

# BIOMEDICAL WEARABLE TECHNOLOGIES FOR HEALTHCARE AND WELLBEING

## Information about the examination modality

### Exam composition and grade

The exam is composed by two independent parts:

1. Written test
2. Project preparation and discussion

The written test will be graded using the usual 30L/30 scale.

The project preparation and discussion are mandatory.

The final grade will use the result of the written test as starting point and will account for the result of the project preparation and discussion.

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

### Written exam description

#### *Exam details*

The written exam will last around 90 minutes and will consists of a mix of open and closed questions: up to 3 open questions + up to 15 closed questions.

The questions will focus on the course content that will be presented during the “theory” lessons.

#### *Exam dates*

- First exam session: 17/06/2022
- Second exam session: 06/07/2022
- Third exam session: 01/09/2022
- Fourth exam session: 30/01/2023

Note: by “First session” we mean the italian “Primo appello”, i.e., the first attempt at passing the exam, by “Second session” we 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 and leverage those data to develop some functionalities that can potentially target both healthy subjects and sick patients.

### *Project details and grading*

For this reason, you will be asked to divide into groups of 3 people, and each group will build an app for iOS or Android that collects user data from a wearable device through Web APIs, stores them, visualizes them, and does some tricks with them.

To be successful the mobile app must:

- Implement the following core functionalities:
  - User authentication and management
  - Data collection
  - Data persistence
  - Data visualization and presentation
- Implement some additional functionalities → Up to your fantasy!
- Be the result of some quality teamwork evaluated both during the discussion and by inspecting the working tree of your project (GIT history and Code organization).

In particular the following (weighted) criteria will be taken into account for grading the project work,

- Core functionalities (weight = 60%)
- Additional functionalities (weight = 30%)
- Quality of the teamwork (weight = 10%)

### *Project code delivery*

Project code must be delivered by the end of June (30/06/2022), and no later than 1 week before the date of the project discussion. In any case the project discussion must be done no later than the end of the summer exam session, i.e. 23/07/2022. This means that the following representative scenarios are valid:

- Code delivered on 30/06/2022, Project discussion on 07/07/2022 or later (up to 23/07/2022)
- Code delivered on 10/06/2022, Project discussion on 17/06/2022 or later (up to 23/07/2022)

Project code must be delivered in the form of a GitHub repository link sent to both the teachers via mail:

- [martina.vettoretti@unipd.it](mailto:martina.vettoretti@unipd.it)
- [giacomo.cappon@unipd.it](mailto:giacomo.cappon@unipd.it)

We will evaluate the last project commit in the master (or main) branch dated before the mail timestamp. Commits dated after the mail timestamp will not be considered.

### *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 by the end of the summer session (23/07/2022) 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 2021/2022 A.Y.

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

### *Group composition*

Groups must be composed of exactly 3 people.

You can enroll your group in dedicated lists available in the course Elearning page until the end of March (31/03/2022).

If no more lists will be available at some point, simply write to us and we will open some more lists.

If, at the end of the enrollment period, (01/04/2022) one or more groups are composed by less than 3 people, the teacher will reserve the right to reallocate those people into other groups so that it will be possible that, at the end, up to 2 groups will be composed of 4 people.