ECSE Enrichment Seminar (ECSE-2900)

Spring 2024

# Course Information

**Instructor:**

Dr. Robert F. Karlicek, Jr.

Professor, Electrical, Computer & Systems Engineering (ECSE)

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**Course TA:** NA

**Class Location:** CII (LOW) 4050

**Class Hours:** Tuesdays 4.00 – 4:50 PM

**Office Hours (Prof. Karlicek):** Schedule appointment by e-mail ([karlir@rpi.edu](mailto:karlir@rpi.edu));

Meeting Location: CII-7017 (inside LESA Suite, CII-7015)

**Course Material**: Online

**Textbooks (Online):**

Various materials will be provided for student team reports.

**Course topics will be assigned to teams two weeks before the Team’s presentation in class. Materials to be used for preparing presentations will be posted on Google Drive and/or links mailed to students 2 weeks before presentations are made to the full class. The 2 Week preparation time allows for every group\* to get approximately the same amount of time to prepare presentations.**

*\*Teams 1 and 2, presenting in the second week of class, will have only 1 week for presentation preparation and will be given special consideration for leading off the presentation sessions.*

**Course Schedule:**

Meet Tuesdays, 4:00 PM to 5:00 PM, CII (Low) 4050

**Course Format:**

* + - * 24 Presentation by students, posted on Google Drive by time of class in which they are to be presented.
* Course materials will be available on-line (Google Drive)
* Classroom presentations will cover summary and discussion of selected government technology reports and other technology materials.

**Learning Outcomes:**

An ECSE undergraduate, or more generally an RPI engineering student, is typically one of the best math and science students in his or her high school. He or she often comes to RPI with a focus on getting a BS degree and a job. In spite of his or her talents, the student find the curriculum challenging and develops an intense focus on getting good grades and getting through the current semester. All of this is good. A good job at the end is the hallmark of a Rensselaer engineering education and a primary selling point to prospective students.

The purpose of the ECSE Enrichment Seminar is to have students consider some important engineering challenges that may shape their future work, with students asking questions like: What type of critical societal issues is engineering involved in? What role might I want to play and how can I contribute? With what kind of long-term role might I play as an industrial or academic engineer? The goal is to students consider, as best they can, what they will feel when they are older and look back at their career. Did I enjoy my work? Do I feel I contributed to something of value? Something the world needed? Did I make a difference?

Students should be able to do the following tasks, described as "**Learning Outcomes**"

1. Familiarity with grand technology and societal challenges facing today’s engineers.
2. Awareness on topics beyond traditional technical course content and of significant interest for Engineering Careers.
3. Understand and present summaries of technology/societal topics (public speaking skills).

**Assessment Method for Learning Outcomes:**

Outcome 1: Class presentation; evaluation criteria:

* Presentation clarity
* Concise analysis of summary conclusions
* Concise statement of why the material is important (societal and/or technical concerns/needs addressed
* Presentation time management

**Grading Scheme:**

Total Points: **100**

Class Presentation: **100%** of total points

***Homework:***

* Each student will be assigned to read 5-10 pages of a specific technology report.
* Each student must prepare ~ 4 minutes presentation materials using power point slides summarizing the section of the report that they read and are responsible for describing.
* The individual student presentation slides must be integrated with the rest of the team.

***Presentation:***

* Presentation in class will be done using power point slides.
* Each student must integrate their slides into team’s presentation.
* Students are encouraged to do additional research that aligns with the assigned reading for their presentation.
* The presentation duration is ~20 minutes. Points will be deducted for being < 16 minutes or over 22 minutes.
* Approximately 10 slides are recommended for a 20 minutes presentation. In addition, there should be a cover slide (**with title of the presentation and team member’s names**) and a citation slide in the end on the references used for the presentation material.

**Grading Policy:**

Grade points will be computed based on numerical weights per RPI’s grading policy. The numerical scores (*in this course*) corresponding to each letter grade is shown below:

A = 4.0 (*Score: 90-100*)

A- = 3.67 (*Score: 82-89*)

B+ = 3.33 (*Score: 75-81*)

B = 3.0 (*Score: 67-74*)

B- = 2.67 (*Score: 60-66*)

C+ = 2.33 (*Score: 52-59*)

C = 2.0 (*Score: 45-51*)

C- = 1.67 (*Score: 37-44*)

D+ = 1.33 (*Score: 30-36*)

D = 1.0 (*Score: 22-29*)

F = 0.0 (*Score: Less than 20*)

There is no D- grade and the minimum grade to pass the course is D.

**Student Performance Feedback:**

Feedback on slide presentations will be emailed to team members. The instructor will be available to meet the students (as needed) on one-on-one basis, discuss their performance, learning outcomes and provide suggestions for further improvements (if necessary).

**Attendance Policy:**

Students are required to attend all class sessions for the entire duration unless there are medical reasons or travel related to professional or personal events. Attendance will be take using an email code process: At the end of class, a 3 digit code will be posted in class, and students will email the code (within 15 minutes of the end of class) to [karlir@rpi.edu](mailto:karlir@rpi.edu). Two missed classes without excuse will result in a 5 point reduction for their presentation in the class and may impact the final grade. In case of absence, students must inform the instructor with the appropriate reason for absence.

**Academic Integrity:**

Student-teacher relationships are built on trust. For example, students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach, and teachers must trust that the assignments that students turn in are their own. Acts, which violate this trust, undermine the educational process. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of Academic Dishonesty and all students should make themselves familiar with these. In this class, all assignments that are turned in for a grade must represent the student's (and team member’s) own work. Submission of any assignment that is in violation of this policy will result in a penalty of 0 points for assignment and failing of the course in case of repetition. If you have any question concerning this policy, please ask for clarification before preparing or submitting an assignment. The penalty for not adhering to these academic integrity rules is a failing grade for the assignment on the first offense, then failing the course and potential disciplinary actions by the Institute on any subsequent offenses.