridge Loads: Dead Load, Live Load, 2nd. Effect Loads (Homework 1)
3	2/5/2019	Superstructure Design: section properties (quiz 1)
4	2/12/2019	Superstructure Design: girder design complete
5	2/19/2019	Superstructure Design: diaphragms (Homework 2)
6	2/26/2019	Design of Splices and Connections -1 (quiz 2)
7	3/5/2019	Design of Decks and Parapets
8	3/12/2019	Mid Term Exam (In Class)
9	3/19/2019	Spring Break – No Class
10	3/26/2019	Midterm Review
11	4/2/2019	Bridge Bearing and Joint Design (Homework 3)
12	4/9/2019	Abutment and Retaining Wall Design (quiz 3)
14	4/16/2019	Seismic Design (Homework 4)
15	4/23/2019	Bridge Type Selection and Bridge Economics
16	4/30/2019	Plans and Const. Methods (quiz 4)
17	5/7/2019	Final Exam Issued (Take Home)- Due back on the 10th

Course Objective:

The objective of this course is to provide a basic understanding of bridge design theory and practice. Upon completion of the course, the student will be able design and critically evaluate common steel bridges.

Grading:

Midterm Exam – 25%

Final Exam – 25%

Homework – 25%/4 each

Quizzes – 25%/4 each