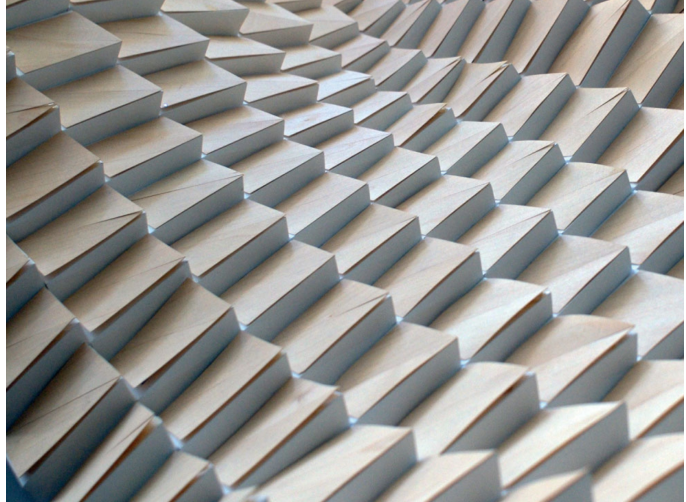


**COMPUTATIONAL
PRACTICE
ARCH 4605**
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Responsive Surface Structures- Steffen Reichert (Prof. Achim Menges) 2007

INTRODUCTION

This course is the capstone for digital media and computational studies in the School of Architecture. The goal of this seminar course is to provide students with experience using advanced digital tools and methods, including digital fabrication, parametrics, Building Information Modeling/Management (BIM), scripting, and performance analysis in preparation for professional practice and/or advanced graduate research. (Spring)

OBJECTIVES

- To acquire skills in advanced digital and computational tools and methods (Revit, Grasshopper, Gehry Technologies)
- To develop problem-solving skills with these methods and investigate new applications for them in practice
- To explore the uses of digital fabrication to create unconventional form and reduce material waste
- To cultivate a critical mindset regarding the strengths and limitations of logical and procedural systems within the design process
- To create more informed designs through the integration of ecological data and performance criteria
- To maintain and refine the ideas of the Strategic Computing Framework

NAAB Criteria: In consideration of the requirements of the National Architectural Accreditation Board (NAAB), the following performance criteria shall be addressed in this course: A.1 Communication Skills, A.2 Design Thinking Skills, A.3 Visual Communication Skills, A.4 Technical Documentation, A.5 Investigative Skills, A.8 Ordering System Skills, and A.11 Applied Research.

INSTRUCTIONAL METHOD

This course is seminar-based. Students will be given lectures and live demonstrations, perform short-term design assignments, and make preliminary and formal project presentations. Weekly areas of instruction shall include:

TEXTBOOKS AND RESOURCES

The following texts and bibliographic materials are required in this course:

Seletsky, Paul Skidmore, *The Digital Design Ecosystem*. Toward a Pre-Rational Architecture Owings & Merrill LLP, Senior Manager of Digital Design – SOM New York.

EVALUATION

Success in the studio is dependent on the level of one's engagement of the issues that outline the projects and the degree to which one assumes responsibility for the work throughout the entire design process. Other factors relating to success are:

- the level of intensity, enthusiasm and focus exhibited in the work
- the quality of representations [graphic, three-dimensional, oral or written].
- the timely resolution and completion of the work.