

Design of an Irregular Reinforced Concrete Structure - Spring 2024

- **Project category:** GC
- **Project type:** Construction Project
- **Project supervisors:** Prof. David Ruggiero (validate the project), Dr Filip Niketic, and Elias Merhi



- **Description:**

As a result of advancements in numerical computation, civil engineers are gaining access to tools that allow them to design any complex structure efficiently. In today's society, simplicity and regular shapes are no longer the rule when it comes to the conception of any newly constructed structure. Architects can now create buildings that can have any configuration and that are expected to be adequately designed by Civil Engineers.

In this project, plan and elevation views of a reinforced concrete building are provided. In groups of two students, you are expected to design a load transfer mechanism that consists of common reinforced concrete elements and that is efficient at transferring the loads from the superstructure to the foundation system. Two variants of the same building must be studied and compared: one with a regular shape and the other with a more complex geometry.

- **Keywords:**

Load Transfer Mechanisms, Concrete Structures, Modeling, Conception and Design.

To register for the project please send an email with your names to: elias.merhi@epfl.ch