Traffic Study

Course Name	Course type (credit/hours)	Required course(3/3)	Course code	E071
	Target students Division/major/grade	Transportation System Engineering/Sophomore	Opening semester	2017 2ND SEMESTER
	Class time and classroom	Mon 7(Pal1020) Mon 8(Pal1020) Mon 9(Pal1020)	English Grade	A(100%English)

Reference to this course	Prerequisite courses	없음		
	Related basic courses	없음		
	Recommended concurrent courses	교통조사실습		
	Related advanced courses	교통제어		

Instructor	Name (title/division)	Yun, Ilsoo(Associate Professor, Transportation System Engineering)				
	Office Room Number	팔달관 512	Office phone Number	3610	e-mail	
	Office hours	수요일 10시-16시	Homepage address			
Teaching Assistant	Name (title/division)					
	Office Room Number	팔달관 1022-2호	Office phone Number	2543	e-mail	hano3106@ajou.ac.kr

1. Introduction

The observation of real traffic conditions and drivers' behaviors has always been the basis for traffic engineering studies. Therefore, good traffic engineers should be familiar with diverse methods to collect any traffic data necessary for in-dept traffic engineering studies. To this end, this class, Traffic Study' is initiated to deliver various skills and methodologies for field traffic data collection as well as basic theories in a safe and efficient way.

2. Course Objectives

This course is designed to deliver students with followings;

1) Basic theories related with traffic studies
2) Safety issues during traffic studies
3) Skills and techniques for traffic studies
4) Interpretation skill on the collected data
5) Basic statistical skill to analyze the data

3. Class types and activities

The course works will be conducted based on the following four steps;
Step 1: Explanation on basic concepts, usages, and examples,
Step 2: Explanation on the methodologies for diverse traffic studies,
Step 3: Practices using examples and homework, and
Step 4: Questions and answers, feedback to the subject step, if necessary.

A student is expected to present a PPT slide summarizing
the previous class for 10 minutes at the beginning of every class.

4. Teaching Method

[V] lecture   [V] discussion and debate

[V] team project(presentation and case studies)   [ ] experiments(role-playing,etc)

[V] designing and production   [ ] on-site learning(on-site training)

[ ] others

5. Support Systems in Use

[V] e-class / AjouBb   [ ] automatic recording system   [ ] web-based assignment

[ ] cyber lecture   [ ] online content

[ ] class behavior analyazing system [ ] others

6. Teaching Tools

[ ] PBL(Problem Based Learning)   [V] CBL(Case Based Learning)   [ ] TBL(Team Based Learning)

[ ] UR(Undergraduate Research)   [ ] FL(Flipped Learning)   [ ] DSAL(Data Science Active Learning)

[ ] others

7. Knowledge and ability required for taking this course

All students are required to understand basic concepts and terminologies related with traffic engineering and traffic flow analysis in advance. Students will use appropriate software like Excel or any statistical analysis software to conduct actual traffic studies.

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		10	Attendance
midterm exam	1	30	Mid-term examination
final exam	1	40	final examination
quiz			
presentation			
discussion			
homework		20	homework and pop-quizes
etc			
study hours			

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Manual of Transportation Engineering Studies (2nd Edition)	Institute of Transportation Engineers	ITE	2010
Ref.	Traffic Engineering	Roess, Roger 외	Prentice Hall	2011
Ref.	교통공학원론	도철웅	청문각	2004

10. Class system and Class shedule

Lectures are given twice weekly. Lectures include a mixture of presentation of material using PowerPoint and interactive exercises using English. Participation is encouraged, but not required. Attendance will be taken at each lecture. It is noted that absences for the first two lectures do not count in grading. There are no lectures on exam days.

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introduction & Safety during traffic studies		Yun, Ilsoo	Presentation		
2	Volume Studies		Yun, Ilsoo	Presentation		
3	Spot Speed Studies		Yun, Ilsoo	Presentation		

< Class Schedule >

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
4	Intersection and Driveway Studies: Introduction & Delay		Yun, Ilsoo	Presentation		
5	Intersection and Driveway Studies: Queue length & Saturation Flow and Lost Time		Yun, Ilsoo	Presentation		
6	Intersection and Driveway Studies: Gap and Gap acceptance & Sight Distance		Yun, Ilsoo	Presentation		
7	Compliance with Traffic Control Devices		Yun, Ilsoo	Presentation		
8	Midterm examination		Yun, Ilsoo	Presentation		
9	Travel-Time and Delay Studies		Yun, Ilsoo	Presentation		
10	Public Transportation Studies		Yun, Ilsoo	Presentation		
11	Goods Movement Studies		Yun, Ilsoo	Presentation		
12	Parking Studies		Yun, Ilsoo	Presentation		
13	Traffic Collision Studies		Yun, Ilsoo	Presentation		
14	Alternative Safety Studies		Yun, Ilsoo	Presentation		
15	Transportation Planning Data		Yun, Ilsoo	Presentation		
16	Final examination		Yun, Ilsoo			

11. Other items of notification

Homework is an essential tool for learning class materials and exercising methodologies for traffic studies. Except when stated otherwise, homework will be due at the beginning of the class time as noted. Late homework will not be accepted. In addition, homework should be done without any assistance from other students. No cheating on homework is allowed. Any suspicious homework will not be accepted. Each homework must have a cover sheet saying the name and ID of the student. It is noted that the homework without a cover sheet will not be accepted.