SYLLABUS

1. Course title:

Physics I

2. Code:

FIZ1

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

that the student approached the final exam it is necessary to previously colloquiums lab

8. Duration / semester:

1 1

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 1

9.3. Laboratory/Practice classes: 1

10. Faculty:

Faculty of Electrical Engineering

11. Department/study program:

Electrical Engineering and Computer Science

12. Lecturer:

PhD Izet Gazdić, associate prof.

13. Lecturer's e-mail:

izet.gazdic@untz.ba

14. Web site:

www.pmf.untz.ba

15. Course aims:

To introduce students to the basic laws of physics expressed in vector and analytical form, develop the ability to analyze physical problems and solving physical tasks, to develop the capacity of a clear and concise written and verbal description of complex physical problems, develop the capacity of experimental tests occurrence and processing of the measurement results.

16. Learning outcomes:

At the end of the semester / course successful students, who during the entire period of teaching continuously perform their duties, will be able to:
understand the basic laws of mechanics and thermodynamics, have the ability to analyze physical problems and solving physical tasks, as well as the ability to review and clear writing a report on the experimental testing.

17. Course content:

Lectures include 8 sections:
1. Physical basis of kinematics, 2. Newton's laws in inertial and non inertial systems, 3. Work, power and energy, 4. Rotary motion of a rigid body, 5. Gravity, 6. Fluid statics and dynamics, 7. Heat appearance, 8. Thermodynamics.
On Exercises solved computational tasks set out in those chapters. It is anticipated that students in laboratory experimental method do the following exercise:
1. Determine the acceleration due to gravity mathematical pendulum, 2. Determine the coefficient of viscosity of fluid Stokes method, 3. Determine the density of solid and liquid bodies method pycnometer, 4. Determine the density of liquid body with a hydrometer, 5. Determination of density of solids using force pushes liquid, 6. Determination of Young's modulus of elasticity of the material one wire, 7. Determination of torsion wire, 8. Experimental determination of the moment of inertia of the body by means of torsion pendulum, 9. Determination of surface tension method breakout ring, 10. Determination of surface tension of liquids using the burette, 11. Determination of coefficient of surface tension of liquids using a capillary tube, 12. Determining the speed of sound in metal using Kundt's tube, 13. Determining the frequency of the sound source using air column resonance, 14. Determination of specific heat capacity of lead pellets, 15. Determination of specific heat capacity of water using a calorimeter with a stationary during.

18. Learning methods:

The most significant learning methods to be applied in this case are:
- Lectures using multimedia means, and active learning techniques with the active participation and discussion of students;
Theoretical exercises (calculation problem solving) with the use of logical-mathematical learning styles and specific knowledge and experience,
An experimental exercise, experimental preparation with constant activity observation and consideration, and the creation of abstract concepts by the active experimentation.

19. Assessment methods:

Laboratory exercises: In the eighth and fifteenth week of organizing a written assessment of practical exercises performed.
Partial exams: First term exam is organized after the seventh, the second after the fourteenth week of lectures and include material from that period.
Final exam: The final exam is organized at the end of the lecture and covers the entire material provided syllabus. On examination, the theory checks and tasks.
Pre exam duties include lab and first and second partial exam and were evaluated with 50%. In order for the student to pass this obligation is necessary to have at least 25%. If he won less points (percent), the student takes an integrated written exam that includes tasks from the first and second partial exam. If you won 25% and more students coming to the oral exam.

20. Assessment components:

Rating exam is based on the total number of points a student earned by completing pre-exam requirements and exams, according to the quality of the acquired knowledge and skills, and contains a maximum of 100 points, and is determined according to the following scale:

Student's obligations:	Score (%)
Laboratory exercises	6
The first partial exam	22
The second partial exam	22
Total prerequisites given	50
Final exam	50
Total	100 (%)

21. Required reading list:

1. Izet Gazdić, Physics 1, University textbook, Tuzla, 2014,
2. P. Kulišić, Mechanics and heat, School books, Zagreb, 2000,
3. V. Vucić, D. Ivanovic: Physics 1, Scientific Book, Belgrade, 1998,
4. G. Dimić, Problems in Physics, Belgrade,
5. R. Fazlic, H. Smailhodžić, Z. Hadžibegović Problems in Physics, Tuzla 1995,
6. R.Fazlić, A.Kasumović, Practical laboratory exercises in Physics 1, Tuzla, 2008.

22. Web sources:

All references that follow the education provided for the authorities provided for in this plan.

23. Applicable starting from the academic year:

2016/2017

24. Adopted in the Faculty/Academy session:

04.04.2016