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| Course Title | Statics | | | | |
| Course Code | MME 125 | | | | |
| Course Type | Compulsory | | | | |
| Level | Undergraduate | | | | |
| Year / Semester | 1 st year / 1 st Semester | | | | |
| Teacher's Name | Theodora Kyratsi | | | | |
| ECTS | 5 | Lectures / week | 3+1 hours | Laboratories / week | 0 |
| Course Purpose and Objectives | The main objective of this course is understanding the equilibrium of rigid bodies. | | | | |
| Learning Outcomes | <ul style="list-style-type: none"> • Replace a given system of forces by a simpler equivalent system. • Solve 3D equilibrium problems of rigid bodies including friction. • Find the centroids and centers of gravity. • Analyze trusses by the methods of joints and sections. • Determine the values of shear force and bending moment along a beam. • Determine the moment of inertia of an area and mass for simple and composite bodies. | | | | |
| Prerequisites | None | Required | None | | |
| Course Content | Moment of a force about a point and a given axis – Replacement of a given system of forces by a simpler equivalent system - Equilibrium 3D problems of rigid bodies - Centroids and centers of gravity - Analysis of Structures – Trusses - Analysis of Trusses by the Method of Joints and Method of Sections – Frames - Equilibrium problems of rigid bodies including friction - Shear Force and Bending Moment – Calculate Moment of inertia of area and mass - Determine the moment of inertia of area and mass for composite bodies. | | | | |
| Teaching Methodology | <ul style="list-style-type: none"> • Lectures and tutorials • Communicative, Collaborative • During the first week of the semester the students receive the course syllabus, which includes the course content, bibliography, learning outcomes, assessment and office hours. | | | | |
| Bibliography | <ul style="list-style-type: none"> • Beer, F.P., E.R. Johnson, D. Mazurek and E.R. Eisenberg, <i>Statics</i>, (Greek translation). TZIOLA. | | | | |
| Assessment | <ul style="list-style-type: none"> • Midterm exam 40% • Final exam 60% | | | | |
| Language | Greek | | | | |