SYLLABUS

1. Course title:

STATICS

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

Mandatory

6. Prerequisites:

7. Class restrictions:

8. Duration / semester(s):

1 **1**

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)
9.1. Lectures	3		Classes:	56,25
9.2. Seminars	2		Individual work:	123,2
9.3. Laboratory / Practice classes	0		In total:	179,5

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Energy and Thermo-Fluid Engineering, Production Engineering, Mechatronics

12. Lecturer:

dr.sc. Seniha Karić, docent

13. Course aims:

The aim of the course is to transfer knowledge and skills in the field of statics to students. Training to independently solve analytical and graphical problems in the field of interface force systems, general plane and spatial force systems, and beam, truss and frame girders, including friction of contact surfaces.

14. Learning outcomes:

Based on the knowledge acquired while listening to the course, students will be able to calculate tasks from statics using analytical and graphical methods, and draw static diagrams of internal forces and bending moments. Also assess whether the problems are statically determined or indeterminate and solve them as such. The acquired knowledge is necessary for independent solving of tasks in statics, and as a basic prerequisite for studying other subjects in the field of mechanics of rigid and deformable bodies: Kinematics, Dynamics and Oscillation, Strength of Materials and othe

15. Course content:

1. Introduction and basic concepts in statics
2. Vectors, Principles and axioms of statics, Reactions of connections
3. System of interface forces
4. Plane system of forces and couplings
5. Plane systems of forces and couplings continued (Graphostatics)
6. Plane beams (Determination of transferal and axial force and moment of attack on a beam)
7. Plane beams continued (Simple beams)
8. Plane beams continued (Gerber beam, Frame beams)
9. Test 1
10. Plane lattice beams
11. Sliding friction and rolling friction
12. Center of gravity
13. Spatial system of forces
14. Catenaries, Principle of virtual displacements
15. Test 2

16. Learning methods:

Lectures using multimedia tools, active learning techniques and active student participation; Auditory exercises; Preparation and presentation (defense) of individual graphic works. Preparation of assignments

17. Assessment methods:

The methods of knowledge assessment are: tests, assignments, graphic works and final exam. Task tests are a form of continuous assessment in which students solve tasks from certain areas. During the semester, students solve 2 tests. For each test, a student can achieve a maximum of 20 points (minimum 10 points). As part of the pre-exam obligations, the student is required to create an individual graphic work that includes tasks from different areas. For the completed and defended graphic work, the student can achieve 15 points (minimum 7.5 points). For creating tasks and activities in lectures and auditory exercises, the student can achieve a maximum of 5 points. For pre-exam obligations, the student can achieve a maximum of 65 points.
The final exam is taken in writing and (or) orally. The final exam consists of theoretical questions. In order to successfully pass the final exam, the student must achieve a minimum of 15 points. The maximum number of points that a student can achieve on the final exam is 35. The make-up exam is taken in the same way as the final exam. In order to pass the exam, a student must pass the tests, defend the thesis, and achieve a minimum of 54 points. If a student has achieved 54 or more points with pre-exam obligations, he/she is not required to take the final exam.

18. Assessment components:

The grade on the exam is based on the total number of points that the student earned by fulfilling pre-exam obligations and taking the exam, and according to the quality of acquired knowledge and skills, and contains a maximum of 100 points, and is determined according to the following scale:
Obligation of the student points Attendance at lectures and exercises 5
assignments 5 Graphic work 15
Test 1 tasks 20
Test 2 tasks 20

Total pre-examination obligations 65
Final exam 35
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100 total maximum

The point scale for the final grade is:
Rating Descriptive Verbal/Points
5 (five) Does not meet minimum criteria F <54
6 (six) Meets the minimum criteria of E 54-64
7 (seven) Generally good, but with significant flaws D 65-74
8 (eight) Average, with noticeable errors C 75-84
9 (nine) Above average, with some errors B 85-94
10 (ten) Exceptional success without mistakes or with a slight mistake A 95-100

19. Mandatory reading list:

Zaimović Uzunović N. i drugi, (2007) Statika, Zenica
Karabegović I.(2004) Statika. Tehnički fakultet Bihać
Golubović D. Kojić M. Savić R.(1979) Metodička zbirka zadataka iz mehanike-statika

20. Additional reading list:

Petrović M., Zbirka zadataka iz statike, Sarajevo, 2016.

21. Web sources:

22. Applicable from the academic year:

2025/2026

23. Adopted in the Faculty/Academy session: