Under Tension and Compression

Extend the school of a village - experimenting parametric design
Autumn 2025/2026
Department of Residential Design & Department of Mechanics, Materials and Structures
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The K 222 classroom is available for you all day on Mondays and Wednesdays. Note that the door is not locked, and other students use the classroom on other days as well. Mondays are for consultations, lectures and workshops. Wednesdays are for consultations and presentations.

Schedule

Week	Monday	Wednesday
1.	10.15: introductory lecture, students **form teams**, site-analysis topics	10.15: groups present site analysis and reference works. Consultation time
2.	10.15: lecture: structures, parametric design	10.15: groups present their proposals, functional programs, references, and concepts. Consultation time
3.	10.15: consultation time	10.15: consultation time
4	10.15: consultation time	10.15: midterm presentation
5	10.15: consultation time	10.15: consultation
6	10.15: consultation time	10.15: consultation
7	10.15: consultation time	10.15: Presentation of final projects

Task Description

Site: Penc, Hungary – Cserhátliget Primary School

The municipality of Penc is planning to extend its existing primary school facilities. The current complex includes a small historic manor house (the Evva-kastély) and several later additions of varying quality. For this studio task, **only the historic manor house must be preserved**; all other structures can be removed.

Design a **new, contemporary primary school complex** that integrates the historic manor sensitively while creating a bold, structurally intelligent architectural concept for the new school wings.

- Explore **innovative structural solutions**, integrating tension, compression, and hybrid systems as spatial and conceptual drivers.
- Experiment with **parametric design tools** to develop form and structural strategies. Your design process should include parametric explorations that support architectural and structural performance, not only formal variation.
- Propose an **architectural concept** where structure and space are inseparable: the structural system should define and enrich the spatial experience.

- Create a **new, coherent educational environment** reflecting 21st-century pedagogical needs while respecting the site's scale and cultural heritage.

The design site includes the entire school plot with the **historic manor house retained**. Provide appropriate connections between old and new elements while ensuring accessibility, orientation clarity, and outdoor-indoor educational spaces.

Students will work in **4-6 person teams**. All presentations will be **fully digital**, presented via projector in front of an audience.

Deliverables:

- A **clear architectural concept statement** (max. 150 words).
- **Site plan, floor plans, sections, elevations** as needed to communicate the design.
- **Structural diagrams** explaining your tension, compression, and/or hybrid strategies.
- **Parametric design process documentation**: brief explanation and 2-3 key screenshots or diagrams showing how parametric tools informed your design decisions.
- **Rendered images** (exterior and interior views).
- A **1-minute animation** (video flythrough and/or interior spatial sequences) expressing the atmosphere and spatial experience of the project.

Evaluation Criteria

- Conceptual clarity and integration of **structure as architecture**.
- Effective and meaningful use of **parametric design tools**.
- Spatial quality, functionality, and educational appropriateness.
- Visual clarity and communicative strength of all deliverables, including the **animation as a design narrative tool**.

Site:

map: https://maps.app.goo.gl/HwWyM7pgcgi165k46