

## ESOGÜ Mathematics and Computer Sciences Department COURSE INFORMATION FORM

| SEMESTER | Spring |
|----------|--------|

| COURSE<br>CODE | 821618015 | COURSE<br>NAME | Geometric Transformation II |
|----------------|-----------|----------------|-----------------------------|
|----------------|-----------|----------------|-----------------------------|

| WEEKLY COURSE PERI   |         |  | IOD COURSE OF   |         |            |                   |                           |              |  |
|--|---------|--|---|---------|------------|-------------------|---------------------------|--------------|--|
| SEMESTER   | Theory  | Practice   | Labratory   |         | Credit     | ECTS              | ТҮРЕ                      | LANGUAG<br>E |  |
| 8  | 2       | 2  | C   | )       | 3          | 5                 | COMPULSORY (x) ELECTIVE ( | Turkish      |  |
|  |         |  |   | COURS   | SE CATA    | GORY              |                           |              |  |
| Mathematics Computer   |         |  |   |         |            | Social<br>Science |                           |              |  |
| X  |         |  |   | CCECCI  | MENT CF    | TTEDI             | A                         |              |  |
|  |         |  | A   |         | aluation T |                   | Quantity                  | %            |  |
|  |         |  |   | Mid-T   |            | уре               | Quantity<br>1             | 40           |  |
|  |         |  |   | Wild I  | CIIII      |                   | 1                         | 40           |  |
|  |         |  |   | Quiz    |            |                   |                           |              |  |
|  | MID-T   | ERM  |   | Homev   | vork       |                   |                           |              |  |
|  |         |  |   | Project |            |                   |                           |              |  |
|  |         |  |   | Report  |            |                   |                           |              |  |
|  |         |  |   | Others  | ()         |                   |                           |              |  |
| FINAL EXAM   |         |  |   |         |            | 1                 | 60                        |              |  |
| PREREQUIEITE(S)  |         |  | None  | None    |            |                   |                           |              |  |
| COURSE DESCRIPTION Geometrical transformations   |         |  |   |         |            |                   |                           |              |  |
| COL  | URSE OB | JECTIVES   | To introduce Geometrical transformations                |         |            |                   |                           |              |  |
| ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION  |         |  | To obtain information about geometrical transformations |         |            |                   |                           |              |  |
| СО   | URSE OU | UTCOMES  |   |         |            |                   |                           |              |  |
| TEXTBOOK  Dönüşümler ve Geometriler Prof. Dr. H. Hilmi Hacısalihoğlu Transformation Geometry George E.Martin |         |  | ıoğlu   |         |            |                   |                           |              |  |
| OTHER REFERENCES   |         | 1 Dönüşümler ve Geometriler Prof. Dr. H. Hilmi<br>Hacısalihoğlu<br>Transformation Geometry George E.Martin |   |         |            |                   |                           |              |  |
|  |         |  |   |         |            |                   |                           |              |  |
| TOOLS AND  | EQUIPN  | MENTS REQ  | UIRED   |         |            |                   |                           |              |  |

| COURSE SYLLABUS |  |  |  |  |
|-----------------|--|--|--|--|
| WEEK            | TOPICS                                   |  |  |  |
| 1               | Affine transformations                   |  |  |  |
| 2               | Properties of affine transformations     |  |  |  |
| 3               | Linear Transformations                   |  |  |  |
| 4               | Projections                              |  |  |  |
| 5               | Parallel projections                     |  |  |  |
| 6               | Examples                                 |  |  |  |
| 7               | Centeral projections                     |  |  |  |
| 8               | Midterm                                  |  |  |  |
| 9               | Projective projection                    |  |  |  |
| 10              | Projective Transformation and projection |  |  |  |
| 11              | Topolojical Transformations              |  |  |  |
| 12              | Geometric Transformations                |  |  |  |
| 13              | Applications of Transformations          |  |  |  |
| 14,15           | Exercises                                |  |  |  |
| 16,17           | Final Exam                               |  |  |  |

| NO    | PROGRAM OUTCOMES  | 3 | 2 | 1 |
|-------|---|---|---|---|
| 1     | The ability to apply knowledges of Mathematics and Computer Sciences,   | X |   |   |
| 2     | To have sufficient theoretical and practical knowledge of Mathematics at international level,   | X |   |   |
| 3     | The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,  | X |   |   |
| 4     | The skill to solve and design a problem process in accordance with a defined target,  | X |   |   |
| 5     | Skills to analyze data, interpret and apply to other datum and using these data on computer,  | X |   |   |
| 6     | The skill to use the modern techniques and computational tools needed for mathematical applications,  |   | X |   |
| 7     | The skill to make team work within the discipline and interdisciplinary,  | X |   |   |
| 8     | The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,               | X |   |   |
| 9     | The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking, | X |   |   |
| 10    | The skill to have professional and ethical responsibility,  | X |   |   |
| 11    | The skill to have consciousness for quality issues and scientific research,   | X |   |   |
| 12    | The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,                                  | X |   |   |
| 13    | Ability to solve problems in the working life faced to find an appropriate algoritms via mathematical modeling and to write computer programs,                                  |   | X |   |
| 14    | The skill to developed design of software systems at different complex levels,  | • | X |   |
| 15    | The credence of necessity of life-long learning and ability to apply the formation long-life learning.  | X |   |   |
| 1:Non | e. 2:Partially contribution. 3: Completely contribution.  | • |   | _ |

**Instructor(s):** Prof. Dr. Ayşe BAYAR

Signature: Date: