

**VILLANOVA UNIVERSITY**  
**CIVIL AND ENVIRONMENTAL ENGINEERING DEPARTMENT**  
**SPRING 2012**

**CEE 4607 Special Topics in Civil Engineering**  
**COURSE OUTLINE**

<b>Instructor</b>	Dr. Seri Park ( <a href="mailto:seri.park@villanova.edu">seri.park@villanova.edu</a> )
<b>Lectures</b>	Tu/Th 2:30 pm – 3:45 pm, Tolentine Hall 310B
<b>Office Hours</b>	W 1:30 pm - 3:00 pm or by appointment, Tolentine Hall 144
<b>Prerequisites</b>	CEE 2211

**Course Description**

Main objective of this course is to introduce students to real-world traffic problems and to apply theoretical approaches in resolving these issues. There will be total of four (4) major modules in this course: 1) Transportation Planning, 2) Mass Transit, 3) Traffic Safety, and 4) Intelligent Transportation Systems. At the beginning of each module, a brief review on the theoretical background will be provided. Some of homework problem sets will be obtained from several agencies including Radnor Township and Delaware Valley Regional Planning Commission (DVRPC) that reflect real-world settings.

**Course Objectives**

Students will learn to:

- Comprehend overall transportation planning process and its associated elements
- Understand basics of mass transit elements
- Design railroad system and analyze its operation
- Explain key concepts in highway safety engineering including safety management practices
- Perform traffic safety analysis using real crash dataset
- Understand current practices of Intelligent Transportation Systems (ITS)

**References**

- Mannering, F.L. and W. P. Kilareski, *Principles of Highway Engineering and Traffic Analysis*, 3rd edition, John Wiley & Sons, 2004
- *Highway Capacity Manual 2010*, Transportation Research Board (TRB)
- *Manual of Transportation Engineering Studies*, Institute of Transportation Engineers (ITE)
- *Manual on Uniform Traffic Control Devices (MUTCD)*, Federal Highway Administration ([http://mutcd.fhwa.dot.gov/kno\\_2009.htm](http://mutcd.fhwa.dot.gov/kno_2009.htm))
- Other Handouts on *Transportation Engineering* as appropriate

<b>Student Evaluation</b>	Midterm	: 20%
	Final	: 30%
	Homework	: 15%
	Term Paper & Presentation	: 25%
	Class Participation	: 10%

**Exams** One midterm will be given during the course of the semester and one semi-comprehensive final exam at the semester's conclusion. Equation sheets and references may be provided at the discretion of the instructor. The instructor will discuss any exam or HW grade within 48 hours (excluding weekends and holidays) of their return date, whether you are in class or not on that date, after which time the discussion is closed. All exams are in-class, closed-book.

**Homework** Individual homework is expected to reflect an independent effort.

- Homework is due at the beginning of class on the due date. Late HW will be accepted at a 50% reduction, if turned in within 24 hours after the due date. No credit will be given for HW submitted thereafter.
- Prepare all HW solutions on one side of sheet only and staple all pages together. For all HW's prepared on a word processor (Word, Excel), you must show all calculations in long-hand form to receive partial credit.
- All graphs should be computer generated with axes labeled correctly.

**Important Dates**

Thursday February 16	: DVRCP Field Trip
Thursday March 1	: <b>Midterm</b>
Thursday March 29	: SEPTA Field Trip
Thursday April 19	: PennDOT Field Trip
Tuesday April 24	: <b>Student Term Paper Presentation</b>
Monday May 7	: <b>Final Exam (11:30-2:00)</b>

**Attendance Policy:** Attendance is mandatory at all lectures. Family emergency and/or Medical related issues (with doctor's approved letter) are only acceptable excuses in this class. Each student is responsible for all material and administrative instructions given during the lecture period. Instructions will not be repeated outside of class. Attendance may be taken periodically throughout the semester. Eating, chewing, sleeping, talking, cell phone use, internet browsing, or working on other different assignments is inappropriate and in excusable.

**Make-up Exam Policy:** Prior consent of the instructor or a doctor's certificate of illness is the only satisfactory excuse for making up an exam. In such cases a make-up exam will be provided.

**Academic Honesty:** All students admitted to Villanova University are subject to the statement of academic honesty committing them to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a Villanova student and to be honest in all work submitted and exams taken in this course, including not changing answers and seeking extra points after a graded exam or homework is handed back to you. Cheating, forgery, dishonest conduct, plagiarism, and collusion in dishonest activities erode the University's educational, research, and social roles. In line with university regulations, course instructors reserve the right to discipline any student found guilty of inappropriate conduct.

**Students with disabilities:** Villanova University will make reasonable academic accommodation for qualified individuals with disabilities. If you are a person with a disability, please make arrangements to register with the Learning Support Office by contacting Mrs. Nancy Mott at 610-519-5636 or email [nancy.mott@villanova.edu](mailto:nancy.mott@villanova.edu) as soon as possible. Please setup an appointment with me to discuss specific accommodations for this course.

**Student athletes:** Please contact the instructor within the first two weeks of classes to make necessary homework/exam arrangements for team travel time. Policies cannot be made during the day of an exam.