i CAD MASTER ON ARCHITECTURAL DESIGN

ENVIRONMENTAL DESIGN | Prof. Giuseppe Ridolfi, PhD | B018896
ARCHITECTURE AND ENVIRONMENT LAB | B018894

UNIVERSITÀ DEGLI STUDI FIRENZE
Scuola di Architettura

CLASS SCHEDULE A.A. 2017-18

Class Location: room 205, Bldg. S. Teresa, via della Mattonaia 14
Class Hours: Thu 9:45-13:45

[1] 8 March Computational Materiality for sustainable Architectures. Course overview & foundations.
• *Course description and Credit #01 & Credit #02 presentation*
• *Computational Materiality, Performance Design and Building Energy Simulation*

[2] 15 March Art Prison Design Competition introduction. Project Mission Statement, Users' requirements modeling, and space program
• *Architectural Brandscaping. Designing spatial experiences and architectural identity*
• *Modeling human behaviours and users' comfort requirements using digital tools*
• *Space dimensioning and layout organization using digital tools*

[3] 20 March - morning Climate Report, Site Assessment and Sustainable Design Strategies
• *Climate data and climate modeling*
• *Solar geometry*
• *Site components affecting environmental design and identity of the place*
• *Sustainable design strategies using passive architecture approach*

[4] 20 March - afternoon Review and tools setup for credit# 01
• *Desk critiques & Software tutoring*

[5] 22 March Credit #01 Assignment Evaluation: Project Briefing, Program and Architectural references for Art Prison Design Competition
Integrated evaluation of the three teaching modules based on the following deliverables:
- physical and virtual site model
- architectural examples and preliminary schetches
- site assessment using layering technique
- functional and dimensional specifications using parametric approach
- weather data and climate report
- sustainable design strategies

[-] 29 March Environmental Control Techniques Module (prof. L. Giorgi)

[6] 05 April Renewable technologies for sustainable architectures (prof. L.Ceccherini Nelli)

[-] 11 April Art Prison Design Competition – Material Submission Deadline (at your choice)

[7] 24 April Credit #02 Assignment Evaluation: Art Prison Design Competition discussion for development
Integrated evaluation of the three teaching modules based on the deliverables required for the Design Competition.

[8] 26 April Credit #03 Assignment Presentation. Environmental mass optioneering in the early stage design and schematic proposal for architectural envelope
• *Building Information Modeling and perfomance design*
• *Environmental Digital Optioneering in the early stage using computational simulation.*
• *Thermal masses and envelope surfaces evaluation*

[9] 3 May Credit# 03 Design Review and tools setup
• *Desk critique & Software tutoring*

[10] 10 May High Energy Envelopes and Parametric Design + Design Review
• Typologies, technologies, design criteria and architectural examples for high energy envelopes
• Tessellation and parametric design for architectural envelopes
• Desk critique

[11] 17 May Adaptive and responsive architectural skins + Design Review
• Typologies, technologies, design criteria and architectural examples for adaptive and responsive architectural skins
• Desk critique

[12] 24 May Credit# 03 Design Review and tools setup
• Desk critique

[13] 31 May Credit #03 Assignment Evaluation: Environmental mass optioneering in the early stage design and schematic proposal for architectural envelope
Evaluation based on the deliverables required in the Assignment Guide #03 (check it out)

[14] 7 july Credit #04 Final Assignment Presentation. Architectural envelope detailed design and conceptual prototype fabrication

[- -] june-july Design review

[-] july Credit #04 Final Assignment Evaluation. Architectural envelope detailed design and conceptual prototype fabrication.
Integrated evaluation of the three teaching modules based on the last assignment and credits collected during the semester