|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subject** | **Physics for Food Science** | | | |
| Type | Semester | ECTS | Code |
| Obligatory (O) | 2 | 5 | 130PFS153 |
| **Course Lecturer** | PhD. Isak Aliji | | | |
| **Course Assistant** | PhD. Cand. Burim Uka | | | |
| **Course Tutor** |  | | | |
| **Aims and Objectives** | The purpose of this course for students is to have the ability to describe physical p explain that many physical phenomena can be clarified based on the particle structure of the substance, to apply the knowledge gained to measure different physical quantities problem of practical tasks from everyday life | | | |
| **Learning Outcomes** | During this course, students will be able to:   * To understand physics quantities and measurements. * Possess the material from the field of mechanics, fluid mechanics, * To understand motion, Newton’s Laws and Waves * To understand thermodynamics, ideal gases and molecular processes * To describe elementary concepts of Oscillations | | | |
| **Course Contents** | **Course Plan/ Weekly plan** | | | ***Week*** |
| INTRODUCTION - Quantities of Physics and measurements | | | 1 |
| PHYSICAL BASIS OF MECHANICS - Kinematics of material point, rectilinear movements , lëvizjet drejtvizore.  Aktiviteti i joneve, koficienti i aktivitetit. | | | 2 |
| MOTION IN TWO AND THREE DIMENSIONS – Projectile motion, circular motion | | | 3 |
| MECHANICS’ LAWS – Newton’s laws, Gravitation, Field of Gravitation | | | 4 |
| WORK AND ENERGY – work, energy, potential of gravitational field, power, collisions. | | | 5 |
| RIGID BODY MOTION – Rotating of Rigid Body, torque, moment of inertia, angular momentum. | | | 6 |
| First Colloquium | | | 7 |
| FLUID MECHANICS– Characteristics of Liquids, Liquid pressure, Hydrostatic pressure, Manometers, Pascal’s and Archimedes law. Fluid’s flow, equation of continuity, Bernoulli’s equation and its applications, Laminar and turbulent flow of real liquids | | | 8 |
| THE KINETIC THEORY OF GASES– Avogadro’s number, Equation of Ideal Gas, Work at the isothermal process | | | 9 |
| THERMODYNAMICS PRINCIPLES – Work and Heat, First law of thermodynamics, Second law of Thermodynamics, Carnot Cycle, Efficiency of thermal machines, Work cycle of a Refrigerator. | | | 10 |
| MOLECULAR PROCESSES IN LIQUIDS – Molecular Forces, Surface  Tension, Capillarity, Laplace’s Formula | | | 11 |
| MECHANICAL OSCILATIONS – Simple harmonic motion, Period and frequency of simple harmonic motion, simple pendulum. | | | 12 |
| MECHANICAL WAVES – Speed of wave diffusion, wave equation | | | 13 |
| Second Colloquium | | | 14 |
|  | Final Test | | | 15 |
| **Literature** | - L. Istrefi . Fizika, Tetovë, 2006  - Q. Kamberi, Fizika e përgjithshme, Prishtinë, 1998 | | | |
| **Contact** | Isak Aliji, [isak.aliji@ubt-uni.net](mailto:isak.aliji@ubt-uni.net) | | | |