



UNIVERSITY OF CAGLIARI
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
MASTER DEGREE IN ELECTRONIC ENGINEERING

Biosensors and Bioelectronics

EXAM MODALITIES

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Scheduling

- June 26th, 2026, 3pm;
- July 17th, 2026, 3pm;
- July 31st, 2026, 10am;
- September 7th, 2026, 10am.
- All exams will be held in the **meeting room (Building M)**. Modifications will be communicated by e-mail to the interested students.
- Re-scheduling is possible (according to my agenda).

Exam Modality # 1 – Questions on...

- 01 – Basic Concepts in Chemistry
- 02 – Introduction to Biosensors
- 03 – The Measurement Environment;
- 04 – Biomolecules for Biosensing;
- 05 – Realization of the Receptor Layer;
- 06 – Kinetics of Bioreactions;
- 07 – Optical Biosensors;
- 08 – Mechanical Biosensors;
- 09 – Electrochemical Biosensors
 - a)- Basics Concepts in Electrochemistry;
 - b): Electrochemical techniques for biosensing;
- 10 – Electronic Biosensors;
- 11 – Cell Electrophysiology and Measurements;
- 12 –Biopotentials;

Everything in
bold is part of the
exam!

Exam Modality #2: BnB project

- A group project will be assigned, to be carried out using the simulator «BiosensorLab2» on the NanoHub platform.
- Each group will be asked to produce a report, in the same form of the one of classroom excersises.
- A mark (/30) will be assigned to the report, according to **given criteria (slide 6)**. After revision of the report, I may propose you to improve the mark by applying some corrections (it will be your choice).
- Oral with one question about the project, and some questions on a limited part of the program (see next slides)
- **Rules:**
 - 2/3 people/group (individual projects may be assigned in case of proper justifications);
 - You can give the oral part whenever you want, but the deadline for giving the exam (project+oral): **February 2027**.
 - If the oral exam is failed, the project will be vain → **pass to the complete oral**;
 - The mark of the oral can be declined **once**.

Exam Modality #2: BnB project

Exam Schedule	First version due to	Correction sent within	Final version due to
June, 26 th	June, 19 th	June, 22 nd	June, 24 th
July, 17 th	July, 10 th	July, 13 th	July, 15 th
July, 31 st	July, 24 th	July, 27 th	July, 29 th
September, 7 th	August, 31 st	September, 2 nd	September, 4 th
January 2027 (TBD)	One week before scheduled exam	Two days after receiving of the first version	Two days before the scheduled exam.
February 2027 (TBD)			
February 2027 (TBD)			

Exam Modality # 2 - Report evaluation

- **Introduction:** this section must provide a good insight on the topic under analysis and introducing to the scope of the project (3pt).
- **Results and discussion:**
 - Is data extrapolation from provided plot correctly performed and well explained? (6pt);
 - Are reported figures clear and complete? (readable labels, axis and legends, caption clarity) (6pt);
 - Is data analysis (description of obtained result) clear and complete? (9 pt)
- **Conclusions:** this section must correctly summarize result and provide further considerations about obtained data (6pt).

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 - **a)- Basics Concepts in Electrochemistry;**
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- **11 – Cell Electrophysiology and Measurements;**
- 12 – Biopotentials;

Everything in
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Chosing the exam modality

- Send an e-mail to stefano.lai@unica.it within **May, 28th 2026** to express your favorite modality.
- Texts for projects will be send within June, 3rd
- For groups: a spokesman must send the e-mail, providing name, surname and ID of all members.
- **If the e-mail will be not send, only oral exam will be allowed.**