Revised as of October 22, 2007

UNIVERSITY OF KANSAS

CE 582: HIGHWAY ENGINEERING

COURSE SYLLABUS: FALL 2007

1.0 Course Information

1.1 Meeting Times and Location:	MWF 8:00 - 8:50 a.m.; Learned Hall, Room 2111
1.2 Course Professor:	Steven D. Schrock, Ph.D., P.E. 2159B, Learned Hall (785) 864-3418 (Office) (785) 218-5966 (Cell) schrock@ku.edu
1.3 Professor's Office Hours:	M,W 9:00 - 10:00 a.m. Other times by appointment
1.4 Teaching Assistant:	Howard Lubliner (785) 296-4139 (KDOT office) (785) 760-4611 (Cell) howardl@ksdot.org
1.5 Teaching Assistant's Office Hours:	T 7:00 - 9:00 p.m. 1014 Eaton Hall
1.6 Course Text:	Garber, N.J. and L.A. Hoel. *Traffic and Highway Engineering*, *Third Edition*. Brooks/Cole, Thomas Learning, Pacific Grove, California, 2002.

2.0 Goals of This Course

1. To develop an appreciation of highway engineering as a profession.
2. To develop an appreciation for the planning, design, and operation of highways.
3. To introduce the students to current software used by highway agencies.
4. To develop teamwork skills among students.
5. To foster a professional attitude.
6. To help the students develop their written and oral communication skills.

3.0 ABET Criteria

1. The ability to use techniques, skills, and modern engineering tools necessary for engineering practice.
2. The ability to identify, formulate, and solve engineering problems.
3. The ability to work in a team.
4. The ability to communicate both orally and in the written word.
5. The ability to understand the social and political impacts of engineering decisions.

4.0 Course Schedule

Date	Lecture Topic	Reading	Homework
Aug. 17	Course Introduction		#1 Assigned
Aug. 20	Transportation Systems and Orgs.	pp. 3-14, 17-37	
Aug. 22*	Driver and Pedestrian Characteristics	pp. 43-48	
Aug. 24*	Vehicle Characteristics	pp. 48-69	#2 Assigned
Aug. 27*	Roadway Characteristics/Design Overview	pp. 72-79, 671-688	
Aug. 29*	Horizontal Curve Design	pp. 70-72	
Aug. 31*	Horizontal Curve Design	pp. 705-723	#3 Assigned
Sept. 3	LABOR DAY - NO CLASS		
Sept. 5*	Vertical Curves	pp. 688-705	
Sept. 7	Computer Applications (1014 Eaton Hall)		#4 Assigned
Sept. 10*	Traffic Safety/Review for Exam I	pp. 131-163	
Sept. 12	Exam I		
Sept. 14	Computer Applications (1014 Eaton Hall)		#5 Assigned
Sept. 17	Exam I Handed Back/Project Team Selection		
Sept. 19	Traffic Flow Theory	pp. 173-191, 191-204	
Sept. 21	Computer Applications (1014 Eaton Hall)		#6 Assigned
Sept. 24*	Traffic Flow Theory/Highway Capacity	pp. 359-375, 321-327	
Sept. 26*	Highway Capacity	pp. 329-359	
Sept. 28	Computer Applications (1014 Eaton Hall)		#7 Assigned
Oct. 1	Kansas City TMC Field Trip		
Oct. 3*	Forecasting Travel Demand	pp. 527-546	
Oct. 5	Computer Applications (1014 Eaton Hall)		#8 Assigned
Oct. 8*	Forecasting Travel Demand	pp. 547-561	
Oct. 10*	Design of Pavements	pp. 1015-1024, 965-973, 1048-1061	
Oct. 12	FALL BREAK - NO CLASS		
Oct. 15*	Design of Pavements	pp.955-990	
Oct. 17*	Pavement Management	pp. 1065-1107	
Oct. 19	Computer Applications Day (1014 Eaton Hall)		#9 Assigned
Oct. 22*	Highway Drainage	pp. 739-745, 801-806	
Oct. 24*	Signing	pp. 277-291	
Oct. 26	Computer Applications (1014 Eaton Hall)		
Oct. 29*	Intersection Design	pp. 215-274	
Oct. 31*	Howard Lubliner Guest Lecture		
Nov. 2	Computer Applications (1014 Eaton Hall)		

Date	Lecture Topic	Reading	Homework
Nov. 5	Plan Review Day		
Nov. 7	Team Preparation Day		
Nov. 9	Team Preparation Day		
Nov. 12	Project Presentations		
Nov. 14	Highway Design in Third World Countries		
Nov. 16*	Intersection Control	pp. 291-304	
Nov. 19*	Intersection Control	pp. 304-309	
Nov. 21	THANKSGIVING BREAK - NO CLASS		
Nov. 23	THANKSGIVING BREAK - NO CLASS		
Nov. 26*	Intersection Control/Review for Exam II	pp. 310-320	
Nov. 28	Exam II		
Nov. 30	Exam II Handed Back/Ethics	Reading Packet #3	
Dec. 3*	The Future of Transportation	Reading Packet #4	
Dec. 5	Course Review		
Dec. 7	STOP DAY - NO CLASS		
Dec. 14	Final Exam, 7:30 - 10:00 a.m.		

5.0 Policies of the Professor

5.1 Homework is due at the beginning of class on the days listed in the syllabus. No late work will be accepted. See Policy 3.6 for the exception policy.

5.2 All work is expected to be clearly presented, showing enough detail for the instructor to see all the work performed. Work may be either handwritten or typed according to the preference of the student.

5.3 References must be cited to avoid plagiarism.

5.4 Unethical behavior will not be tolerated and will result in an F for the course.

5.5 Students who are on-time and prepared for class will have the opportunity for a reward for this behavior. On each day with an asterisk (*) shown on the schedule, there will be an oral, closed-book, closed-notes quiz at the beginning of class for two randomly-selected students. Each student will be asked one question selected from the assigned reading material for that day and from the material covered during the previous lecture:

- Students that correctly answer the question will receive a one point bonus to be applied to their final exam score;
- Students that incorrectly answer the question will receive no points. However, they can receive a 0.5 point bonus if by the next class period they email the professor two PowerPoint slides: the first indicating the problem, and the second indicating the answer. This must be done in PowerPoint in order to receive the 0.5 point; bonus
- Students not present when their name is called will receive a four point penalty to be applied to the final exam score. See Policy 3.6 for the exception policy.

5.6 Absences will be excused for legitimate reasons and the student does one of the following:

- Face-to-face discussions with the professor at least one-day prior to the absence.
- At least 30 minutes prior to class an email is sent to the professor explaining the absence.
- At least 10 minutes prior to class a telephone call is made to the professor, either to his cell phone or to his office phone. If contact is not made a voice mail message is required.

Legitimate reasons include: illness, illness in the immediate family, funeral attendance, field trips for another course, and car trouble. Other reasons may be approved by the professor if prior approval is sought. Inclement weather by itself is not a legitimate reason.

6.0 Determination of Final Grade

Homework Assignments	20%	A	90-100
Design Project	25%	B	80-89
Exam #1	15%	C	70-79
Exam #2	15%	D	60-69
Final Exam	25%	F	< 60
TOTAL	100%		

7.0 Final Thoughts

1. The syllabus is subject to change at the discretion of the instructor as course or other circumstances require.
2. Students with documented special needs are encouraged to discuss with me arrangements that will enhance their learning in this class.
3. Please feel free to discuss with me problems or concerns with this or other courses.