

1. Course number and name: **MEEN 4900.717 – Special Problems in Mechanical and Energy Engineering**

2. Credits and contact hours: **1 credits**

3. Instructor’s or course coordinator’s name: **Dr. Xiaohua Li**

4. Text book, title, author, and year: No Textbook is required

5. Specific course information

a. brief description of the content of the course (catalog description): **Student will conduct research with the faculty. In this particular special problem course, student will help the faculty to design and improve the thermodynamics cycle calculators for MEEN 3110 Thermodynamics II class. Student will meet the faculty once every week and will have to submit term research report.**

b. prerequisites or co-requisites: no specific prerequisites or co-requisites

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program: Elective

6. Specific goals for the course:

MEEN 4900.717 Course Learning Outcomes	ABET EAC Student Outcomes						
	1	2	3	4	5	6	7
Understand thermodynamics Rankine cycles	X						
Understand thermodynamics Otto cycles	X						
Understand thermodynamics Diesel cycles	X						
Understand thermodynamics Brayton cycles	X						
Understand thermodynamics Refrigeration cycles	X						

7. Brief list of topics to be covered:

Topics to Be Covered	
Design and improvement of Rankine Cycle Calculator 1	Design and improvement of Rankine Cycle Calculator 2
Design and improvement of Otto Cycle Calculator	Design and improvement of Diesel Cycle Calculator

Design and improvement of Brayton Cycle Calculator 1	Design and improvement of Brayton Cycle Calculator 2
Design and improvement of refrigeration Cycle Calculator 1	Design and improvement of refrigeration Cycle Calculator 2