Syllabus for
EGR 499—Senior Design and Research II
2 Credit hours
Spring 2009

I. COURSE DESCRIPTION

A continuation of EGR 498. Student teams apply the design process by developing a project through construction and testing. Requires oral presentations and a written report.
Prerequisite: EGR 461 and 498.
Course fee: $35.

II. COURSE GOALS

This course will enable the student to do the following:

A. Learn the fundamental skills, techniques, and procedures for conducting engineering projects.

B. Gain the opportunity for independent learning by discovery, synthesis, and analysis of acquired information.

C. Become an authority on a small phase of a project.

D. Gain valuable experience in the organization and writing of a scholarly engineering report.

E. Gain experience in making technical presentations.

F. Understand the ethical responsibilities of the engineering profession.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

As a result of successfully completing this course the student will be able to do the following:

A. Demonstrate, in a controlled environment, the knowledge and skills developed during the previous years of engineering study. The end goal of the course is proficiency not only in engineering ability, but also in both written and oral communication ability.

B. Work as part of a team on a design project selected by them and approved by the advisor and engineering faculty.

C. Successfully complete the design project to satisfy the course requirements. The project is culminated in the final written and oral report, due on the date given in class. The team is expected to perform a reputable job of design, implementation, execution, and testing of their project with continuous progress during the duration of the project.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

Required Materials
Textbooks
No textbook needed

V. POLICIES AND PROCEDURES

A. University Policies and Procedures

1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software. By submitting an assignment of any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means.
4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
5. Students are to be in compliance with University, school and departmental policies regarding ePortfolio requirements. Students should consult the ePortfolio handbooks for requirements regarding general education and the students' majors.
    a. The penalty for not submitting electronically or for incorrectly submitting an ePortfolio artifact is a zero for that assignment.
    b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.

B. Course Policies and Procedure

1. The class is scheduled to meet every Monday and Friday at 4:30 p.m. Once project groups are formed, each group should plan to meet with their project advisor on a weekly basis. Friday at 4:30 p.m. is reserved for this purpose, but may be scheduled by mutual agreement of the group and their project advisor.
2. Students are expected to participate in announced programs such as the following:
    a. ORU Engineering department display during National Engineers' Week.
    b. Presentations at ORU Engineering department seminar.
    c. Display of senior projects at ORU.
    d. Project presentations at local IEEE, ASME, etc.
    e. Other mutually agreed upon showings as opportunities arise.
3. Evaluation Procedures
    a. General Evaluation Procedures
        (1) Projects that are not completed by Engineers' Week (usually the 2nd or 3rd week in February), will have the final grade reduced by 10%.
        (2) The grades for weekly progress reports not submitted on time will be reduced by 50% . Weekly progress reports that are over 62 hours late will be given a grade of 0. The grades for other assignments that are not submitted/completed on time will be reduced by 5% for each day they are late.
        (3) An unexcused absence for any scheduled class or presentation will result in a 3% reduction in the course grade.
        (4) The course coordinator confers the final grade, but the project advisor and the entire engineering faculty determine certain components of the grade.
        (5) Weekly written progress reports are to be submitted to the project advisor and course coordinator via email by 5:00 pm Friday.
        (6) The evaluation of project progress and of individual contribution done by the project advisor and is based upon the quality, timeliness, and thoroughness of the work.
        (7) The evaluation of oral presentations is done by the entire faculty

and is based upon the quality, organization, clarity, and style of the presentation.

(8) The evaluation of written reports is done by the course coordinator and is based upon the quality, organization, clarity, and style of the report.

b. Grading for EGR 499

(1) Personal Work

Individual Contribution to Project (project advisor).....20%

E-Portfolio Artifacts 5%

(2) Group Work

(a) Presentation at Engineering Expo (course coordinator)...5%

(b) Weekly written Reports (Advisor/Coordinator).....10%

(c) Oral Project Defense (faculty).....15%

(d) Draft Written Project Defense (advisor/Coordinator)....10%

(e) Written Project Defense (course coordinator) 15%

(f) Project Progress (project advisor).....20%

4. ePortfolio Requirements

Written Project Defense, Presentation Video, Presentation Evaluation, Presentation Reflection. The final grade will be reduced by 5% for any ePortfolio artifacts that are not submitted by the end of the semester (not 5% per artifact, but 5% total).

VI. COURSE CALENDAR

Week	Activities
1, 2	**Introduction to course**
3, 4	**Progress Check**
5, 6	**Progress Check**
7, 8	**Progress Check**
9	**Progress Check**
10	**Schedule Demonstration with Project Advisor**
11	**Final Report Guidelines**
12	**Final Presentation Guidelines**
13	**First Draft of Final Report Due**
14	**Presentation in Seminar (Tentative)**
15	**Presentation Feedback/ePortfolio**
16	**Final Report due by email and hardcopy** **All ePortfolio artifacts submitted**

Course Inventory for ORU's Student Learning Outcomes

EGR 499 – Senior Design and Research II
Spring 2009

This course contributes to the ORU student learning outcomes as indicated below:
Significant Contribution – Addresses the outcome directly and includes targeted assessment.
Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.
Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.
No Contribution – Does not address the outcome.

The Student Learning Glossary at http://ir.oru.edu/doc/glossary.pdf defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities	Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1 **Outcome #1 – Spiritually Alive** Proficiencies/Capacities				
1A Biblical knowledge				√
1B Sensitivity to the Holy Spirit				√
1C Evangelistic capability				√
1D Ethical behavior				√
2 **Outcome #2 – Intellectually Alert** Proficiencies/Capacities				
2A Critical thinking	√			
2B Information literacy		√		
2C Global & historical perspectives			√	
2D Aesthetic appreciation			√	
2E Intellectual creativity		√		
3 **Outcome #3 – Physically Disciplined** Proficiencies/Capacities				
3A Healthy lifestyle				√
3B Physically disciplined lifestyle				√
4 **Outcome #4 – Socially Adept** Proficiencies/Capacities				
4A Communication skills	√			
4B Interpersonal skills		√		
4C Appreciation of cultural & linguistic differences				√
4D Responsible citizenship				√
4E Leadership capacity		√		