

(B) Course information in english

General course information:

| | | | |
|--|---|--------------------------------------|----------|
| Course title: | Traffic Engineering | Course code: | CE04_T01 |
| Credits: | 5 | Work load (hours): | 150 |
| Course level: | Undergraduate <input checked="" type="checkbox"/> | Graduate <input type="checkbox"/> | |
| Course type: | Mandatory <input checked="" type="checkbox"/> | Selective <input type="checkbox"/> | |
| Course category: | Basic <input checked="" type="checkbox"/> | Orientation <input type="checkbox"/> | |
| Semester: | 4 | Hours per week: | 4 |
| Course objectives (capabilities pursued and learning results): | | | |
| Basic concepts of transportation engineering. Traffic flow theory. Capacity and level of service. Methods for estimating capacity. | | | |
| Prerequisites: | | | |
| | | | |

Instructor's data:

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|----------------------|--|
| Name: | Pantelis Kopelias |
| Level: | Lecturer |
| Office: | 1 st Floor, Building of Civil. Eng. |
| Tel. - email: | +30 24210 74165, kopelias@uth.gr |

Specific course information:

| Week No. | Course contents | Hours | |
|----------|--|-------------------|-------------|
| | | Course attendance | Preparation |
| 1 | Introduction to traffic engineering. The transportation system. | 4 | 3 |
| 2 | Basic Traffic characteristics and parameters: traffic volume, speed, density. Fundamental diagrams | 4 | 3 |
| 3 | Basic concept of Queue theory. Traffic analysis and Data Bases. Counting Traffic. | 4 | 3 |
| 4 | Capacity, Level of Service, Interrupted and non-interrupted flow | 4 | 3 |
| 5 | Unsignalized intersections | 4 | 3 |
| 6 | Two-lane highways | 4 | 3 |
| 7 | Multilane highways | 4 | 3 |
| 8 | Freeway segments | 4 | 3 |
| 9 | Freeway weaving | 4 | 3 |
| 10 | Ramps and ramp junctions | 4 | 3 |
| 11-12 | Signalized Intersection | 8 | 6 |
| 13 | Traffic light coordination and traffic light control | 4 | 3 |
| 14 | Traffic characteristics counts. Methods and equipment | 4 | 2 |

| Additional hours for: | | | |
|-----------------------|--------------|------------------------------|-------------------|
| Class project | Examinations | Preparation for examinations | Educational visit |
| 20 | 3 | 27 | - |

Suggested literature:

- Κυκλοφοριακή τεχνική, Ι. Μ. Φραντζεσκάκης, Ι. Κ. Γκόλιας, Μαγδαληνή Χ. Πιτσιάβα - Λατινοπούλου, Παπασωτηρίου, 2009.
- Highway Capacity Manual 2010, Transportation Research Board,

National Research Council, Washington D.C. 2010.

- Traffic Engineering Handbook, Institute of Transportation Engineers ITE, 2000.

| Teaching method (<i>select and describe if necessary - weight</i>): | | |
|--|-------------------------------------|--------|
| Teaching | <input checked="" type="checkbox"/> | 80% |
| Seminars | <input type="checkbox"/> |% |
| Demonstrations | <input type="checkbox"/> |% |
| Laboratory | <input type="checkbox"/> |% |
| Exercises | <input checked="" type="checkbox"/> | 20% |
| Visits at facilities | <input type="checkbox"/> |% |
| Other (<i>describe</i>): | <input checked="" type="checkbox"/> | |
| Total | | 100% |

| Evaluation method (<i>select</i>)- weight : | | | | |
|---|-------------------------------------|----------|--------------------------|----------|
| | <u>written</u> | <u>%</u> | <u>Oral</u> | <u>%</u> |
| Homework | <input checked="" type="checkbox"/> | | <input type="checkbox"/> | |
| Class project | <input checked="" type="checkbox"/> | 20 | <input type="checkbox"/> | |
| Interim examination | <input type="checkbox"/> | | <input type="checkbox"/> | |
| Final examinations | <input checked="" type="checkbox"/> | 80 | <input type="checkbox"/> | |
| Other (<i>describe</i>): | <input type="checkbox"/> | | <input type="checkbox"/> | |