Course Specification
(Bachelor)

Course Title:	Transportation Planning
Course Code:	CE 4309
Program:	Bachelor of Science in Civil Engineering
Department:	Civil Engineering Department
College:	College of Engineering and Architecture
Institution:	Umm Al Qura University
Version:	1
Last Revision Date:	31 January 2025

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A. General information about the course:

1. Course Identification

1. Credit hours: (3)					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	Others
B.	☐Required		☒ Elective		
3. Level/year at which this course is offered: (Level 9 or 10 / 5th Year)					
4. Course General Description:					
This course introduces the student to transportation planning and provides the student with an understanding of transportation planning models, including data collection, trip generation, trip distribution, mode choice and trip assignment. The course also provides instruction in parking and traffic impact analysis, transportation safety as well as sustainability and social equity in transportation planning.					
5. Pre-requirements for this course (if any):					
Introduction to Transportation Engineering					
6. Co-requisites for this course (if any):					
7. Course Main Objective(s):					
• To enable civil engineering students acquire necessary knowledge related to transportation planning. • Conduct transportation studies with field data • Communicate planning concepts through oral presentation and written report. • Articulate social justice issues in planning, such as analyzing transportation from an equity point of view					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	45
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	To enable the civil engineering student gain the knowledge related to transportation planning.	K1	• Through lectures, module notes, tutorials, coursework and examinations. • Through group project work requiring detailed consideration of a multi-disciplinary approach • Through detailed research and analysis of a particular topic for their Individual Project requiring a multi-disciplinary approach	• Assessed out-of-class and in-class course works. Course works may be in the form of: laboratory and fieldwork reports, essays, in-class tests, design calculations, and literature reviews • Written examinations • Project report(s), oral examination and writing of a journal-style paper
1.2	To help students develop their abilities to transportation planning and traffic engineering using both basic principles and modern engineering tools	K2		
2.0	**Skills**			

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.1	To increase the ability to undertake transportation planning using both basic principles and modern engineering tools	S1	• Through lectures, module notes, tutorials, coursework and examinations. • Through group project work that will require detailed consideration of a multi-disciplinary approach • Through detailed research and analysis of a particular topic in the compulsory Individual Project module requiring a multi-disciplinary approach.	• Assessed out-of-class and in-class course works. Course works may be in the form of: fieldwork reports, essays, in-class tests, design calculations, and literature reviews • Written examinations Project report(s), oral examination and writing of a journal-style paper
2.2	Ability to use EXCEL for plotting engineering data and ability to interpret the graphs.	S2		
2.3	To formulate relevant analysis and to derive the solutions for them.	S4		
3.0	**Values, autonomy, and responsibility**			
3.1	Increasing the ability to understand transportation planning and traffic engineering.	V1	• Through lectures, tutorials, coursework and group project work. • Through supervised laboratory exercises following standard procedures • Through supervised outdoor practical work Through supervised computer-based laboratory exercises	• Assessed out of class and in-class coursework. (fieldwork reports, modelling calculations) • Project reports and peer review of individual contributions to group work Observation by tutors during laboratory and fieldwork activities
3.2	Overcoming the problems of transportation planning and traffic engineering.	V2		
3.3	Preparing our graduates for immediate employment in any primary branch of civil engineering.	V2		

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Transportation Planning	3
2.	Travel Survey (Travel Survey Process & Data collection and Interpretation)	6

3.	Trip Generation	6
4.	Trip Distribution	3
5.	Modal Split	3
6.	Traffic Assignment	3
7.	Traffic Impact Assessment	6
8.	Parking Impact Studies	6
9.	Transportation Safety	3
10.	Sustainability and Social Equity	3
11.	Modern tools and software in transportation planning	3
Total		**45**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework Assignment	Bi-weekly	15 %
2.	Quizzes	Bi-weekly	10 %
3.	Midterm Exam	6 or 7	25 %
4.	Final Exam	16	50 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	C.S Papacostas, P.D. Prevedouros, “Transportation Engineering and Planning”, 3rd Edition, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 2001.
Supportive References	Roess, R. P., Prassas, E. S., and McShane, W. R., “Traffic Engineering”, 5th Edition, Pearson, 2018. N.J. Garber and L.A. Hoel, "Traffic and Highway Engineering" 5th Edition, Stamford, Connecticut : Cengage Learning, [2015]. ISBN-13: 978113
Electronic Materials	http://www.sciencedirect.com. http://www.trb.org/Main/Home.aspx
Other Learning Materials	Highway Capacity Manual Latest Transportation Planning Software

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom for about 40 students, with white board, computer, projector and internet
Technology equipment (projector, smart board, software)	Computing Services provides the University IT facilities and infrastructure. General purpose computer resources across campus are open 24 hours and more specialist computer laboratories are provided in partnership with departments. Students in halls of residence are supported in connecting their computers to the high speed network. The University's virtual learning environment "LEARN" provides on and off campus access to web-based teaching materials provided by lecturing staff.
Other equipment (depending on the nature of the specialty)	A white board & Computer with internet and data show. Computing Services provides the University IT facilities and infrastructure. General purpose computer resources across campus are open 24 hours and more specialist computer laboratories are provided in partnership with departments. Students in halls of residence are supported in connecting their computers to the high speed network. The University's virtual learning environment "LEARN" provides on and off campus access to web-based teaching materials provided by lecturing staff.

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Faculty members who teach this course	• Student questionnaire at the end of the semester. • Student test result analysis. • Regular feedback from students.
Effectiveness of Students assessment	Independent member(s) teaching staff	• Check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution. • A review of a sample of student answers by a

Assessment Areas/Issues	Assessor	Assessment Methods
		related department committee. • In-department group review and marking. • External reviewer for a sample of student answering sheets.
Quality of learning resources		• Increasing the number of computers. • E- learning • Video conference • Field applications must be completed. • Additional training for the staff assistants. • Scanning electron microscope. • Multi-media facility (video projector, TV, etc.).
The extent to which CLOs have been achieved		
Other		

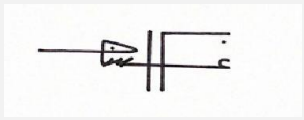
Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**CIVIL ENGINEERING COUNCIL**
REFERENCE NO.	**THE FIFTEENTH SESSION OF THE ACADEMIC YEAR 1446**
DATE	**30 APRIL 2025**

Course Coordinator



Dr. Baraa Adil Alfasi

