COURSE DESCRIPTION FORM	
Course Code and Title	CE351 TRANSPORTATION ENGINEERING
Semester	5
Catalog description	Introduction. Transportation problems. Systematic approach to problem solving. Trends in transportation development, need to professionals, importance of transportation engineer. Transportation modes, geometric design elements of transportation facilities, by concerning land transportation especially, alignment location and land use, cross-section elements, area and volume calculations, design elements for pavement and drainage. Transportation economics, planning and management techniques.
Required reading	Transportation Engineering and Planning Papacostas
Recommended reading	Transportation Engineering, Khisty Introduction to Transportation Eng. and Planning Morlok E.K. Int. to. Transportation Systems, Haefner Lonnie E. Fundamentals of transportation Eng, Hennes R.G..... Highway Eng. Handbook, Woods "A Policy on Geometric Design of Highways and Streets-1994-2011,"American Association of State Highway and Transportation Officials (AASHTO).
ECTS	4
Prerequisites and co-requisites	No prerequisite. Required attendance to lectures is at least 70% of total term hours.
Compulsory/Elective	Compulsory
Language of instruction	English
Aim of course	Making complex relationships and concepts understandable, developing problem solving ability and philosophy of decision making – impacts on designing facilities, and approaches to programming from planning to operating of facilities
Learning outcomes of the course unit	Relationships among transportation, culture, economics, politics and education etc. Transportation engineering approaches to and philosophy for facilities from planning to operating
Mode of delivery	The mode of delivery of this course is face to face.
Course content	1. Int. To Transportation Engineering.: Relationships, dependencies, impacts, decisions... 2. Int. To Transportation Engineering: Problems, solutions, economics, management... 3. Transportation modes 4. Sight Distances 5. Safe Stopping and Passing Sight Distances 6. Elements of horizontal curves, and staking 7. Lateral Sight Distance and superelevation on Horizontal Curves 8. Midterm 9. Vertical Curves –general 10. Design of Crest and Sag types of Vertical Curves 11. Horizontal and vertical alignment combinations 12. Cross-sectional elements, Area Calculations 13. Volume and Mass Curve Calculations 14. Balance Line and Construction Costs 15. Review and evaluation
Planned learning activities and teaching methods	3 lecture hours per week (3+0) Preparing Reports

	Midterm exam and required works Final exam and required works

Assessment methods and criteria

	Quantity	Percentage (%)
Mid-terms	2	40
Assignment	2	10
Exercises		
Projects		
Practice		
Quiz	2	10
Contribution of In-term Studies to Overall Grade %		60
Contribution of Final Examination to Overall Grade (%)		40
Attendance		

Workload

Work activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
Theoretical Study Hours of Course Per Week	14	3	42
Practicing Hours of Course Per Week	14	0	0
Reading	14	0	0
Searching in Internet and Library	14	0	0
Designing and Applying Materials	14	0	0
Preparing Reports	14	2	28
Preparing Presentation	14	0	0
Presentation	14	0	0
Mid-Term and Studying for Mid-Term	14	1	14
Final and Studying for Final	1	16	16
Other	0	0	0
Total Workload:			100
Total Workload / 25:			4.00
ECTS:			4

Course's contribution to program

No	Program Learning Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.			X		
2	Ability to identify, formulate, and solve complex civil engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			X		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.	X				
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in civil engineering practice; ability to employ information technologies and to use at least one computer programming language effectively.		X			

	5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.		X			
	6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.			X		
	7	Ability to work individually.			X		
	8	Ability to communicate effectively in Turkish, both orally and in writing; ability to write effective reports and comprehend written reports.	X				
	9	Knowledge of English of B1 level according to Common European Framework of Reference.		X			
	10	Prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.		X			
	11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.		X			
	12	Consciousness to behave according to ethical principles and professional and ethical responsibility.			X		
	13	Knowledge on standards used in civil engineering practice.				X	
	14	Knowledge about business life practices such as project management, risk management, and change management.			X		
	15	Awareness in entrepreneurship, innovation; knowledge about sustainable development.		X			
	16	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering.		X			
	17	Awareness of the legal consequences of engineering solutions.		X			
Name of lecturer(s) and contact information	Dr. Hikmet Bayırtepe, hikmetb@gazi.edu.tr Dr. Mustafa Kürşat Çubuk, ckursat@gazi.edu.tr						