

ACADEMIC YEAR: **2018-2019**COURSE: **SENSORI E METODOLOGIE ANALITICHE AVANZATE  
(Sensors and advanced analytical methodologies)**TYPE OF EDUCATIONAL ACTIVITY: **Characterizing**TEACHER : Prof. Dr. **Antonio Guerrieri**e-mail: **antonio.guerrieri@unibas.it**Web site:  
<http://docenti.unibas.it/site/home/docente.html?m=000966>phone : **0971/205460**

Mobile phone:

Language : **ITALIAN**

ETCS: <b>8</b> (6 lessons /2 practical lab activities)	n. of hours: <b>72</b> (48 for lessons and 24 for practical lab activities)	Campus: <b>Potenza</b> Dept: <b>Dipartimento di Scienze</b> CdS: <b>Laurea Magistrale in Biotecnologie per la Diagnostica Medica, Farmaceutica e Veterinaria (LM9)</b>	Semester: <b>II</b> (tentatively, from 01/03/2019 to 31/05/2019-20/06/2019, exact dates to be defined)
---	--	--	---

**EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES**

This unit is focused on the up to date analytical instrumentation. Main topics should include electrochemical biosensors, array sensors and QCM. Development and analytical characterization of novel devices for diagnostics and their application for real sample analysis.

**PRE-REQUIREMENTS**

- ✓ **attendance of lectures: HIGHLY suggested**
- ✓ **attendance of lab activities: COMPULSORY**
- ✓ **preparatory exams: Biologia Molecolare Avanzata (BIO/11)**

**SYLLABUS**

**Sensors. Electrochemical sensors. Biosensors. Microgravimetric sensors. Sensor arrays.**

**Biomolecules, microbes, cells and tissues as signal transducers in biosensors: principles of actions, kinetics of signal transduction.**

**Surface modifications in sensor and enzyme immobilization.**

**Immobilised enzyme biosensors. Immunosensors. Genosensors. Quartz crystal microbalance as novel sensors.**

**TEACHING METHODS**

- **Lectures and Practical Lab. Activities**

**EVALUATION METHODS**

**oral examination with discussion about lab activities**

**TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL**

**lecture notes; lesson slides; lab activity notes**

**INTERACTION WITH STUDENTS**

**Conventional approaches (e.g. student welcome) as well as internet ones (e.g. email) for discussions and deepening of lectures and lab activities.**

**TIMETABLE FOR STUDENT WELCOME**

<i>DAY</i>	<i>FROM</i>	<i>TO</i>	<i>LOCATION</i>
MONDAY	17.30	20.30	Professor Office
TUESDAY	17.30	20.30	Professor Office
WEDSNEDAY	18.00	20.30	Professor Office
THURSDAY	16.00	18.00	Professor Office

**CALLS FOR EXAMINATION** (exact dates to be defined)

<b>Month</b>	<b>Year</b>	<b>Expected Call</b>
February	2019	Not expected
March	2019	Not expected
June	2019	Not expected
July	2019	17
September	2019	25
October	2019	23
December	2019	18

## EXAMINATION PANEL:

President: **prof. dr. Antonio Guerrieri**Member: **prof.ssa Anna Maria Salvi**Member: **dr.ssa Rosanna Ciriello**Member: **dr.ssa Giuliana Bianco**Member: **dr. Fausto Langerame**SEMINARS BY EXTERNAL EXPERTS YES  NO 

## FURTHER INFORMATION

