SYLLABUS

Academic staff :

LECTURER :	Professor James C. Stevens, AIA
ASSISTANT/S:	TBA

Course Name: makeLab – Parametric Surfacing

Detailed syllabus of the subject *(Silabusi detajuar i lendes)*

General Course Description *(PERSHKRIMI PERGJITHSHEM I LENDES)*	The course will conduct a critical analysis of digital fabrication and associated emerging technologies for architecture with respect to the creation of complex masonry. This will be addressed specifically trough the **design, fabrication and assembly off a parametrically derived scaled - wall**. This will be accomplished by full engagement with parametric modeling, Computer Numeric Control (CNC) and 3D rapid prototyping. Students will design, prototype and fabricate their projects at various scales. The applied projects will be supplemented with readings and discussions of significant precedents and techniques.
Course Objectives *(OBJEKTIVAT)*	The objective of the workshop is to digitally design and fabricate masonry units. The process will include: 1) Parametrically generating masonry units. 2) Digital generation of 3D surfaces from Rhino for Grasshopper. 3) Fabrication and production of CNC G-code 4) Final fabrication of a foam form work for masonry.
Program Content/Topics and Schedule *(PËRMBAJTJA E PROGRAMIT TË LËNDËS – TEMA)*	06 May -*Introduction to makeLab and Digital Fabrication* Project introduction, assemble design groups 07 May -Demonstration: Software, Studio – Group work Studio – Group work (concurrent), Demo – CNC (concurrent) 08 May -Studio group work. 09 May – 12 May – LTU studio work Polis students optional 13 May – Studio group work 14 – May – Studio group work 15 May – Studio group work, Final review

Course Content/Keywords *(PËRMBAJTJA E PROGRAMIT TË LËNDËS – BRIEF)*	Digital Fabrication / Parametric Design / Post-production (G-code) / Surfacing / Assembly / Typography
Assignments *(DETYRAT/ PROJEKTET DHE DETYRIME TË TJERA)*	Four-part masonry fabrication Double curve surfaces continue to be challing to draw, model and fabricate. Historically this has been accomplished by carving or removing in stone and wood or by the creation of a mold or from. We will explore this by generating double curve masonry parametrically and CNC fabricating a plaster mold from foam. Given the double curve each mold will require a four-part mill to allow for each unique side. Each group of students will complete the following: • Isolation of designated number of assigned masonry units (approximately 3) • Create a four-part mold digitally • Fabricate mold from foam stock (45mm) • Cast masonry units from plaster • Stack units to show coordination with final assembly
Methodology *(METODOLOGJIA DHE ANA DIDAKTIKE)*	The course will be conducted with a combination of lectures, studio work, desk critiques and student presentations. Each student is expected to particiapte in lectues and to demstrate competancy through the final design project.
Required Literature *(LITERATURË E DETYRUESHME)*	All text, reading and reference material will be provided to the students digitally at http://make-lab.org/albania-2015
Recommended Literature *(LITERATURË E REKOMANDUAR)*	Digital Vernacular, *Architectural Principles, Tools and Processes*, James Stevens & Ralph Nelson Architecture in the Digital Age: Design and Manufacturing, Branko Kolarevich The Projective Cast: Architecture and Its Three Geometries , Robin Evans

1. Evaluation Table (Tabela e detajuar e vleresimit)

Evaluation component *(Kompnentet e Vleresimit)*	***% weight distribution*** *(Shperndarja e Peshes Specifike ne %)*	***Barrier***
ATTENDANCE (FIXED)	10	
Rigor and Participation	10	
Final Project	80	
TOTAL	**100**	

Ps. For each component you can assign a barrier: for example if the evaluation component of the project is 30 %, you can also establish the minimum points to pass (example. 15/30).

2. Point-grade conversion
(Konvertimi i pikeve ne Note)

Points *(Piket)*	***Grades*** *(Nota)*
94 - 100	10
83 - 93	9
75 - 82	8
65 - 74	7
55 - 64	6
50 - 54	5
0 - 49	4