Course Title: Future Cities Design Studio
Course Code: ARCH 3001 CGAD
Programs Offering Course: Global Architecture and Design
Language of Instruction: English
U.S. Semester Credits: 6.00
Contact Hours: 90.00
Term: Fall 2020

Course Description

The Studio course focuses on design and research within the framework of digital and post-digital architecture. The development of computational technologies and the digitization of architectural tools have radically influenced architectural practice and architectural research. The concentration of the process of design, analysis, simulation, and fabrication into a shared digital platform offers the potential for a stronger feedback, a more efficient collaboration, and therefore a more innovative and creative architectural solutions. New design tools and fabrication technologies transform the discipline assigning a larger role to experimentation, testing, prototyping and development. The focus on the behavior and performance as well as on the form and materiality changes our approach to architecture. New ecological and social challenges require architecture to be emergent, liquid, multifaceted and complex. This course explores the topic of emergent architecture and how the notions of emergent architecture, architecture of aggregation and behavioral architectural systems can meet these challenges.

Learning Objectives

By completing this course, students will:
- Understand, analyze and critically discuss the specifics of contemporary digital and post-digital architectural paradigms.
- Explain and illustrate the notions of first and second digital age, of technological consequences of industrial revolution and its influences on architecture.
- Have mastered different digital design methods and their applications in architectural design.
- Apply their knowledge on a specific architectural project, of a medium scale, located in Prague.

Course Prerequisites

Students must be familiar with graphic editing programs (Adobe) and CAD programs, ideally Rhinoceros. They must possess non-trial version of following software: Rhinoceros 6 (for Windows), Adobe Photoshop, Adobe Illustrator, Adobe InDesign.

Methods of Instruction

The primary medium of instruction is a desk crit. Held once or twice a week (see Schedule), during the desk crits students will present their progress and receive critique, advice and guidance.

A major part of the course is a discussion of compulsory readings. Selected chapters of readings will be presented by the students using slide presentation.

Assessment and Final Grade

1. Reading list presentations 10%
2. Midterm presentation 10%
3. Desk Crit Presentations 30%
4. Final presentation (including physical model) 20%
5. Final portfolio (printed booklet) 10%
6. Class Participation 20%
TOTAL 100%
Course Requirements

Reading list presentations

*(once a week, on Thursday)*

Students will present assigned chapters from the reading list using slideshow presentations min. a 15-minute presentation per group.

Midterm presentation

*Week 5*

Students will present their project using a slideshow presentation and a physical model, and receive critique from external reviewers as well as from the studio leader and the seminar leader.

Desk Crit Presentations

Students will be given research areas to cover and present in class with (printed!) A4 and A3 presentations.

Final presentation *(including physical model)*

*Week 16*

Students will present their project using a slideshow presentation and a physical model. Based on the final presentation of the student’s entire semester work, an invited jury will assess the quality of student work and give further recommendations.

Final portfolio *(printed booklet)*

*Week 16*

Students will print their working process throughout the semester and submit as a portfolio booklet.

Class Participation

Students are required to be present during consultation hours and follow theirs as well as their classmates’ consultations. Students are expected to work on their projects in the studio Monday to Thursday 9 am to 5 pm, with the exception of the time when they have other lectures.

CIEE Prague Class Participation Policy

Assessment of students’ participation in class is an inherent component of the course grade. Participation is valued as *meaningful contribution in the digital and tangible classroom*, utilizing the resources and materials presented to students as part of the course. Students are required to actively, meaningfully and thoughtfully contribute to class discussions and all types of in-class activities throughout the duration of the class.

Meaningful contribution requires students to be prepared, as directed, in advance of each class session. This includes valued or informed engagement in, for example, small group discussions, online discussion boards, peer-to-peer feedback (after presentations), interaction with guest speakers, and attentiveness on co-curricular and outside-of-classroom activities.

Students are responsible for following the course content and are expected to ask clarification questions if they cannot follow the instructor’s or other students’ line of thought or argumentation.

The use of electronic devices is only allowed for computer-based in-class tests, assignments and other tasks specifically assigned by the course instructor. Students are expected to take notes by hand unless the student is entitled to the use of computer due to his/her academic accommodations. In such cases the student is required to submit an official letter issued by his/her home institution specifying the extent of academic accommodations.

Class participation also includes students’ active participation in Canvas discussions and other additional tasks related to the course content as specified by the instructor.

Students will receive a partial participation grade every three weeks.

Attendance
Regular class attendance is required throughout the program.

If you will miss a class for any reason, notify the Program Coordinator and your instructor beforehand via Canvas. You are responsible for any materials covered in class during your absence, and except in the specific cases listed below, credit will not be granted for missed assessments.

Excessive absences will result in a notification letter, and finally a warning letter, sent to you and your home school, based on the following:

<table>
<thead>
<tr>
<th>% of course hours missed</th>
<th>Number of CIEE classes</th>
<th>Minimum penalty</th>
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</thead>
<tbody>
<tr>
<td>Up to 10%</td>
<td>One to Three 90-min. classes; or One 180-min. class</td>
<td>No penalty</td>
</tr>
<tr>
<td>10% - 20%</td>
<td>Four 90-min. classes</td>
<td>Written notification* to the student, followed by a warning letter to the student and home school; 3% reduction in the final grade</td>
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<tr>
<td></td>
<td>Five 90-min. classes</td>
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<tr>
<td></td>
<td>Two 180-min classes</td>
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<tr>
<td>More than 20%</td>
<td>Six 90-min. classes; or Three 180-min. classes</td>
<td>Automatic course failure, and possible expulsion with notification to the home school</td>
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</table>

* The notification letters are intended to ensure that you are well advised in advance of any potential for failure or dismissal, so that you can take steps to avoid this.

As the table shows, **missing more than 20% of any class (e.g., due to undocumented illness, travel delays, flight cancellations, over-sleeping, etc.) results in automatic failure of the course.**

If you miss an assessment in class due to an absence, you will be able to make it up in the following instances:

- You provide a relevant doctor's note from a local medical professional to your Program Coordinator within 24 hours of your absence (a scan or photograph sent via e-mail are acceptable)
- A CIEE staff member verifies that you were too ill to attend class.
- You provide evidence of a family emergency to your Program Coordinator.
- You have an approved absence related to the observance of a religious holiday from the Academic Director based on a request submitted before you arrived onsite.

**Please note:** Absences incurred due to documented illness, documented family emergency or the observance of a religious holiday approved before arrival onsite do not count towards the total of absences. Students may self-certify one absence due to illness without providing a doctor's note as long as they notify the Program Coordinator within 24 hours of their absence by e-mail or a text message.

**Other attendance-related policies**

If you transfer from one CIEE class to another during the Add/Drop period, you will not be considered absent from the first session(s) of the new class provided you were marked present for the first session(s) of the original class.

If you are over 15 minutes late for a class, the instructor is required to mark you absent.

In case of class conflicts (irregularities in the class schedule, including field trips and make-up classes), always contact the Academic Department to decide the appropriate course of action.

Please remember to track your attendance on the Canvas Course Sites and report any errors in the record to the Academic Department within one week of the discrepancy date, as later claims may not be considered.

These attendance rules also apply to any required co-curricular excursion, activity, or event, and to for-credit internships.

CIEE staff does not manage absences at partner institutions providing direct enrollment classes (FAMU, ECES and FSV), but they have similar attendance policies and attendance is monitored there. Grade penalties may result from excessive absences.

*N.B. Course schedule is subject to change due to study tours, excursions, or local holidays. Final schedules will be included in the final syllabus provided to students on site.*

**Weekly Schedule**

**Week 1**
Class: 1.1  
Introductory lecture with semester overview  
Presentation of goals and requirements  
Assignment 1: Biological role model research

Week 2  
Class: 2.1  
Desk crit  
Assignment 1: Biological role model research

Week 3  
Class: 3.1  
Introductory lecture  
Desk crit  
Assignment 2: component design

Week 4  
Class: 4.1  
Desk crit  
Assignment 2: component design - Physical tests

Week 5  
Class: 5.1  
Desk crit  
Class: 5.2  
Site presentation - field trip to the site  
Assignment 3: site analysis  
Midterm presentations

Week 6  
Class: 6.1  
Desk crit  
Assignment 3: site analysis

Week 7  
Class: 7.1  
Desk crit  
Assignment 4: concept development  
Site model building  
Class: 7.2  
Reading presentations: Computational Design Thinking, ed. Menges, Ahlquist  
Digital Turn in Architecture, Mario Carpo
Week 8
Class:  8.1

Desk crit
Assignment 4: concept development

Week 9
Class:  9.1

Introductory lecture
Desk crit
Assignment 4: concept development

Week 10
Class:  10.1

Desk crit
Assignment 4: concept development

Week 11
Class:  11.1

Desk crit
Assignment 5: aggregation optimalisation

Class:  11.2

Reading presentations: The Alphabet and the Algorithm, Mario Carpo
The Second Digital Turn, Mario Carpo

Week 12
Class:  12.1

Desk crit
Assignment 5: aggregation optimalisation

Week 13
Class:  13.1

Desk crit
Assignment 5: Physical tests

Week 14
Class:  14.1

80% presentation

Week 15
Class:  15.1

Desk crit
Assignment 6: Documentation, fabrication, presentation

Class:  15.2

Desk crit
Week 16
Class: 16.1.

Final presentation
Portfolio submission

Course Materials
Readings