

ECE 8861: Special Topics on Computational Modeling

Course Description

Reviews the latest computational models and advanced methods for modeling processes of diverse sorts.

Transcript Abbreviation: Comp Modeling

Grading Plan: Letter Grade

Course Deliveries: Classroom

Course Levels: Graduate

Student Ranks: Masters, Doctoral

Course Offerings: Spring

Flex Scheduled Course: Never

Course Frequency: Odd Years

Course Length: 14 Week

Credits: 3.0

Repeatable: No

Time Distribution: 3.0 hr Lec

Expected out-of-class hours per week: 6.0

Graded Component: Lecture

Credit by Examination: No

Admission Condition: No

Off Campus: Never

Campus Locations: Columbus

Prerequisites and Co-requisites: Prereq: Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

Exclusions:

Cross-Listings:

Course Rationale: Existing course.

The course is required for this unit's degrees, majors, and/or minors: No

The course is a GEC: No

The course is an elective (for this or other units) or is a service course for other units: Yes

Subject/CIP Code: 14.1001

Subsidy Level: Doctoral Course

General Information

Students are expected to know the fundamentals of statistics, linear algebra, and calculus.

Course Goals

Survey the area of computational modeling from the latest published research

Learn modeling methodology and advanced approaches

Apply the learned models and modeling techniques to problems of interest in engineering and science

Course Topics

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Computational modeling	6.0							

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Approaches to modeling	10.0							
Advanced methods for computational modeling	10.0							
Current computational models and applications	10.0							
Final projects	5.0							

Grades

Aspect	Percent
Homework	50%
Final exam or final project	50%

ABET-EAC Criterion 3 Outcomes

Course Contribution		College Outcome
***	a	An ability to apply knowledge of mathematics, science, and engineering.
**	b	An ability to design and conduct experiments, as well as to analyze and interpret data.
**	c	An ability to design a system, component, or process to meet desired needs.
*	d	An ability to function on multi-disciplinary teams.
**	e	An ability to identify, formulate, and solve engineering problems.
	f	An understanding of professional and ethical responsibility.
**	g	An ability to communicate effectively.
	h	The broad education necessary to understand the impact of engineering solutions in a global and societal context.
	i	A recognition of the need for, and an ability to engage in life-long learning.
	j	A knowledge of contemporary issues.
*	k	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Additional Notes or Comments

Updated description, prereqs, goals and topics to match university format 3/20/12

Prepared by: Betty Lise Anderson