

The Art of Assembly: Exploring Tensegrity, Form Finding, and Parametric Design in Urban Spaces in BME

Interdisciplinary, Project Based Design / 2024/2025 spring semester.

Tutors:

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This interdisciplinary project, developed by the Department of Urban Planning and Design and the Department of Mechanics, Materials and Structures, invites students to design innovative educational spaces within the open areas of the Budapest University of Technology and Economics (BME) campus.

- *Students are expected to focus on creating permanent or temporary educational buildings.*
- *These spaces should not only address practical needs but also engage with the broader urban context, offering new ways of integrating structure with the campus environment.*
- *The project will begin with a detailed site analysis of the campus's free spaces—such as gardens, parking lots, and other open areas—where students will assess the potential for new interventions.*
- *In doing so, students are encouraged to consider the historical and social context of the campus, reflecting on how the space can enhance or challenge existing urban narratives. How can structures both serve the students and integrate into the campus's historical identity? What philosophical or sociological insights can be drawn from the campus's evolution? Students will be asked to engage these questions as they develop their designs.*
- *The structures designed should be responsive to the specific needs of the educational environment, providing flexible, scalable, and dynamic spaces that can support a range of functions. Students are expected to propose their own functional requirements and justify them based on the context of the space and the broader campus community. These functions could include spaces for collaborative learning, exhibitions, or community engagement.*
- *In terms of design approach, students will focus on using innovative structural concepts such as tensegrity, form finding, and parametric design. The goal is to create structures that are both creative and practical, incorporating flexible, rapidly assembled, and disassembled solutions. The design*

process will involve utilizing parametric/form finding design tools, allowing students to experiment with form and structure while also addressing the technical challenges of creating stable and sustainable environments.

- *In the spirit of urban design, students are encouraged to think beyond purely architectural solutions, integrating the built form with its surroundings in a way that engages with the social and historical fabric of the campus. This is a chance for students to not only explore cutting-edge structural concepts but also to contribute meaningfully to the campus's urban fabric, with designs that are as much about the experience of space as the buildings themselves.*
- *The final deliverables will include conceptual and technical models that reflect both the functional and contextual aspects of the project, offering innovative approaches to educational environments on a campus with a rich historical background and evolving urban identity.*

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