



Programme: CITAstudio: Computation in Architecture

Title: Tactical Experimentations: Research Informed Design Inquiry

<p>Semester: Spring Semester 2019</p> <p>Semester Theme (architecture): Methodology, Concept, Programme & Practice*</p>	<p>Period: : 4. februar – 28. juni 2019</p> <p>ECTS-points: 30</p>
<p>Contents:</p> <p>This semester focuses on introducing research methods for supporting design-led architectural inquiry [methodology]. Students are required to personally direct a competent, inventive and ambitious architectural investigation of appropriate complexity that utilizes their defined study programme from the previous semester as the point of departure [concept & programme]. Focus is placed on the use of research methods, research-by-design primarily, as a critical support for design-led inquiry and the development of innovative practice [practice]. Skill building in computational, simulation and digital fabrication methods is structured to support and enable design investigation. Over the semester, courses are run in parallel with the design project. These courses introduce and build skills in the use of computer programming as an architectural design tool; the use of robotic fabrication process and workflows to support the design integration of material forming processes; and develop awareness of digital design practice.</p> <p>The semester will include the following courses:</p> <ul style="list-style-type: none">-Design Led Coding introduces students to the use of scripting/programming techniques as an architectural design tool. The course contextualizes programming topics relative to questions of design methodology, building practice and aesthetics.-Robotic Fabrication introduces students to basic control, workflow and feedback strategies used within industrial robotics. Through group-based investigation of different fabrication strategies and the production of material outcomes, the course builds competence in integrating design with the state of the art in digital fabrication.-CITAsessions. The course introduces students to a broader community of digital practitioners. Bi-monthly presentations given by invited academics, practitioners and researchers from related fields, and also via visits to architectural practices with particular expertise in the application of digital concepts and workflows.	<p>Learning Outcomes (Knowledge, skills and competences)</p> <p>Knowledge of design-led research methods and a critical understanding of their merits, limits and contexts of use.</p> <p>Ability to use relevant architectural theory to define, inform and position design-led research informed investigation</p> <p>Can define a personally directed research informed architectural investigation of appropriate complexity</p> <p>Competent use of simulation techniques with developed understandings of their assumptions, abstractions, limits and opportunities within design contexts</p> <p>Competence in deploying appropriate digital design strategies for addressing architectural, structural, fabrication, programmatic and site-based issues.</p> <p>Competence with specific material forming techniques</p>



<p>-Research Methodology: Theory and Practice introduces students to key concepts of research methodology including the role of hypothesis, identifying state-of-the-art, experimental practice, and the methods and role of evaluation. With a focus on Research-by-design, the course situates this particular methodology within a wider research landscape, thereby enabling students to understand and develop their own research practice through a solid understanding of existing methodologies. The course compliments introductory lectures and core reading with hands-on workshop-based experimentation focusing on Research-by-design methods and led by CITA researchers.</p>	
<p>Attendance requirements: Full attendance and participation in all activities is expected.</p>	<p>Submission requirements: Comprehensive design portfolio that records and reflects upon the semester's work (including representations, photographs, drawings, models, 1:1 prototypes, time-based media, etc)</p>
<p>Syllabus: 200 pages (titles given in the semester plan)</p>	<p>Method of assessment: Oral examination Grading: Danish 7-point grading scale Censor: Internal</p>