ENGR 520

INTELLIGENT ENGINEERING DECISION SUPPORT SYSTEMS

Offered Spring as needed

Prereqs: ENGR 510

Spring offering is open to students who have not completed ENGR510 – Contact Dr. Steve Conrad to learn about a pre req waiver

DESCRIPTION

Introduction to intelligent engineering decision support systems for normative and descriptive approaches in decision analysis. Basic concepts include theories of decision-making, multi- objective analysis and optimization, intelligent representations of human behavior - AI decision surrogates – expert systems – case based reasoning, and decision making under risk and uncertainty.

BENEFITS

Decisions are routinely made throughout engineering design, process, and management and decision support is a crucial element of making well-informed decisions. The goal of Intelligent Decision Support Systems is to bring together the elements of decision making, the problem, boundary, and decision maker, to inform and optimize decision outcomes through intelligent aided processes.

COURSE OBJECTIVES

Students will practice the principles taught in the course through weekly assignments and a term project of the individual student's choice.

Students will learn to:

- Design and develop decision support systems
- Analyze multi-objective decision making
- Manage risk and uncertainty
- Apply optimization for decision support
- Utilize artificial neural networks

SYSTEMS ENGINEERING
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