

Course Number	493 (Undergraduate) 593 (Graduate)
Title	Design and Operation of Bicycle and Pedestrian Infrastructure
CRN(s)	64377 (Undergraduate) 64378 (Graduate)
Credits	4
Prerequisite(s)	CE351 or consent of instructor
Days/Time	Monday and Wednesday, 10:00 AM to 11:50 AM
Location	Remote Instruction Only
Final Exam Day/Time	Tues., June 9 1015-1205
Course Website	On D2L
Instructor	Chris Monsere, Ph.D., P.E.
Office	EB202K
Phone	503-725-9746
E-mail	monsere@pdx.edu
Office Hours	By appointment (see link on D2L)
Mailbox Location	N/A

Required Text or Other Materials:

No required textbook. See separate reading list for material

Catalog Course Description

Design and operational concepts in the engineering design of bicycle and pedestrian facilities in on-road and shared path locations. Specific topics include basic geometric design, intersection and signalization considerations, and amenities supporting non-motorized modes.

Course Statement

Bicycling and walking are vital modes in urban transportation systems and address a public health need for physical activity. Design of non-motorized facilities in predominantly auto-oriented US cities requires consideration of numerous factors relating to safety, accessibility, connectivity, and ease of use. Appropriately selected amenities and technologies can further support the inclusion of bicycle and pedestrian facilities in the greater transportation network.

Course Objectives – Students must demonstrate the ability to:

1. Explain key concepts in non-motorized transportation facility design and operations.
2. Understand issues facing non-motorized transportation system design.
3. Describe and identify key design features in non-motorized on-road and shared path facilities.
4. Evaluate the design effectiveness of non-motorized transportation facilities.
5. Discuss how non-motorized modes can be addressed in transportation system design.

Course Topics Schedule (Tentative)

1. INTRODUCTION AND OVERVIEW
2. SAFETY
3. COUNTING
4. ANALYSIS OF FACILITY PERFORMANCE
5. DESIGN CHARACTERISTICS FOR BICYCLING
6. BICYCLE FACILITY DESIGN AND OPERATION
7. DESIGN CHARACTERISTICS OF PEDESTRIANS
8. PEDESTRIAN FACILITY DESIGN AND OPERATION
9. SHARED USE PATH DESIGN

Course Evaluation

This course is open to both graduate and undergraduate students, and as such, there will be different expectations for each group. *Graduate students are held to higher standards when grading assignments and exams.* Graduate students

- May be assigned additional problems on each set.
- Will have additional readings required.
- Will have additional exam questions.

Lecture/Reading Quiz (10% of final grade)

In lieu of a mid-term, there will be 10 timed quizzes. The quiz will be available for a week after the lecture videos are posted on D2L. **The 2 lowest grade will be dropped.** I expect that you complete these quizzes independently.

Activity/Discussion Sessions (20% of final grade)

We will do 9 30-minute synchronous class activities online via Zoom the class scheduled hours demonstrating some of the key concepts or reviewing some of the recorded lecture contents. The class will be split into 3 sections. CE 593, CE493 Group 1, CE 493 Group 2. CE 493 groups were created by a random number generator and are posted in D2L. If you can't join your time, please feel free to join one of the other sessions. If one of those don't work, please email me. We will not be recording these sessions. The times for the Zoom Meetings are as follows:

TUESDAY	10:00	10:50	CE 593 GRAD
THURSDAY	10:00	10:50	CE 493 GRP 1
THURSDAY	11:00	11:50	CE 493 GRP 2

Your attendance will be logged in the Zoom session. You must stay signed on for the duration of the discussion to receive credit. The grading will be:

- Attend 9 sessions: 100
- Attend 8 sessions: 97
- Attend 7 sessions: 92
- Attend 6 sessions: 85
- Attend 5 sessions: 75
- Attend 4 or fewer sessions: 60

Homework and Labs (25% of final grade)

There will be approximately 5 homework assignments. Homework will be assigned and available on the course D2L site. Your name, homework assignment number, and date should appear on the header of each page. All submissions will be electronic to D2L. The lowest grade will be dropped.

Mini Class Design Project (15% of final grade)

There will be a final design project. More details will be included at a later date.

Final Exam (30% of final grade)

The final exam will take place per the PSU final schedule and will be comprehensive, on material covered throughout the duration of the class. The exam will be remotely administered.

Late Work

The due date for each HW assignment is clearly indicated and the work must be turned in at the due date unless indicated otherwise. Late assignments will be penalized between 5% and 10% of the total points (decided on case-by-case basis). There will be no credit if an assignment has already been returned graded to the class.

Incomplete

A grade of incomplete "I" is granted by the instructor *only* with prior approval and consent. Criteria are outlined in the PSU Bulletin.

Policy Statements

Ethics and Professionalism

As future professional engineers you should plan to take the FE Exam (<http://ncees.org/exams/fe-exam/>), and you should be familiar with the ASCE Code of Ethics (<https://www.asce.org/code-of-ethics/>) which includes the following:

Engineers shall act in such a manner as to uphold and enhance the honor, integrity and dignity of the engineering profession.

Students are prohibited from committing or attempting to commit any act that constitutes academic dishonesty. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations, including selling/buying and/or uploading/downloading instructors' classroom information without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before acting. For more information, please see the PSU Code of Student Conduct <https://www.pdx.edu/dos/psu-student-code-conduct>.

Allegations of academic dishonesty may be addressed by the instructor, and/or may be referred to The Office of Dean of Student Life for action. Acts of academic dishonesty may result in a failing grade on the exam or assignment for which the dishonesty occurred, disciplinary probation, suspension or dismissal from the University. Questions about academic honesty may be directed to the Office of The Dean of Student Life (www.pdx.edu/dos/contact).

Administrative Drop

During the first week of the term, the CEE Department will drop students for non-attendance on the first day of class from any CE course that has a waitlist to accommodate other students trying to enroll. If this happens, the student 1) remains responsible for any tuition charges associated with registration, and 2) the course may be recorded permanently on the academic record, depending on when the CEE Department processes the drop. **There will be flexibility on this requirement due to COVID-19 pandemic.**

Fragrance-Free Value Statement

Because many students, faculty, and staff within the PSU community have strong allergies to fragranced care products (such as colognes, perfumes, lotions, and hair products), the University has a campus-wide fragrance-free value statement: <https://www.pdx.edu/hr/fragrance-free-value-statement>

Computer and E-mail Accounts

Engineering students should have 2 computer accounts: 1) ODIN (tied to your @pdx.edu email account) and 2) CECS computer/login account. A CECS account is required to login to all computers in the Engineering Building. Go to the CAT in FAB 82 to activate your CECS account. Be sure to do so before you will need it for class or homework. If you need help with your CECS account, e-mail: support@cecs.pdx.edu.

Communication from the Department

The Department of Civil and Environmental Engineering communicates with students primarily via e-mail. Please keep in mind that important notices will be sent to your @pdx.edu accounts. We recommend checking this address regularly, or forwarding it to an address you do check frequently. Additionally, you can follow the FB ([Civil and Environmental Engineering at Portland State University](#)) and Twitter (@CEEDeptPDX) relevant to civil and environmental engineering.

Student Groups and Professional Organizations

Participation in student and professional groups can be a valuable part of your education experience. Membership gives students opportunities to get to know fellow students better, meet and network with professionals, collaborate in solving real engineering problems, learn about internship or job possibilities, socialize and have fun. Your fellow students can be a great source of help and guidance in your academic endeavors. Consider becoming active with a student organization, such as the following (links to student group sites can be found on our website at: <http://www.pdx.edu/cee/student-groups>):

- American Society of Civil Engineers (ASCE)

- American Water Works Association (AWWA)
- Chi Epsilon (National Civil Engineering Honor Society)
- Construction Management Association of America (CMAA)
- Engineers Without Borders (EWB)
- Society of Women Engineers (SWE)
- Students in Transportation Engineering and Planning (STEP)
- Tau Beta Pi

Most professional organizations have monthly meetings and encourage student participation by providing discounts for lunch and dinner meetings. These meetings provide opportunities to network with potential future employers, learn about scholarships, and increasing your technical knowledge. Take a look at these organizations as a starting point:

- American Society of Civil Engineers (ASCE) Oregon Section: www.asceor.org
- Institute of Transportation Engineers (ITE) Oregon Section: www.oregonite.org
- Society of Women Engineers (SWE) Columbia River Section - <http://columbiariver.swe.org/>
- Structural Engineers Association of Oregon (SEAO): <http://www.seao.org/>

Calculators

The Department of Civil and Environmental Engineering requires an FE approved calculator for all core undergraduate courses in CEE. Prices range from \$15 and up. The list of approved calculators may be found at this website: <http://ncees.org/exams/calculator-policy/>

Course Evaluations

Course evaluations are conducted online and administered by the CEE Department staff. Responses are anonymous. Please provide constructive feedback that is useful to improve the class for future students. Evaluations will run the last 2 weeks of every term. The Department does not release course evaluation results to faculty until after final grades are entered.

Advising

- MCECS Advising - MCECS Advising at 503.725.4631 or EB room 100
- CEE Advising - CEE Dept. advising at 503.725.4282 or ceedept@pdx.edu. Staff available to help you connect with the resources you need.

Resources

As a PSU student, you have numerous resources at your disposal. Please take advantage of them while you are here. A small sample is listed below:

- CEE Website: <http://www.pdx.edu/cee/current-cee-students>
- Portland State University Resources
 - A complete list of services at <http://my.pdx.edu/students/resources-across-campus>
 - Career Center: <http://www.pdx.edu/careers>
 - Center for Student Health & Counseling: <http://www.pdx.edu/shac/>
 - The Writing Center: <http://www.writingcenter.pdx.edu/>
 - Food assistance and other resources <http://www.pdx.edu/studentaffairs/CISFS>
 - Disability Resource Center: <http://www.pdx.edu/drc/> is available to help students with academic accommodations.
 - Diversity & Multicultural Student Services (DMSS) <http://www.pdx.edu/dmss/> Provides structured, academic support service, advising, referrals, and advocacy for first-generation college students, low-income and others facing special challenges. Their offices are located at Smith Center, Room 425
 - The Learning Center's <http://www.pdx.edu/tutoring/home> mission is to foster the learning process by empowering PSU students to accomplish their academic and personal goals. In addition to helping with current coursework, academic support services can assist in developing effective learning strategies. The Learning Center is located on the second floor of the University Library in the northwest corner, room 245.

Library and Literature Research

It is very tempting to think that all necessary resources or information will be available in full text after typing in a few words at Google.com. This is not the case. You will often need to go to the library, use real library search tools and access real books and articles contained in refereed/archival journals. Be sure to make use of the Vikat library catalog. Go to the PSU library home page at <http://library.pdx.edu/>.

Campus Safety

The University considers student safety paramount. The Campus Public Safety Office is open 24 hours a day to assist with personal safety, crime prevention and security escort services. Call 503-725-4407 for more information. For Campus emergencies call 503-725-4404.

Title IX Reporting Obligations

As an instructor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. Please be aware that as a faculty member, I have the responsibility to report any instances of sexual harassment, sexual violence and/or other forms of prohibited discrimination. If you would rather share information about sexual harassment, sexual violence or discrimination to a confidential employee who does not have this reporting responsibility, you can [find a list of those individuals](#). For more information about Title IX please complete the required student module [Creating a Safe Campus in your D2L](#).

Syllabus Statement for Class Recordings

We will use technology for virtual meetings and recordings in this course. Our use of such technology is governed by FERPA, the [Acceptable Use Policy](#) and PSU's [Student Code of Conduct](#). A record of all meetings and recordings is kept and stored by PSU, in accordance with the Acceptable Use Policy and FERPA. Your instructor will not share recordings of your class activities outside of course participants, which include your fellow students, TAs/GAs/Mentors, and any guest faculty or community-based learning partners that we may *engage* with. **You may not share recordings outside of this course.** Doing so may result in disciplinary action.

Access and Inclusion for Students with Disabilities

Students with documented disabilities are encouraged to discuss with me arrangements that will enhance their learning in this class. **As all exams will be remote, please be sure to work with me so that I can fulfill the accommodation request.** The CEE Department employs the same policies as the SHAC Testing Center: <https://www.pdx.edu/shac/testing-policies>

Final Notes

The syllabus is subject to change at the discretion of the instructor as course or other circumstances requires. **The instructor reserves the right to exercise flexibility due to COVID-19 pandemic and make reasonable accommodations for students who miss class, miss an exam, or are unable to submit coursework.**