| OF SHAPE ME | | | STAI | LOGRAPHY | ADVA | NCED TI | ECHNOL | OGIES | |
|--------------------------------------|--|---|---|---|------------------------|---------|--------|--|----------------|
| | , | | arnin | g Methods | | | | of shape memory emal transformation, sase shape memory amory alloys, Application and the shape memory at t | |
| Semester | Theory | App. I | Lab. | Project | Homework | k Other | Total | Credit | ECTS Credit |
| 1-2 | 42 | | - | ž | 100 | 46 | 188 | 3 | 7.5 |
| Language | Turkish | | | | | | | | |
| Compulsory/ Elective | Elective | | | | | | | | |
| Prerequisites | None | | | | | | | | |
| Course Content | Crystal structure, Martensitic transformation, The mechanism of shape memory effect, Thermoelastic martensite transformation, Thermal and athermal transformation, Shape memory alloys, TiNi base shape memory alloys, Coopper base shape memory alloys, Magnetic shape memory alloys, Thermal processes of shape memory alloys, Application of shape memory alloys, Use of shape memory alloys in industry, Use of shape memory alloys in medicine. | | | | | | | | |
| Course Objectives | The objectives of course shall be to enable students to: • to understand theory • to learn experimental techniques, and • to learn of applications of shape memory alloys | | | | | | | | |
| Learning outcomes and competences | Ability to use technical /modern materials to be required in her/his Works, Ability to present oral and written forms in her/his field, Ability to work on interdisiplinary studies, Ability to rapidly distinguish the true an required knowledge, Ability to do analyze of results. | | | | | | | | |
| Textbook and /or References | 1- FUNAKUBO, H., (1987). Shape Memory Alloys, J.B. Kennedy, Gordon and Breach Science Publishers, London. 2- NISHIYAMA, Z., (1978). Martensitic Transformation, Academic Press, New York | | | | | | | | |
| Assessment Criteria | | | | | | | | If any, mark as (X) | Percentage (%) |
| | Midterm | Exams | s | | | | | X | 30 |
| | Quizzes | | | | | | | | |
| | | | | | | | | X | |
| | _ | orks | | | | | | | |
| | Homewo | | | | | | | 71 | |
| | Homewo Projects | | | | | | | | 20 |
| | Homewo Projects Term pa | aper | nels. | | | | | X | 20 |
| | Homewo Projects Term pa Laborat | aper | ork | | | | | | |
| | Homewo Projects Term pa Laborat Other | aper ory Wo | ork | | | | | X | 10 |
| | Homework Projects Term pa Laborate Other Final Ex | aper cory Wo | | | | | | | |
| Prepared by | Homework Projects Term pa Laborat Other Final Ex Prof. Dr. | aper cory Wo | |)ĞDU | | | | X | 10 |
| Week | Homework Projects Term pa Laborat Other Final Ex Prof. Dr. Subject | aper cory Wo xam Ayse A | YDC |)ĞDU | | | | X | 10 |
| | Homework Projects Term par Laborate Other Final Ex Prof. Dr. Subject Crystal S Martensit The mech Thermoel Shape men Midterm TiNi base Coopper Magnetic Thermal | Ayse A Structure tic Tran hanism of lastic m and athe emory a Exam e shape base shape processe | asform of sha narten ermal illoys mema ape m mema es of | | ntion n y alloys | | | X | 10 |
| Week 1 2 3 4 5 6 7 8 9 10 11 | Homework Projects Term par Laborate Other Final Ex Prof. Dr. Subject Crystal S Martensit The mech Thermoel Thermal S Shape me Midterm TiNi base Coopper Magnetic Thermal J Applicati | Ayse A Structure tic Tran hanism of lastic mand atheremory a Exam e shape base shape procession of shape of the shape of | ayDC essform of sha narten ermal illoys memore ape memore es of | nation ape memory ef site transformatio transformatio ory alloys nemory alloys Shape memory | ntion n y alloys | | | X | 10 |