



## 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	
Enrollment year	2020/2021
Academic year	2020/2021
Regulations	DM270
Academic discipline	BIO/09 (PHYSIOLOGY)
Department	DEPARTMENT OF ELECTRICAL, COMPUTER AND BIOMEDICAL ENGINEERING
Course	BIOENGINEERING
Curriculum	Sensoristica e strumentazione biomedica
Year of study	1°
Period	(28/09/2020 - 22/01/2021)
ECTS	3
Lesson hours	23 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	MOCCIA FRANCESCO (titolare) - 3 ECTS
Prerequisites	An adequate knowledge of general physiology, biochemistry, physics and mathematics is required.
Learning outcomes	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.
Course contents	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.
Teaching methods	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.



