

ECE 4972/3: Design Project Report

Class Meetings

Section 001: Thursday, 2:30 pm - 4:30 pm, CEER 001

Instructors

CPE Coordinator: Dr. James Solderitsch Tolentine 404 office: (610) 519-4975
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EE Coordinator: Dr. Pritpal Singh, Tolentine 406 office: (610) 519-7378
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Office Hours

Dr. Solderitsch: W 11:00 am – 12:00 pm, Th 4:00 pm – 5:00 pm, other times by appointment
Dr. Singh: MTR 1:30-2:30 pm, or by appointment

Course Objectives

The focus of the course is on technical communication skills using different formats: written, oral, and video briefs. To this end each senior design project team will prepare a joint **Technical Project Report**, a joint **Oral Presentation**, and a **3-minute Video** of their project work.

Grading Policy

A tentative grading policy is as shown below, but coordinators reserve the right to use their discretion in allocating final grades.

Deliverable	Coordinator	Advisor and/or IAB
Draft Technical Report	-	5%
Final Technical Report	20%	15%
Draft Presentation	-	5%
Presentation Rehearsal	5%	-
Final Oral Presentation	20%	20%
3-Minute Video	10%	-

Late submission of the final or draft reports will be penalized by **2 percentage points** per class day.

The scale used to assign letter grades is:

Letter Grade	Numerical Grade	Letter Grade	Numerical Grade
A	94 to 100	C	73 to 76
A-	90 to 93	C-	70 to 72
B+	87 to 89	D+	67 to 69
B	83 to 86	D	63 to 66
B-	80 to 82	D-	60 to 62
C+	77 to 79	F	Less than 60

Attendance

The class will meet as a whole only at the times and locations listed on the attached schedule, but...

- Attendance at these times is absolutely **required**. Please do not let your team mates down...
- Attendance on **Thursday March 21st**, for the *whole* of the morning / afternoon session in which your Final Oral Presentation is scheduled takes **precedence** over your other classes.
- Please keep the weekly **2.30 – 4.30** pm slot open so you can work with your team mates on the various course assignments.

Unexcused absence from a rehearsal or the final oral presentation is a serious offense that affects the performance of the entire project team and **will result in an F** for the final grade.

Where possible, students should inform their instructors if they plan to be late or absent from class. In all cases, students should be prepared to provide documentation to petition for *excused* absences to the Associate Dean for Student and Strategic Programs, Dr. Stephen Jones. The form for requesting an *excused* absence can be found here (<http://www1.villanova.edu/villanova/engineering/resources/policies/forms/studentAbsence.html>). Excused absences do not count toward a failure in the course for first year students. Absence from class does not release the student from work assigned. Students who miss an in-class obligation (exam, presentation, etc.) due to an excused absence will not be penalized - the instructor may offer a make-up test, arrange an alternative time for a presentation, exempt a student from the assignment, or provide another arrangement.

The University's list of excused absences for all students includes the following:

- participation in NCAA athletic competitions
- participation in special academic events (e.g., conferences, field trips, project competitions)
- participation in official university business (e.g., student representatives attending meetings related to university governance)
- attendance at significant events involving the immediate family (e.g., funerals, weddings)
- religious holidays - see the University's policy on Religious Holidays
- college-approved participation in placement activities (e.g., job interviews, graduate school interviews, attending job fairs)
- documented serious illness or disability

Course Materials

Course materials can be found on Blackboard.

Course deliverables (**pdf or mp4 format**) will be submitted to Blackboard: <https://elearning.villanova.edu>

Schedule

Mandatory attendance marked with *

Week	Date	Activity
1*	Jan 17	Course overview – CEER 001
2	Jan 24	No meeting; Prepare first draft of Project Report
3	Jan 31	Draft Technical Report Due: Submit to Blackboard and Advisor No meeting; Prepare first draft of Technical Presentation
4	Feb 7	Draft PowerPoint Slides Due: Submit to Blackboard and Advisor
5	Feb 14	Meet with Advisors for feedback; Submit Meeting Notes to Blackboard. Update Project Report and PowerPoint Slides
6*	Feb 21	Group A: Final Technical Report Due: Submit to Blackboard and Advisor Group B: Presentation Rehearsal – CEER 001 (see list on last page)
7*	Feb 28	Group A: Presentation Rehearsal – CEER 001 (see list on last page) Group B: Final Technical Report Due: Submit to Blackboard and Advisor
8	Mar 7	Mid-term Break ☺
9	Mar 14	Prepare 3-minute Project Videos, using Zoom, Camtasia or other software
10*	Mar 21	Final Oral Presentations – Villanova Room, Connelly Center (Two sessions: morning <u>and</u> afternoon. Must attend both sessions).
11	Mar 28	Final PowerPoint Slides Due: Submit to Blackboard and Advisor 3-minute Project Videos Due: Submit to Blackboard in MP4 format

Course Deliverables

The Technical Report

The aim of the Technical Report is to provide an information-packed, but concise motivation, *technical* description, and summary of your report. Showcase your achievements in a professional written format!

- The following resources are available on Blackboard to help you prepare your presentation:
 - The **Senior Project Report Guide** which specifies the content and format you must use.
 - **Examples** of a good Technical Report from prior years
 - A tentative grading **Rubric** is a useful checklist for getting a good grade.
- The submission process (see the above course timeline) is as follows:
 - a) Prepare and submit a complete(!) first **draft** of the Technical Report
 - b) Meet with your **Advisor** to solicit **feedback**, and submit meeting notes
 - c) **Revise** and re-submit a **final** version of the Technical Report.

The Oral Presentation and Rehearsals

The Oral Presentation has the same aims as the Technical Report, only in a different / oral format:

- Each team will be allocated a (strictly enforced) **15 minute** time slot. This includes a 12 minute presentation and 3 minute question and answer session.
- The following resources are available on Blackboard to help you prepare your presentation:
 - **Tips** for oral presentation
 - A scoring **Rubric** for the Oral Presentation
 - Examples of PowerPoint **slides** for a good Oral Presentation
 - An example **video** of a good Oral Presentation
- The submission process (see the course timeline) is as follows:
 - a) Prepare and submit a complete(!) first **draft** of your presentation / PowerPoint slides
 - b) Meet (and ideally present) to your **Advisor** to solicit **feedback**.
 - c) **Revise** your presentation, then practice delivering it at your scheduled **Presentation Rehearsal**.
 - d) **Revise** (again!) and re-submit a **final** version of your presentation / PowerPoint slides, prior to...
 - e) The **Final Oral Presentations!** These will be video-taped and judged by the ECE faculty and by a panel of representatives from local industry. Please dress appropriately. There will be two sessions, a morning session and an afternoon session. You are required to attend the whole of the session in which your presentation is scheduled.

3-Minute Videos

Brief, 3-minute 'Digital stories' are becoming an increasingly important form of communication. The aim here is to create a (strictly enforced) **3-minute ± 30 second** video trying to capture the purpose, value, and technical achievement of your project in as engaging a way as possible.

- Other than the time limit, no format is defined. **Unleash** your creativity(!), but also be warned that a video of you simply reading your PowerPoint slides is unlikely to get a good grade.
- A free 1-month license to a fairly intuitive video-editing suite called **Camtasia** is available here: <https://www.techsmith.com/camtasia.html>. Villanova also has an enterprise license for Zoom teleconferencing and a feature of Zoom is that you can have a meeting with just you in attendance where you can share your screen and create a recording that Zoom will convert to mp4.
- Please submit your videos in an **MP4** format.
- Schedule permitting, the **videos may be shown** as a 'summary/introduction' before the Final Oral Presentation sessions begin. They will also be made available online.

Design Project Awards

The **Senior Design Project Awards** will be given to the top overall projects, based on an assessment of the written, oral, and 3-minute video project presentations.

ABET Outcomes

Listed below are ABET program outcomes that apply to this course.

- (2) an ability to apply engineering design to produce solutions that meet specified needs, with consideration of public health, safety and welfare, as well as global, cultural, social, environmental and economic factors
- (3) an ability to communicate effectively with a range of audiences

(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

Academic Integrity

The College of Engineering is committed to creating an environment of academic integrity and ethical decision-making that we hope is reflected in the actions of our students and graduates. As Villanova students, integrity is central to the University mission. As engineers, our code of conduct requires us to place honor and integrity at the forefront of everything we do. As engineering students, it is expected that you will begin to adopt these values and instill them into your work habits. Students violating the academic integrity policy will receive a zero on that assignment or exam and the violation will be reported to the Associate Dean for Academic Affairs.

The University's academic integrity policy can be found here:

<https://www1.villanova.edu/villanova/provost/resources/student/policies/integrity.html>.

The College of Engineering has adopted the following exam guidelines:

- Students must arrive before the start of the exam. Under exceptional circumstances a student may need to arrive late, but he/she can enter the exam no later than 5 minutes after the start of the exam.
- All cell phones must be turned off and stored away until the student exits the exam room.
- The official Villanova class attendance policy must be followed when requesting excuses for absences or lateness to an exam.
- Each student must write and sign the following statement, *"I have neither given nor received any unauthorized assistance in the completion of this exam."*

Students with Disabilities

It is the policy of Villanova to make reasonable academic accommodations for qualified individuals with disabilities. If you are a person with a disability please contact me after class or during office hours to make arrangements.

If you have a non-physical disability you need to register with the Learning Support Office by contacting 610-519-5176 or at learning.support.services@villanova.edu as soon as possible. Registration is needed to receive accommodations.

The Office of Disability Services collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The ODS provides Villanova University students with physical disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact and register with Gregory Hannah, advisor to students with disabilities @ 610-519-3209 or visit the office on the second floor of the Connelly Center.

Professorial Duties

It is important to note that teaching is one of the many duties that professors perform as part of their job responsibilities. In addition to teaching, professors perform research, advise graduate students, edit journals and review journal articles, serve on committees for the university and professional societies, travel to conferences to remain abreast of current developments and to present their results... to name just a few.

Rehearsal and Report Dates

Group A: CEER 001 Report Due: Feb 21 Rehearsal: Feb 28		Group B: CEER 001 Rehearsal: Feb 21 Report Due: Feb 28	
El Bluff Hospital Management Information System	Microgrid Design for Cerritos de los Morreños Island Community	Boeing Flight Simulator Controls	IoT Smart Trashcan
Renewable Energy and Digital Intranet System for the Galapagos Islands	Blockchain Applications	Virtual Reality Mind Control	Electric Guitar Amplifier
Cyber Data Visualization	Cost-Effective Guitar Effects Pedals	Harris Corp Game Theory Applied to Search Strategies	Richard K. Faris - Facial Recognition for Zoo Animals
Design of a High Level Computer Language		Uni-Park Parking Space Locator	