**General Information:**

**Name of Course: Mechanics 1, Statics**

**Course Code:** MSE256AN

**Semester:** 1st

**Number of Credits:** 6

**Allotment of Hours per Week:** Architect program,

3 Practical Lessons + 1 Presentation /Week

Civil engineering program

3 Practical Lessons + 1 Presentation/Week

**Prerequisites: -**

**Instructors: Tamás JUHÁSZ, assistant professor**

Office B312

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juhatom@gmail.com

**Syllabus:**

This course aims at teaching the basics of mechanics and covers the following topics: equilibrium states and conditions of equilibrium; resultant and balance of plane force systems; defining load-bearing structures, their types and loads. This theme is also expanded through the calculation of support reactions, simple hinged structures, loads on structures, calculation of loads, types of structural systems, definition and calculation of internal forces and internal force diagrams, definition of support and internal forces of joint structures, three-joint girders, Gerber girders and compound joint structures. The definition and types of truss is also covered and the forces influencing them.

**Methodology:**

The course is based on individual engineering skills with regular consultations and presentations.

**Schedule:**

The semester is divided into two principle periods and attendant exercises.

The rough outline of the schedule is as follows:

Week 1: Registration, Introduction

Week 2: General Principles, Newton’s Laws, SI system of units

Week 3: Force vectors, vector operations

Week4: Equilibrium of rigid bodies, equations of equilibrium, free-body diagrams

Week5: Equilibrium of simple engineering structures, constraints and statical determinacy

Week6: Simple trusses, method of joints, method of sections, zero-force members

Week7: Break

Week8: Internal forces 1, TEST#1

Week9: Internal forces 2

Week10: Conjoint and complex structures

Week11: Internal forces of conjoint structures

Week12: Geometrical properties of cross-sections, area, centroid

Week13: Geometrical properties of cross-sections, static moment, moment of inertia

Week14: Consultation, TEST#2

Week15: Closing

**Studio Culture:**

The course is based on through collaboration, participation and discussions trough lessons. This is an interaction between Students and Faculty; used the teaching methods like ‘Problem-based learning’ and ‘learning-by-doing’. The communication and work should be reflect a respect for fellow students and their desire to work with regard to noise levels, noxious fumes, etc – from each site of participants.

**Attendance:**

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

**Evaluation + Grading**

Grading will follow the course structure with the following weight: **Midterm tests – 50% (2x25%), –Final exam – 50%.**

Grading Scale:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Numeric Grade: | 5 | 4 | 3 | 2 | 1 |
|  | Outstanding work | High quality work | Satisfactory work | Less than satisfactory work | Unsatisfactory work |
| Evaluation in points: | 89%-100% | 77%-88% | 66%-76% | 55%-65% | 0-54% |

**PTE Grading Policy:**

Information on PTE’s grading policy can be found at the following location:

www.engineeringstudies.net

**Students with Special Needs:**

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

**Readings and Reference Materials:**

* **ENGINEERING MECHANICS STATICS, R.C.Hibbeler ISBN:-13:978-0-13-291554-0**