Department of Civil & Environmental Engineering
Room 200, Engineering
www.cee.pdx.edu
503-725-4282

Course Number	493 (Undergraduate) 593 (Graduate)
Title	Design and Operation of Bicycle and Pedestrian Infrastructure
CRN(s)	64588 (Undergraduate) 64589 (Graduate)
Credits	4
Prerequisite(s)	CE454 or consent of instructor
Days/Time	Tuesday and Thursday, 10:00 AM to 11:50 AM
Location	EB 315 (ITS Lab)
Final Exam Day/Time	Tues., June 7 1015-1205, EB 315
Course Website	On D2L
Instructor	Chris Monsere, Ph.D., P.E.
Office	EB202KB
Phone	503-725-9746
E-mail	monsere@pdx.edu
Office Hours	By appointment
Mailbox Location	CEE 200

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 Evaluation

The course grade will be determined with the following weight for class assignments for both undergraduate and Graduate Students:

Mini Exams (2):	20%
Homework (4) and Labs (2):	25%
Mini Design Project:	20%
Final Exam:	35%

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.

Expectations of the Student

Professionalism

All assignments and class participation should be conducted in a professional manner. Attention to detail on class assignments and communication is important and is part of the learning experience and it will be included in part of student evaluation.

Ethics

As future professional engineers you should plan to take the Fundamentals of Engineering Exam and after the required experience, the Professional Engineering Exam (see the Oregon State Board of Examiners for Engineering and Land Surveying at www.osbeels.org). You should also be familiar with the ASCE Code of Ethics (www.asce.org/inside/codeofethics.cfm), 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.

The PSU Student Conduct Code prohibits all forms of academic cheating, fraud, and dishonesty. Further details can be found in the PSU Bulletin. Allegations of academic dishonesty may be addressed by the instructor, and/or may be referred to the Office of Student Affairs for action. Acts of academic dishonesty may result 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 Student Affairs (www.ess.pdx.edu/osa/).

D2L

Check the class site regularly for updates, posting, and lecture notes including due dates for homework assignments.

Late Work

The due date for each assignment is clearly indicated and the work must be turned in at the start of class 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.

E-mail

Email is the best way to reach me. I ask that you include CE493/593 and topic of your message in the subject line (be as specific as possible) when sending me an email. Try to use other means to answer your question before emailing me. Give me enough detail to answer your question or I might not have the time to reply. **Please note that the CEE Department requires communication by the PSU email (@pdx.edu).** If you send me email from other than a PSU account, you run the risk of it being captured by the SPAM filter or deleted.

Description of Assignments

Mini-Exams (20% of final grade)

Two mini-exams will be given. These will primarily cover the assigned readings and lecture materials. A minimum of 1-week notice will be given prior to the mini-exam.

Homework and Labs (25% of final grade)

There will be approximately 4 homework assignments and 2 lab assignments (involving field work or trips during class time). Homework will be assigned during the class session and available on the course D2L site. Your name, homework assignment number, and date should appear on the header of each page. Please staple multi-page assignments.

Mini Class Design Project (20% of final grade)

There will be a class project in which you will work in 2-person teams. We will get intersections or locations that surrounding agencies are interested in designing/investigating. The grade you receive will be based on the quality of your team's final design.

Final Exam (35% of final grade)

In this class, there will be one final exam. The final exam will take place per the PSU finals schedule and will be comprehensive, on material covered throughout the duration of the class.

Course Schedule (Tentative)

#	D	Date	Topic	Readings
1	T	29-Mar	INTRODUCTION AND OVERVIEW	1
2	R	31-Mar	NO CLASS - PROF MONSERE IN D.C.	
3	T	5-Apr	SAFETY AND PLANNING	2
4	R	7-Apr		
5	T	12-Apr	ANALYSIS OF FACILITY PERFORMANCE	3
6	R	14-Apr		
7	T	19-Apr	DESIGN CHARACTERISTICS FOR BICYCLING	4
8	R	21-Apr		
9	T	26-Apr	FIELD TRIP -- BY BICYCLE (SUBJECT TO WEATHER)	
10	R	28-Apr	BICYCLE FACILITY DESIGN AND OPERATION	5
11	T	3-May	GUEST LECTURE	
12	R	5-May		
13	T	10-May		
14	R	12-May	DESIGN CHARACTERISTICS OF PEDESTRIANS	6
15	T	17-May	FIELD TRIP -- BY FOOT (SUBJECT TO WEATHER)	
16	R	19-May	PEDESTRIAN FACILITY DESIGN AND OPERATION	7
17	T	24-May		
18	R	26-May		
19	T	31-May	SHARED USE PATH DESIGN	8
20	R	2-Jun		
21	**T**	**7-Jun**	**FINAL EXAM Tues., June 7 1015-1205, EB 315**	

Final Notes

- The syllabus is subject to change at the discretion of the instructor as course or other circumstances requires.
- Students with documented disabilities are encouraged to discuss with me arrangements that will enhance their learning in this class.