

# TRAFFIC ENGINEERING

|             |                                                         |                                                                                                                                                                                                 |
|-------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>    | Course Title:                                           | TRAFFIC ENGINEERING                                                                                                                                                                             |
| <b>2</b>    | Course Code:                                            | INS4087                                                                                                                                                                                         |
| <b>3</b>    | Type of Course:                                         | Optional                                                                                                                                                                                        |
| <b>4</b>    | Level of Course:                                        | First Cycle                                                                                                                                                                                     |
| <b>5</b>    | Year of Study:                                          | 4                                                                                                                                                                                               |
| <b>6</b>    | Semester:                                               | 7                                                                                                                                                                                               |
| <b>7</b>    | ECTS Credits Allocated:                                 | 5.00                                                                                                                                                                                            |
| <b>8</b>    | Theoretical (hour/week):                                | 3.00                                                                                                                                                                                            |
| <b>9</b>    | Practice (hour/week):                                   | 1.00                                                                                                                                                                                            |
| <b>10</b>   | Laboratory (hour/week):                                 | 0                                                                                                                                                                                               |
| <b>11</b>   | Prerequisites:                                          | None                                                                                                                                                                                            |
| <b>12</b>   | Language:                                               | Turkish                                                                                                                                                                                         |
| <b>13</b>   | Mode of Delivery:                                       | Face to face                                                                                                                                                                                    |
| <b>14</b>   | Course Coordinator:                                     | Prof. Dr. TURAN ARSLAN                                                                                                                                                                          |
| <b>15</b>   | Course Lecturers:                                       |                                                                                                                                                                                                 |
| <b>16</b>   | Contact information of the Course Coordinator:          | arsltur@uludag.edu.tr<br>0 224 294 2639                                                                                                                                                         |
| <b>17</b>   | Website:                                                | <a href="http://insaat.uludag.edu.tr/">http://insaat.uludag.edu.tr/</a>                                                                                                                         |
| <b>18</b>   | Objective of the Course:                                | To Introduce surveying engineering, surveying instruments and type of collecting field notes as well as to furnish students with enough surveying techniques for civil engineering applications |
| <b>19</b>   | Contribution of the Course to Professional Development: | Students can use of surveying techniques in real world civil engineering applications                                                                                                           |
| <b>20</b>   | Learning Outcomes:                                      |                                                                                                                                                                                                 |
|             | <b>1</b>                                                | To be able to understand traffic surveying techniques                                                                                                                                           |
|             | <b>2</b>                                                | To be able to understand fundamentals of traffic flow theory                                                                                                                                    |
|             | <b>3</b>                                                | To be able to use necessary applied statistical procedures in traffic engineering                                                                                                               |
|             | <b>4</b>                                                | To be able to use at least one computer programs in traffic engineering                                                                                                                         |
|             | <b>5</b>                                                | To be able to determine the appropriate traffic control system according to the incoming flows for a simple four-way intersection                                                               |
|             | <b>6</b>                                                |                                                                                                                                                                                                 |
|             | <b>7</b>                                                |                                                                                                                                                                                                 |
|             | <b>8</b>                                                |                                                                                                                                                                                                 |
|             | <b>9</b>                                                |                                                                                                                                                                                                 |
|             | <b>10</b>                                               |                                                                                                                                                                                                 |
| <b>21</b>   | Course Content:                                         |                                                                                                                                                                                                 |
|             | <b>Course Content:</b>                                  |                                                                                                                                                                                                 |
| <b>Week</b> | <b>Theoretical</b>                                      | <b>Practice</b>                                                                                                                                                                                 |
| <b>1</b>    | Measurement Errors (Random, Systematic and Blunders)    | Solving Application Problems                                                                                                                                                                    |
| <b>2</b>    | Geodetic Calculations (4 Basic Calculations)            | Solving Application Problems                                                                                                                                                                    |
| <b>3</b>    | Traverse Surveying (Free, Open and Closed)              | Solving Application Problems                                                                                                                                                                    |

|           |                                            |                              |
|-----------|--------------------------------------------|------------------------------|
| <b>4</b>  | Area Measurement                           | Solving Application Problems |
| <b>5</b>  | Angle, Distance and Elevation Measurements | Solving Application Problems |
| <b>6</b>  | Layout                                     | Solving Application Problems |
| <b>7</b>  | Length Measurement (Taping)                | Solving Application Problems |
| <b>8</b>  | Traverse Surveying                         | Solving Application Problems |
| <b>9</b>  | Closed Traverse Surveying                  | Solving Application Problems |
| <b>10</b> | Area Measurement                           | Solving Application Problems |
| <b>11</b> | Elevation with Leveling                    | Solving Application Problems |
| <b>12</b> | Elevation with Total Station               | Solving Application Problems |
| <b>13</b> | Counter Mapping                            | Solving Application Problems |
| <b>14</b> | Layout with Total Station                  | Solving Application Problems |

|    |           |
|----|-----------|
| 23 | Assesment |
|----|-----------|

|              |   |       |
|--------------|---|-------|
| Midterm Exam | 1 | 20.00 |
|--------------|---|-------|

| Activites | Number | Duration (hour) | Total Work |
|-----------|--------|-----------------|------------|
|-----------|--------|-----------------|------------|

|       |   |        |      |       |
|-------|---|--------|------|-------|
| Total | 3 | 100.00 | 2.00 | 28.00 |
|-------|---|--------|------|-------|

|                            |    |      |       |
|----------------------------|----|------|-------|
| Self study and preparation | 14 | 6.00 | 84.00 |
|----------------------------|----|------|-------|

|                |        |      |      |
|----------------|--------|------|------|
| Total Projects | 100.00 | 0.00 | 0.00 |
|----------------|--------|------|------|

|               |             |      |      |
|---------------|-------------|------|------|
| Source        | Assignments | 2.00 | 2.00 |
| Midterm exams | 1           | 2.00 | 2.00 |

|             |   |      |      |
|-------------|---|------|------|
| Final Exams | 1 | 2.00 | 2.00 |
|             |   |      |      |

|                           |  |  |      |
|---------------------------|--|--|------|
| Total Workload/ 50 hr     |  |  | 5.17 |
| ECTS Credit of the Course |  |  | 5.00 |

|    |                                                               |
|----|---------------------------------------------------------------|
| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |
|----|---------------------------------------------------------------|

[illegible]

|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OK2 | 4 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

[illegible]

|                                                      |            |   |       |   |          |   |        |   |             |   |   |   |   |   |   |   |
|------------------------------------------------------|------------|---|-------|---|----------|---|--------|---|-------------|---|---|---|---|---|---|---|
| ÖK5                                                  | 0          | 0 | 4     | 3 | 0        | 4 | 0      | 0 | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LO: Learning Objectives   PQ: Program Qualifications |            |   |       |   |          |   |        |   |             |   |   |   |   |   |   |   |
| Contrib<br>ution<br>Level:                           | 1 very low |   | 2 low |   | 3 Medium |   | 4 High |   | 5 Very High |   |   |   |   |   |   |   |