



## APPLIED BIOLOGY AND PHYSIOLOGY

<b>Enrollment year</b>	2020/2021
<b>Academic year</b>	2020/2021
<b>Regulations</b>	DM270
<b>Department</b>	DEPARTMENT OF ELECTRICAL, COMPUTER AND BIOMEDICAL ENGINEERING
<b>Course</b>	BIOENGINEERING
<b>Curriculum</b>	Sensoristica e strumentazione biomedica
<b>Year of study</b>	1°
<b>Period</b>	1st semester (28/09/2020 - 22/01/2021)
<b>ECTS</b>	6
<b>Language</b>	Italian

The activity is split

500134 - **GENERAL BIOLOGY**

503184 - **APPLIED PHYSIOLOGY**



### GENERAL BIOLOGY

<b>Enrollment year</b>	2020/2021
<b>Academic year</b>	2020/2021
<b>Regulations</b>	DM270
<b>Academic discipline</b>	BIO/06 (COMPARATIVE ANATOMY AND CYTOLOGY)
<b>Department</b>	DEPARTMENT OF ELECTRICAL, COMPUTER AND BIOMEDICAL ENGINEERING
<b>Course</b>	BIOENGINEERING
<b>Curriculum</b>	Sensoristica e strumentazione biomedica
<b>Year of study</b>	1°
<b>Period</b>	(28/09/2020 - 22/01/2021)
<b>ECTS</b>	3
<b>Lesson hours</b>	23 lesson hours
<b>Language</b>	Italian
<b>Activity type</b>	ORAL TEST
<b>Teacher</b>	REBUZZINI PAOLA - 3 ECTS
<b>Prerequisites</b>	
<b>Learning outcomes</b>	The course consists of two modules, both conducted in the first half year. The module of General Biology precedes that of Human Genetics.
<b>Course contents</b>	<p>The module aims to provide the basic principles of human genetics.</p> <p>Module of Cell Biology The objective of this module is to provide the basis of structure and function of cells. The course focused on the characteristics of cells.</p> <p>Structure of the eukaryotic cell: relation between form and function. Plasma membrane. Structure and function of cellular organelles: the vacuolar apparatus (nuclear envelope, rough and smooth endoplasmic reticulum, Golgi</p>

	<p>apparatus, lysosomes), mitochondria, cytoskeleton.</p> <p>Brief introduction on tissues.</p>
<b>Teaching methods</b>	<p>Lectures (hours/year in lecture theatre): 23  Practical class (hours/year in lecture theatre): 0  Practicals / Workshops (hours/year in lecture theatre): 0</p>
<b>Reccomended or required readings</b>	<p>Colombo e Olmo: BIOLOGIA -CELLULA E TESSUTI. EdiErmes</p>
<b>Assessment methods</b>	<p>Oral exam.</p>
<b>Further information</b>	
<b>Sustainable development goals - Agenda 2030</b>	<p><a href="#">\$lbl_legenda_sviluppo_sostenibile</a></p>



APPLIED PHYSIOLOGY	
<b>Enrollment year</b>	2020/2021
<b>Academic year</b>	2020/2021
<b>Regulations</b>	DM270
<b>Academic discipline</b>	BIO/09 (PHYSIOLOGY)
<b>Department</b>	DEPARTMENT OF ELECTRICAL, COMPUTER AND BIOMEDICAL ENGINEERING
<b>Course</b>	BIOENGINEERING
<b>Curriculum</b>	Sensoristica e strumentazione biomedica
<b>Year of study</b>	1°
<b>Period</b>	(28/09/2020 - 22/01/2021)
<b>ECTS</b>	3
<b>Lesson hours</b>	23 lesson hours
<b>Language</b>	Italian
<b>Activity type</b>	WRITTEN AND ORAL TEST
<b>Teacher</b>	MOCCIA FRANCESCO (titolare) - 3 ECTS
<b>Prerequisites</b>	An adequate knowledge of general physiology, biochemistry, physics and mathematics is required.
<b>Learning outcomes</b>	The course aims at providing deeper insights into the role of ion channels in sensory physiology and at describing the possible therapeutic applications of ion channel physiology: e.g. optogenetics and optoceutics.
<b>Course contents</b>	Membrane physiology: signal transduction and ion channels. Optogenetics. Sensory physiology and TRP channels. Functional applications of TRP channels: optoceutics. Ca <sup>2+</sup> signaling and functional applications of Ca <sup>2+</sup> signaling in cell physiology.
<b>Teaching methods</b>	Frontal lectures.

**Reccomended or required  
readings**

Fisiologia e Biofisica delle Cellule - Taglietti e Casella, plus material provided by the teacher.



Oral examination.



**Further information**

No more information.



