If you are interested in learning about how computational tools, thinking and methods such as CAD scripting or virtual reality, rule based and parametric design, intelligent and responsive design as well as how visual calculating can work for and impact design this course is for you. The course provides a broad overview of computational tools, thinking and methods in used in design. This course will focus on the following 3 questions. What makes design a unique computational domain compared to other fields that use computing such as computer science or biology for example? What parts of design can be assisted with computation and automation in a useful and productive way and what parts are not? How can you use these kinds of tools, thinking and methods critically for your own design work?

Topics will expose students to key design computational paradigms such as visual calculating; rule based design; parametric practices; spatial syntax; pattern language; simulation and modeling; intelligent and augmented spaces and cities; digital fabrication; and computational materials. In this course, students will look at computation done by hand and computation done by machines with the emphasis on understanding computation broadly through theories of the body, historical, political and social developments which shape how computation has been engaged in design today. Thus, offering students the opportunity to consider computation processes, concepts and theories apart from specific tools and technical skills. The course is structured as a series of 2 class modules where a topic is engaged first through presented case studies and theoretical readings and secondly through hands on design work and analysis.

**Note:** This is a required subject for first year Post Professional and PhD students in the Design and Computation cluster in the School of Architecture and Landscape Architecture. However, it is open to interested students from other areas and departments.