WELDENG 4902 (Approved): Capstone Welding Design II

Course Description
Group design projects building on all aspects of welding engineering.

Prior Course Number: 691, 692
Transcript Abbreviation: Capst Weld Des II
Grading Plan: Letter Grade
Course Deliveries: Classroom
Course Levels: Undergrad
Student Ranks: Senior
Course Offerings: Spring
Flex Scheduled Course: Never
Course Frequency: Every Year
Course Length: 14 Week
Credits: 2.0
Repeatable: No
Time Distribution: 2.0 hr Lec
Expected out-of-class hours per week: 4.0
Graded Component: Lecture
Credit by Examination: No
Admission Condition: No
Off Campus: Never
Campus Locations: Columbus
Prerequisites and Co-requisites: Prereq: 691 or 4901 or permission of instructor. Open to WE or MSE majors only.
Exclusions: Not open to students with credit for 692.
Cross-Listings:

The course is required for this unit's degrees, majors, and/or minors: Yes
The course is a GEC: No
The course is an elective (for this or other units) or is a service course for other units: No

Subject/CIP Code: 14.9999
Subsidy Level: Baccalaureate Course

Programs

Abbreviation	Description
WELDENG	Welding Engineering

General Information

This is the second semester of the Welding Engineering capstone project. During this semester, students focus on completing testing and experiments proposed in the first semester (WELDENG 4901). They write a final report and prepare a poster bsed on their reserach topic.
Although this is 2-credit course, each student may spend over 100 hours during the semester completing the project. The hour distribution has tried to reflect the number of laboratory hours typically required for each student.

Course Goals

Work as a team to complete a research topic.

Communicate effectively with projects sponsors and advisors.
Develop good reporting and presenation skills.

Course Topics

Topic	Lec	Rec	Lab	Cli	IS	Sem	FE	Wor
Testing and analysis from proposal								
Final report, presentation and poster	4.0							
Reporting and communication	4.0							

Grades

Aspect	Percent
Communication - team, sponsors, advisor	30%
Progress reports	20%
Final presentation and poster	20%
Final report	30%

Representative Textbooks and Other Course Materials

Title	Author
None	

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.

WELDENG ABET-EAC Criterion 9 Program Criteria Outcomes

Course Contribution		Program Outcome
**	l	an ability to select and design welding materials, processes and inspection techniques based on application, fabrication and service conditions
**	m	an ability to develop welding procedures that specify materials, processes and inspection requirements

Course Contribution		Program Outcome
**	n	an ability to design welded structures and components to meet application requirements

Additional Notes or Comments

Applicability of ABET l, m, and n is dependent on the nature of the project. For example, some projects may focuss more heavily on welding processes than welding design.

Prepared by: Dave Farson