



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Construction Intelligent System and Simulation II

CIVILEN 8820

Credit Hours:

3.00 - 3.00

Course Levels:

Graduate

Course Components:

Lecture

Course Description:

Applications of intelligent system to construction systems and operations. Simulations include mathematics and computer modeling. Knowledge about computer programming recommended.

Prerequisites and Co-requisites:

Prereq: 8810, or permission of instructor.

Course Goals / Objectives:

- Learn to take advantage of the abundance of construction experience on-site and formulate it into computer models
 - Use these models to make decisions of optimum construction strategies
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Course Topics:

- Logic theory and history of fuzzy logic; Fuzzy sets and ordinary sets, a comparison; Fuzzy set theory and membership functions;
 - Fuzzy set models: Translational models; Rotational models; Triangular models; Angular models; Advantages and disadvantages of each model.
 - Application of fuzzy set theory especially in construction engineering and management.
 - Development of knowledge-based fuzzy expert system. Applications of fuzzy expert system in construction systems, operations, and safety.
 - Development of fuzzy fault tree analysis and fuzzy fault tree expert systems for construction systems, operations, and safety.
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Designation:

Elective