

Course Unit	Physics		Field of study	Physics	
Bachelor in	Oenology		School	School of Agriculture	
Academic Year	2022/2023	Year of study	1	Level	1-1
Type	Semestral	Semester	2	ECTS credits	6.0
Code	9998-705-1201-00-22				
Workload (hours)	162	Contact hours	T 30	TP 30	PL -
			TC -	S -	E -
			OT 4	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Felícia Maria Silva Fonseca

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

Have a fulfillment understanding of some domains of Physics science; Recognize the importance of learning outcomes through academic life.

Prerequisites

Before the course unit the learner is expected to be able to:

Apply knowledge of: Trigonometry; Resolution of equation's systems; Differentiation and Integration.

Course contents

Mechanics; Thermodynamics; Fluid Mechanics.

Course contents (extended version)

1. Mechanics
 - Physical Quantities; Standards and Units
 - Vectorial Algebra
 - Kinematics
 - Dynamics
 - Static
 - Work and Energy
2. Thermodynamics
 - Thermodynamics Systems
 - Kinetic Theory
 - Zero Law of Thermodynamics
 - First Law
 - Thermodynamic's Transformations/Specific Heat
 - Second Law
 - Third Law
 - Entropy
3. Fluids
 - Physical properties
 - Fundamental Equation of Hydrostatics
 - Archimedes's Principle
 - Pascal's Principle
 - Equation of Continuity
 - Bernoulli's Equation
 - Laminar and Turbulent flow

Recommended reading

1. Alonso, M. , Finn, E. J. , 1999. Física. Addison-Wesley.
2. Haliday D. , Resnick R. , Walker, J. , 2012. Fundamentos de Física. Volume 1, 2 e 3 9ª Edição, GEN.
3. Aparentamentos elaborados pelos docentes da UC.

Teaching and learning methods

Theoretical knowledge is accomplished by expositive method, using: blackboard, transparencies or data-show. At two ours classes, that aren't laboratorial, lessons are performed, in which, students learn strategies to solve exercises, and, they must participate on discussion about the best way how to get a solution.

Assessment methods

1. With mid-term evaluation - (Regular, Student Worker) (Final)
 - Intermediate Written Test - 50% (Corresponds to 3. 0 ECTS.)
 - Final Written Exam - 50% (Corresponds to 3. 0 ECTS.)
2. Evaluation in final exam - (Regular, Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 100% (Corresponds to 6. 0 ECTS.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Felícia Maria Silva Fonseca	Amílcar Manuel Lopes António	António Castro Ribeiro	Maria Sameiro Ferreira Patrício
06-12-2022	06-12-2022	19-12-2022	19-12-2022