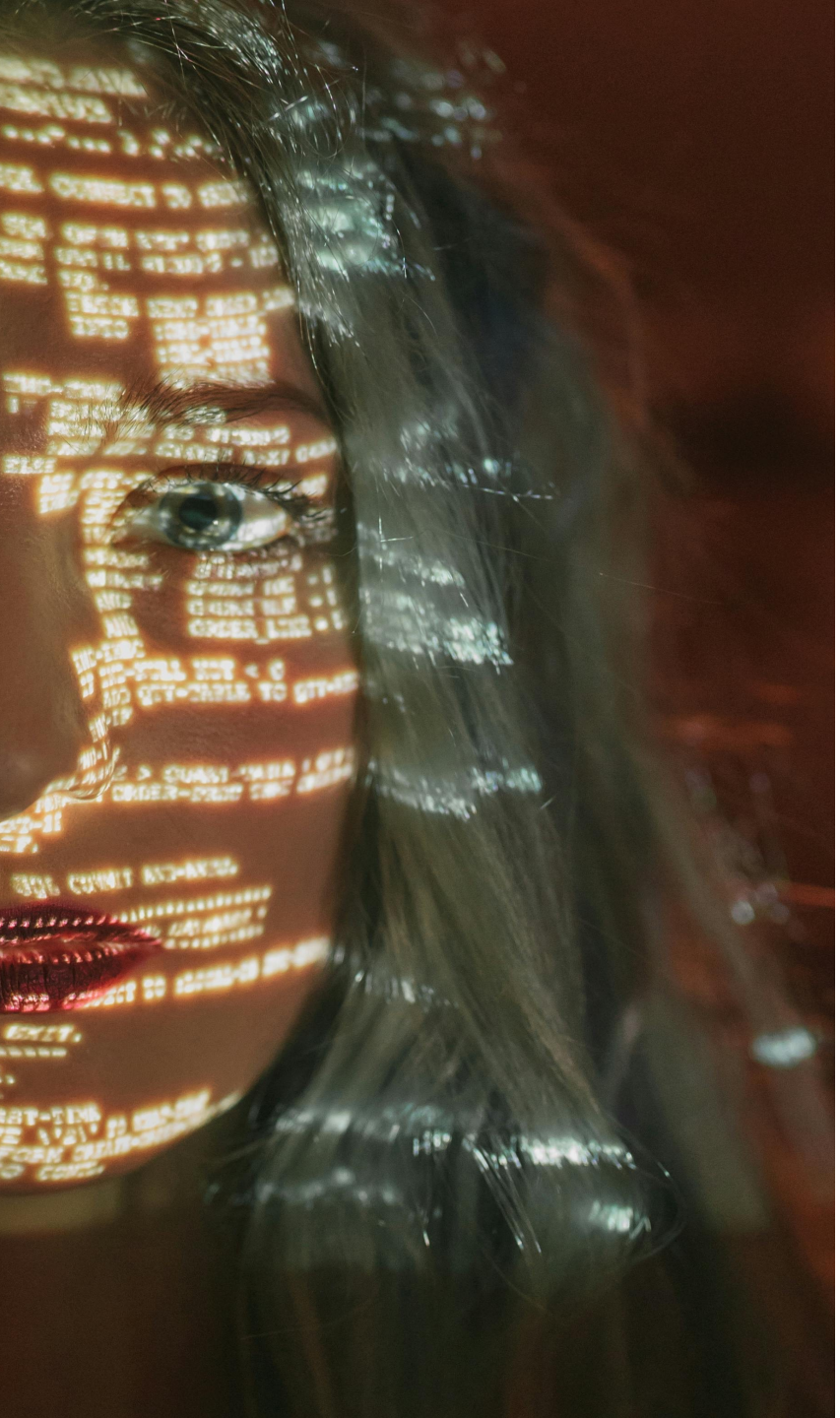


Introduction to Web Applications

Course introduction

Juan Pablo Sáenz

Goals

- Understand the fundamental concepts of **web architectures** and the **protocols** in use.
- Use the main **web technologies** (HTML, CSS, JavaScript) and apply them to **real-world scenarios**.
- Apply basic knowledge of a **Python framework** to develop web applications.
- **Develop a complete, medium-complexity web application** that is **usable** and **accessible**.

Topics overview

Web Design and **Visual Design**

Web **Architectures**

HTML5

CSS3

DOM Manipulation

Flask Framework

Database integration

Sessions and User Authentication

Course Structure

👨‍🏫 Lectures

Duration: 4.5 hours per week

- **Monday, 11:30 - 13:00, Room R3B**
- **Tuesday, 8:30 - 11:00, Room 1S**
- **Format**:
  - Interactive
  - Lectures + exercises (mixed format)
  - Recorded sessions

🧪 Labs

Duration: 1.5 ore/settimana

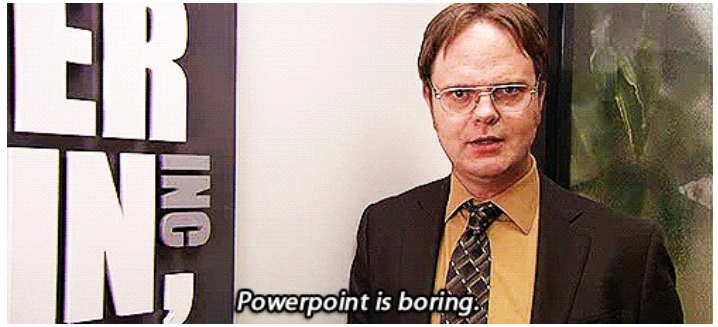
- **Friday, Room 11T**
- **Two groups**

  14:30 - 16:00

  16:00 - 17:30

⚠️ This week (27/02) there will be a **lecture** instead of the **lab session**

👨‍🏫 Lectures



Are held **on campus** in classrooms equipped with power outlets at each desk

First part: theoretical concepts with slides and code examples.

Second part: incremental, collaborative development of an application throughout the semester.

💻 **Please bring your laptop** to follow the examples and complete the exercises!

📹 The sessions will be **recorded** and made available on **YouTube** shortly after each class

🧪 Labs

- The **lab assignment** will be published on the course website a few days in advance.
- It concerns the concepts covered in class to add new features to an application that will be developed throughout the semester.
- **Solutions** will be available on GitHub one week later.
- Everyone works on their computer, but collaboration is allowed, and strongly encouraged!

💻 **Bring your laptop**

⚠️ **From March 6, 2026, in Room 11T**

🧪 Labs

🕰️ Two groups

- **14:30** to **16:00**
- **16:00** to **17:30**

⚠️ **By February 27 at midnight**, please indicate your **preferred lab group**

https://forms.gle/akJkDLeQcMGQ4Yha7

Materials

Official website:

- https://elite.polito.it/teaching/01vrp-iwa
- 🗒️ **Schedule** of lectures and labs, 🔗 links to the **slides**, **exercise sheets**, **code** developed in class, and **lab solutions**.
- **Exam materials**.

Video recordings (lectures only)

- YouTube: https://www.youtube.com/playlist?list=PLMlQI4dIf78UbaZTAvMqYO5gtLXP2JBbE

Repository Github

- https://github.com/polito-iwa-2026/material: contains all the course materials.

Communications

We will use **Telegram** for quick communications.

Topics:

- **Announcements:** Updates, reminders, and official information.
- **Questions and Answers:** For questions and feedback.
- **Temporary Topics:** For each exam session.

Private conversations can be held via direct messages.

Office hours

- Available to individuals or groups to discuss course needs, issues, or questions.
- An opportunity to go deeper into particular topics.

📅 **When:** Wednesday 16:00-17:00 (by appointment)

📍 **Where:** In my office

☝🏼 **Booking:** Please notify me at least one day in advance

Exam

👩🏻‍💻 Web application development

- Using HTML, CSS, Python, Flask, and SQLite.
- **Individual project**
- 20 days to complete (after the specifications are published)

🗣️ Oral examination

- **Mandatory and individual**
- On the exam day (or starting from that day)
- Live project review (~**25 minutes**)
- Verification of the project's functionality against the specifications and code review
- Questions about design and implementation choices

🗣️ Oral examination

Goal

- Ensure that each student has developed the project **independently** (on their own).
- Assess the student's ability to clearly **explain the exact behavior of their code**.

Evaluation criteria

- Practical and theoretical knowledge of the design of the submitted web application.
- Practical and theoretical knowledge of the web application's code.
- Promptness and clarity in answering questions.

Final Project – Bachelor's Degree in Computing Engineering

- Is linked to a **third-year course**
- It usually consists of an additional question during the exam, or another assessment method

How will it work in our course?

- It will be assessed in a **practical way**, together with the final project submission
- It will consist of either an **additional feature**, the **integration of a new framework or component**, or a **more advanced cloud deployment**.
- The specific requirement **will be decided jointly later in the course**.

Tools and development environment

Visual Studio Code

https://code.visualstudio.com

Python 3.11+

https://www.python.org/downloads/

«Homework»

- 📱 Join the **Telegram group**.
- 📝 Select your preferred **lab session**.
- 🌐 Explore the **course website**.
- 💻 Download **Visual Studio Code**.

What are your expectations?

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