## BIOMEDICAL WEARABLE TECHNOLOGIES FOR HEALTHCARE AND WELLBEING

**Information about the examination modality**

Exam composition and grade

The exam is composed by two independent mandatory parts:
1. Written test
2. Project preparation and discussion

The written test will be graded on a scale from 0 to 20.
The project preparation and discussion will be graded on a scale from 0 to 12.

The final grade will be the sum of the two grades, where 31 and 32 will correspond to 30L.

The exam will be considered passed when the written test is passed with at least 12/20 and the overall final grade is at least 18/30.

Written exam description

*Written exam details and grading*

The written exam will last 90 minutes and will consists of a mix of open and closed questions: up to 3 open questions + 15 closed questions.
The questions will focus only on the course content that will be presented during the "theory" lessons.

The written exam will be graded on a scale from 0 to 20.

You can retake the written exam as many times as you wish. The final grade will be based on the most recent exam submitted for evaluation.

This means that the following scenarios apply:
- You take the first exam attempt and you get 18/20. 18/20 will be considered as the written exam grade.
- You take the first exam attempt and you get 16/20. You decide to try the second attempt to improve the result. You get 18/20. 18/20 will be considered as the written exam grade.
- You take the first exam attempt and you get 16/20. You decide to try the second attempt to improve the result. You get 13/20. 13/20 will be considered as the written exam grade.
- You take the first exam attempt and you get 16/20. You decide to try the second attempt to improve the result. At the exam, you realize that you do not know the answers and you decide to withdraw. 16/20 will be still considered as the written exam grade.

*Written exam dates*

- First attempt: 27/06/2025 - 14:00 – Room Ae
- Second attempt: 14/07/2025 – 14:00 – Room Ae
- Third attempt: 27/08/2025 – 14:00 – Room De
- Fourth attempt: 02/02/2026 – 14:00 – Room De

Note: by "First attempt" I mean the italian "Primo appello", i.e., the first attempt at passing the exam, by "Second attempt" I mean the italian "Secondo appello" and so on.

## Project description

*Project rationale*

This course is characterized by a strong practical part, where you will learn to develop autonomously a mobile app able to fetch health data from Web APIs and leverage those data to develop some functionalities that can potentially target both healthy subjects and/or sick patients.

*Project details and grading*

You will be asked to divide into groups of 3 people, and each group will build an app that collects user health data from a wearable device through Web APIs, visualizes them, and does some tricks with them.

To be successful the mobile app must:
- Implement the following core functionalities:
    - Correct app flow
    - User authentication and management
    - Data collection
    - Data visualization and presentation
- Implement some original functionalities that leverage the health data at hand → This is up to your fantasy!
- Be the result of some quality teamwork

The following (weighted) criteria will be considered for grading the project work,
- Core functionalities (weight = 50%)
- Additional "original" functionalities (weight = 45%)
- Quality of the teamwork (weight = 5%)

*Project code delivery*

Project code must be delivered by 13/07/2025, and no later than the day before the discussion.

The project discussion can be done during two possible time windows:

- Window #1: from 30/06/2025 to 25/07/2025
- Window #2: from 25/08/2025 to 19/09/2025

This means that the following representative scenarios are valid:
- Code delivered on 29/06/2025, Project discussion on 30/06/2025 or later (up to 19/09/2025)
- Code delivered on 10/06/2025, Project discussion on 03/07/2025 or later (up to 19/09/2025)
- Code delivered on 13/07/2025, Project discussion on 21/07/2025 or later (up to 19/09/2025)
- Code delivered on 13/07/2025, Project discussion on 25/08/2025 or later (up to 19/09/2025)

Project code must be delivered in the form of a valid GitHub repository link sent using the elearning system (detailed instructions on how to deliver the project will be provided by the end of the course).

I will evaluate the last commit in the master (or main) branch dated before the project delivery timestamp. Commits dated after the project delivery timestamp will not be considered. Students that will try to discuss code that is newer to such timestamp will be strongly penalized.

*Project discussion*

The project discussion will consist of a 25 min presentation of the project (15 overall presentation of the functionalities + 10 min demo) + 20 min Q&A.

The project will be discussed/presented in dedicated slots (dates will be provided later during the course). Anyway, the projects must be discussed in one of the two indicated windows even if you plan to take the written exam in the third session or you want to retake the written exam.

The members of the group must discuss the project together in the same slot.

The project discussion grade will be valid for the entire academic year.

It won't be possible to re-discuss the project.

*Group composition*

Groups must be composed of 3 people.

You can enroll your group in dedicated lists available in the course elearning page until the end of March.
If, at the end of the enrollment period, (first of April) two or more groups are composed by less than 3 people, the teacher will reserve the right to reallocate those people.