UNSW SYDNEY | Australia's Global University

Built Environment

BENV7813
Contemporary Fabrication Techniques

Course Outline – Term 2, 2020

Disclaimer

Information within this document is subject to change. The full and most accurate course outline will be available in Moodle closer to the start of the term in which the course is offered.

1. COURSE STAFF

Course Contact	Russell Lowe
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2. COURSE DETAILS

Credit Points	6 units of credit (uoc)
Workload	Approx. 150 hours including class contact hours, weekly individual and group online learning activities, readings, class preparation, and assessment activities.
Teaching Times and Location	Find details in timetable http://www.timetable.unsw.edu.au

Description

This elective will focus on one of architectures primary modes of investigation; the model. As a critical part of the design process the model expresses ideas and concepts in three dimensions with concern for materials, lighting, space and, nowadays, interactivity; in other words, the model literally presents all of the components of a finished architecture. Traditionally architectural models have been hand-made which both reflected the building process of the time and a cultural longing by architects to be more directly involved in the production of their work (many architects design products, especially furniture, for the same reason). But for some time now architecture has been tending towards the assembly of factory-made components; and, as can be seen across the world, factories tend towards automated machine-made production. It's worthwhile to point out at this stage that beautiful things are created in factories. Porsche, Honda, Apple, Prada and Boeing (to name a few) all use factories to create amazingly sophisticated products; most for a fraction of the cost of the average architect designed building.

If architectural models should reflect both the finished architecture and its mode of production they will need to employ automated processes such as digital modelling, laser cutting, CNC milling and rapid prototyping. However, this elective isn't dogmatic; several hand-made processes will also be employed (hot-wire cutting blue foam, casting, sheet metal folding). In this elective, students will be trained to use and have direct access to all of these machines.

In this elective, students will select 3 from the number of techniques on offer to fabricate components that have precedents in architecture relating to the students' design studio. Following online courses students will be expected to enrol in practical sessions. Successfully completing these courses will be mandatory.

Further assessment will be based on the physical models themselves, representations of them and critical reflection on the process and outcomes.

Aims

The aim of this elective is to take every student's architectural modelling and thinking to the next level (accepting that each student will bring different levels of competence and prior experience). To be successful in this elective the models each student makes will be well made, beautiful and reflect contemporary fabrication techniques. Their documentation of the processes utilized will enable critical reflection.

Course Learning Outcomes (CLOs)

At the successful completion of this course, you will be able to:

1. Students will have developed advanced skills in thinking through modelling.
2. Students will be able to demonstrate care and precision in fabrication.
3. Students will be able to recognise, synthesise and apply sophisticated methods in assembly.
4. Students will be able to critically document a design process following an analysis and appraisal of their own work in the context of architectural precedents.
5. Students will be able to recognise and demonstrate safe working practices (for both the Built Environment Design Lab and Fab Lab).
6. Students will develop their understanding of Architectural theory, more completely comprehend form and advance their project management skills.

3. ASSESSMENT

Assessment task	Weight	CLOs Assessed
1. Project Matrix	25%	1
2. The Fabrications	40%	2, 3, 4, 6
3. Documentation	25%	5

4. COURSE IMPROVEMENT AND FEEDBACK

Feedback from students is an integral part of improving courses and teaching approaches. One of the primary mechanisms of feedback is myExperience, which we strongly urge all students to complete at the end of term. Course convenors use the feedback to make ongoing improvements to the course. This is communicated in Moodle in the myFeedback Matters page.