

West Virginia University
Department of Civil and Environmental Engineering
CE 479 – INTEGRATED CIVIL ENGINEERING DESIGN
Fall 2018

Instructor: Dr. Radhey Sharma
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Office Hours: Wednesday 3:00 P.M. - 3:50 P.M. and Thursday 10 am to 11 am
(or by Appointment)
Course Prerequisite: Minimum Grade of C- in one of the CE DESIGN ELECTIVES
Textbook: None required. However, you will be expected to refer to other civil engineering and related books on your own.

Other Materials: A CEE laptop computer pre-loaded with CAD and other software will be provided to you (one laptop per group). YOU WILL NEED TO RETURN THE CEE LAPTOP IN FULL WORKING CONDITION TO YOUR INSTRUCTOR DURING THE FINAL PRESENTATION FOR THE COURSE IN ORDER TO RECEIVE A GRADE FOR THIS COURSE.

Objectives: To perform an integrated design of a civil engineering project based on the concepts drawn from several other civil engineering courses/sub-disciplines, green construction concepts, **and self-study**. This course involves an **OPEN ENDED** design project. The design requirements will be provided in the class.

Expected Learning Outcomes: (Specific objectives related to ABET Program Outcomes)

Course Outcome Description	ABET Program Outcome*
(1) Apply the knowledge obtained from past courses in various civil and environmental engineering sub-disciplines and self-study of new material to conduct a comprehensive integrated design project in a group setting.	(d), (e)
(2) Gather material related to the design project independently, as needed.	(h), (i)
(3) Apply the latest design methodology to formulate the integrated design.	(h), (i), (k)
(4) Submit the final design in written format and make a group design presentation at the end of the course.	(g)

*Description of Accreditation Board for Engineering and Technology (ABET) program outcomes is given on the next page.

Accreditation Board for Engineering and Technology (ABET) Program (Student) Outcomes Applicable to this Course:

- (d) An ability to function on multidisciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (i) A recognition of the need for, and an ability to engage in life-long learning
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Grading and Attendance Policy:

Attendance	20%*
Intermediate project progress reports	20%†
Final project presentation by the GROUP	20%†
Final project report (written and organized in a three ring binder)	40%†

Total	100%

* Each **unexcused** absence will result in 0.5% reduction (i.e., your attendance grade will be **zero** if you miss 40 class lectures/labs).

† Your group project report and presentation scores will be multiplied by a factor (≤ 1.0) based on the average ratings that you receive from your group members in the “Peer-Rating of Group Members” form at the end of the semester. A blank form is attached. The multipliers are as follows, and linear interpolation will be used between different categories as needed.

<u>Peer Rating</u>	<u>Multiplier to Your Project Score</u>
4-5	1.00
3	0.75
2	0.50
1	0.25
0	0.00

Final grades will be based on the following scale: 90% and above - A, between 80% and 90% - B, between 70% and 80% - C, between 60% and 70% - D, and below 60% - F.

Course Materials:

All course materials, including lectures, class notes, quizzes, exams, handouts,

presentations, and other materials provided to students for this course are protected intellectual property. As such, the unauthorized purchase or sale of these materials may result in disciplinary sanctions under the Campus Student Code.

Academic Integrity/Honesty:

You are bound by the university honor code; it is your responsibility to know the code and the risks of violations.

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code at WVU online catalog. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

Guest Lecture Topics:

There will be guest lectures on several topics in this course to expand your knowledge of civil and environmental engineering beyond what you have already learned in previous classes, and to assist you with your design project. A sample list of guest lectures is given below and others could be added depending upon the availability of guest lecturers.

1. Project financing
2. Sustainable/Green design and construction
3. Use of advanced materials (e.g., composites)
4. Importance of natural hazards such as hurricane
5. Unsaturated expansive soils and other relevant topics

Design Project:

You will be assigned an open-ended design project to be conducted within a group of approximately six to seven students. It is your responsibility to study and acquire all the information and design procedures relevant to the project based on your study of other civil and environmental engineering courses, guest lectures, **and self-study**. The design project has to be your team's original work. **Don't copy sections from other team(s)!** Identical sections between two or more teams will be assigned a score of zero. Due dates for intermediate and final project submissions will be specified in the class for each submission. Late submissions will not be accepted.

Students are expected to submit work which is reasonably neat, complete, including professional level drawings and design computations, orderly and well organized. The final

project submission should be included in a three-ring binder with a title page consisting of your GROUP's name and list of group members. This submission will be kept by the CEE Department and will not be returned to you, so you may want to make copies for yourselves. You should also submit this final project report in WORD and PDF formats.

The final presentation (30 minutes long, plus time for questions by the audience) should be in POWERPOINT format and each team member must present a portion of the project. You will also need to give a copy of the presentation in advance to your instructor.

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Inclusivity Statement:

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Accessibility Services (304-293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu/>

Days of Special Concern:

WVU recognizes the diversity of its students and the needs of those who wish to be absent from class to participate in Days of Special Concern, which are listed in the web site of WVU's Office of Social Justice. *Students should notify their instructors by the end of the second week of classes or prior to the first Day of Special Concern, whichever is earlier, regarding Day of Special Concern observances that will affect their attendance.* Further, students must abide by the attendance policy of their instructors as stated on their syllabi. Faculty will make reasonable accommodation for tests or field trips that a student misses as a result of observing a Day of Special Concern.

Adverse Weather Commitment:

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me by email as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible (by 2 hours before class starts), using (MIX Email) to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled assignments.

**CE 479: INTEGRATED CIVIL ENGINEERING DESIGN
PEER-RATING OF GROUP MEMBERS**

Your Name:

Group Name:

Rating Description

Excellent	5.0	Went above and beyond, contributed a lot to this project.
Very Good	4.0	Did all what was supposed to do and very well prepared.
Good	3.0	Acceptably prepared and cooperative, difficult to bring onboard discussions, made acceptable contribution to the project.
Satisfactory	2.0	Minimally prepared and sometimes uncooperative, did not contribute much to this project.
Unsatisfactory*	1.0	Occasional no-show for group meetings and not prepared and uncooperative, contributed very little to this project.
No Show*	0	Did not contribute anything to the project.
*You need to provide justification for this grade (you can use back of this form) <u>or</u> at least one other member of your group should report the same in their evaluation.		

Print name of each group member (other than you) and assign the rating in the table below (Provide any remarks, if needed, below or on the back of this form. You can return the form to me or the GTA. Alternatively, you can email me and the GTA scanned copy of the form).

Last Name, First Name	Rating	Remarks

[Your evaluation will not be shared with your group members.]

Your Signature:

Date: