

# Numerical Approximation of PDEs

Spring Semester 2025

Prof. Annalisa Buffa

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## Project Rules

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- Choose one of the proposed projects, complete the listed tasks, and prepare a short report describing the solution method and the analysis/discussion of the results obtained. Carefully justify every argument/statement, as well as the choices made for the finite element discretization of the problem. Additionally, provide extensive comments on your code. The length of the report should not exceed 10 pages.
- Upload to Moodle a `.pdf` file with the report and an archive (`.zip`, `.tar`, or `.rar`) containing the Python scripts (`.py`) you have used.
- The report should be written in  $\text{\LaTeX}$ .
- Projects must be carried out individually or in groups of two. Each project can be selected by a maximum of 9 groups/students. (**First come, first served**).
  - a) If the project is carried out in a group, only **one member** should select the project on the Moodle page. **After** completing the Moodle form, send an email to the course assistant (mohamed.benabdelouahab@epfl.ch) specifying the title of the chosen project and the names of all group members.
  - b) If the project is carried out individually, simply select the project on the Moodle page.
- The deadline for submitting the report is at the beginning of June. The exact date will be announced later.
- The project is optional and will award a bonus of 0.5 points on the final grade. The overall evaluation will consider the following:
  - a) Theoretical knowledge, programming quality, and clarity of the report.
  - b) A brief oral exam (5-minute Q&A discussion) will be held on June 30 and July 1, 2025.