Fall 2017
TRAN 615
TRAFFIC STUDIES AND CAPACITY

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Learning Objectives:	The objective of this course is gain and understanding of highway capacity concepts and traffic studies used to evaluate the performance of transportation facilities. To be able to analyze the operation performance of interrupted flow facilities including: basic freeway sections, weaving areas, ramps and ramp junctions, multi-lane and two lane roadways
Text:	Roger P. Roess, Elena S. Prassas and William R. McShane, *Traffic Engineering*, Prentice-Hall Inc, 4th Edition 2011. *One copy of the text is on reserve in the Van Houten Library. Loan period is 2-hours.*
Reference Text:	*Highway Capacity Manual*. Transportation Research Board, National Research Council, Washington, D.C., 2010, Fifth Edition.
Instructor Responsiveness:	Emails will generally be responded to within 24-business hours Monday - Friday.
Moodle Tech Support:	If you are unable to log in or experience a problem please contact the NJIT Helpdesk - (973) 596-2900.
Grading:	HW 20% Tests(2) 50% Final Test 30%
Homework:	Homework will not be thoroughly graded, but you will still need to turn in your homework. Credit will be provided based on your final answers given. No credit will be provided once solutions have been posted. For homework assignments you should submit two items: (1) electronic copy of the completed homework (Word, pdf, excel); and (2) An excel spreadsheet I will provide to you with every homework assignment where you will input your final answers for your homework. You will not be able to include all of your answers in the excel spreadsheet, but I will use both parts of the submission in grading your homework.
Electronic Submissions:	You should identify how you will submit assignments electronically. You can submit all types of attachments (pdf, doc, xls). For some assignments which includes calculations, it may be easier to scan your written work into a pdf and submit that document, rather than type out the equations. Having access to a scanner or a printer

	with a feature to create pdfs may be helpful. Please avoid submitting attachments that are photos of your assignment as it is typically difficult for me to read these types of attachments. If you choose to submit excel spreadsheets, please note that I will not be able to look at your formula or how the calculation was determined. Therefore, you should show all the steps to get to your final calculation.
Important Dates:	Test #1 Wednesday, October 11, 2017 (6:00 pm – 7:30 pm) Test #2 Wednesday, November 15, 2017 (6:00 pm – 7:30 pm) Final Test Wednesday, December 13, 2017 (6:00 pm – 7:30 pm)
Exam Policy	All exams are a 90 minutes administered through Moodle. Tests consists of various types of questions including some fill-in questions, some multiple choice questions, some calculation questions. The questions and some input variables will be randomly determined so each test will have some differences. To save time, it is not necessary that you show your calculations during the test. You should, instead, provide your final answer during the test time and submit any calculations used to reach the final answer after the completion of the test. The calculations are used to provide partial credit and to ensure that you did the work to complete the exam. No credit is provided for questions where the answer provided in the calculations differ from answers provided during the test. No credit is provided if you do not show your calculations. It is better to show your work from the test, where partial credit can be provided, than to recreate an answer. Please save your answers as you go through the test. You can revise saved answers. The exam will close precisely 90 minutes after you begin, so please keep track of the time so you can submit your answers before time runs out. If you believe you are missing information to complete the question, please make an assumption and state your assumptions in the hand calculations. To avoid technical difficulties with the online test, the computer help desk suggests using Firefox or Google chrome for your internet browser while using moodle. Also your wireless connection can impact the ability to download figures or move from through the test questions without pausing. You may consider using a wired connection while taking the test. Please contact the university help desk if you would need clarification about connection problems. (973-596-2900).

Week of	**Topic**	**Reading**
9/4	Introduction – Traffic Flow Fundamentals	Chapters 1 and 5
9/11	Introduction to Traffic Capacity Analysis	Chapter 13 and 14
9/18	Multilane Highways Capacity Analysis	Chapter 14
9/25	Weaving Area Capacity Analysis	Chapter 15
10/2	Ramps and Ramp Terminal Capacity Analysis	Chapter 15
10/9	**Test # 1 – Covering Chs. 1, 5, 13, 14**	
10/16	Two-Lane Rural Highways Capacity Analysis	Chapters 16
10/23	Freeway Systems Capacity Analysis	Chapter 6
10/30	Traffic Studies – Statistical Analysis	Chapters 7
11/6	Volume Studies and Characteristics	Chapters 8 and 9
11/13	**Test # 2 – Covering Chs. 15 and 16**	
11/20	Speed, Travel Time, and Delay Studies	Chapter 10
11/27	Highway Traffic Safety Studies	Chapter 11
12/4	Highway Traffic Safety Studies	Chapter 11
12/11	**Final - Covering Chs 6-11**	