

IZMIR INSTITUTE OF TECHNOLOGY
CIVIL ENGINEERING DEPARTMENT

**CE 351 – INTRODUCTION TO TRANSPORTATION ENGINEERING
SYLLABUS
FALL 2024**

Class Meeting Time: Wednesdays 14:30 – 16:15
Fridays 13:30 – 15:15

Location: TBD

Instructors: Asst. Prof. Dr. Tolga ERCAN – Email: tolgaercan@iyte.edu.tr
Res. Asst. Firat KESMEZ – Email: firatkesmez@iyte.edu.tr

Office Hours: Only by appointment

Description: The course mainly provides the knowledge about the subjects of road vehicle performance, geometric design of highways, fundamentals of traffic flow, highway capacity and level-of-service analysis, and intersection control.

Textbook:

- Principles of Highway Engineering and Traffic by Fred Mannering and Scott Washburn (2019). Wiley. Seventh Edition.
- Karayolu Mühendisliği, Nadir Yayla (2004)., Birsen Yayınevi.

References:

- 2918 Sayılı Karayolları Trafik Kanunu
- Karayolları Trafik Yönetmeliği
- Karayolu Trafik İşaretleme Standartları
- A Policy on Geometric Design of Highways and Streets ('Green Book'), 2018, Seventh Edition, The American Association of State Highways and Transportation Officials (AASHTO).
- Highway Capacity Manual 6th and 7th Editions
- Highway Safety Manual, 1st Edition, 2010, (including 2016 Errata)
- Manual of Uniform Traffic Control Devices (MUTCD), 2009, <https://mutcd.fhwa.dot.gov/>

Grading Policy:

- Pop-Quizzes: %20
- Homework: %10
- Midterm Exam: %30 of the grade
- Final Exam: %40 of the grade

Date	Week	Lecture Content
2/10/2024 - 4/10/2024	Week 1	Introduction to Transportation Engineering
9/10/2024 - 11/10/2024	Week 2	Road Vehicle Performance
16/10/2024 - 18/10/2024	Week 3	Road Vehicle Performance
23/10/2024 - 25/10/2024	Week 4	Introduction to Geometric Design of Highways
30/10/2024 - 1/11/2024	Week 5	Design of Vertical Curves
6/11/2024 - 8/11/2024	Week 6	Design of Vertical Curves
13/11/2024 - 15/11/2024	Week 7	Design of Horizontal Curves
20/11/2024 - 22/11/2024	Week 8	Design of Horizontal Curves
27/11/2024 - 29/11/2024	Week 9	Recap & Mid-Term Exam
4/12/2024 - 6/12/2024	Week 10	Roadside Design Elements
11/12/2024 - 13/12/2024	Week 11	Fundamentals of Traffic Flow
18/12/2024 - 20/12/2024	Week 12	Highway Capacity & Level of Service Analysis
25/12/2024 - 27/12/2024	Week 13	Highway Capacity & Level of Service Analysis
1/1/2025 - 3/1/2025	Week 14	New Year NO Class – Introduction to Intersection Design & Class Recap
6/1/2025 – 17/1/2025	Date TBD	Final Exams