
COURSE: GENERAL PHYSICS

ACADEMIC YEAR: 2017-2018

TYPE OF EDUCATIONAL ACTIVITY: Basic

TEACHER: Prof. Nicola Cavallo

e-mail: nicola.cavallo@unibas.itwebsite: <http://oldwww.unibas.it/utenti/cavallo/home.htm>

phone: **971206066**mobile (optional):

Language: **ITALIAN**

ECTS: **8** (lessons e
tutorials/practice)n. of hours: **68** (lessons e
tutorials/practice)Campus: **Potenza**Dept./School: **Dipartimento di****Scienze**Program: **CdS Biotecnologie**Semester: **II****(from 5 March 2018 to****31 June 2018)**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

- The course aims to provide the fundamentals of classical kinematics, thermodynamics and electromagnetism. The students will learn the fundamental laws of electric and magnetic phenomena, described by means of an adequate mathematical formalism.
- The students will also be able to solve numerical problems on the topics presented in the lectures

PRE-REQUIREMENTS

- none
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SYLLABUS

- **Introduction: Why Physics is important**
 - **Measurement**
 - **Vectors**
 - **Motion Along a Straight Line**
 - **Motion in Two & Three Dimensions**
 - **Force and Motion**
 - **Kinetic Energy & Work**
 - **Potential Energy & Conservation of Energy**
 - **Systems of Particles and Collisions**
 - **Rotation, Torque & Angular Momentum**
 - **Equilibrium & Elasticity**
 - **Biomechanics**
 - **Fluids**
 - **Temperature, Heat & the First Law**
 - **The Kinetic Theory of Gases**
 - **Entropy & the Second Law**
 - **Thermodynamics of biological systems**
 - **Diffusion and Osmosis**
 - **Electric Charge**
 - **Electric Fields**
 - **Gauss' Law**
 - **Electric Potential**
 - **Capacitance**
 - **Current & Resistance**
 - **DC Circuits**
 - **Magnetic Fields**
 - **Magnetic Fields due to Currents**
 - **Induction & Inductance**
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TEACHING METHODS

- Theoretical lessons

EVALUATION METHODS

- Written Test & Oral Exam

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Textbook: Domenico Scannicchio - Fisica Biomedica (terza edizione), Casa Editrice EdiSES

INTERACTION WITH STUDENTS

- Thursday, 10:30-11:30 - (Campus di Macchia Romana, Building 3D, 1° floor, room n.94b)

EXAMINATION SESSIONS (FORECAST) ¹

- 9 January 2018
- 30 January 2018
- 28 June 2018
- 19 July 2018
- 6 September 2018
- 2 October 2018
- 11 December 2018

SEMINARS BY EXTERNAL EXPERTS

- None

FURTHER INFORMATION
