

AR-464

**Enlighten your design studio project**

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Cursus	Sem.	Type
Architecture	MA1, MA3	Opt.
Minor in Integrated Design, Architecture and Sustainability	H	Opt.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	During the semester
Workload	90h
Weeks	12
<b>Hours</b>	<b>2 weekly</b>
Lecture	2 weekly
<b>Number of positions</b>	

**Remark**

Inscription à AR-442 - Comfort and architecture: sustainable strategies nécessaire

**Summary**

This course will support students in integrating daylight concepts into their ongoing studio projects. With an emphasis on the perceptual, qualitative, and emotional aspects of daylight, the objective is to achieve an awareness of how daylight both shapes and is shaped by architecture.

**Content**

We will adopt a 'design decision support approach' that embeds daylight within the design process. In combination with theoretical inputs, daylight performance evaluation will be mostly driven by 'why' questions, encouraging deeper conversations in the form of discussions and desk critiques. To support the ideas generated by the design decisions, evaluation tools, including simulation-based analyses, heuristics, and scale modeling, may be employed depending both on the previously acquired knowledge of the students and the specific needs of their studio projects. The work will be assessed primarily based on each student's learning journey, rather than the final daylight performance of their projects. The course is structured as follows:

- **Theory lectures:** The lectures will introduce students to evaluating daylight in buildings both experientially and quantitatively through relevant case studies, metrics, and simulation tools. We will guide students in considering various aspects of daylight, focusing on three dimensions: emotion, comfort, and vitality. The content will be based on past and ongoing research from the Laboratory of Integrated Performance in Design (LIPID). Additionally, hands-on tutorials will be provided on effectively using simulation and metrics to test design ideas and hypotheses related to daylight in architecture.
- **Hands-on exercises:** At the beginning of the course, students will engage in in-class exercises designed to evaluate daylight in buildings both experientially and quantitatively. These exercises will involve the use of drawing mediums, measurement devices, and simulation tools, providing hands-on experiences to reinforce the concepts covered in the lectures.
- **Group discussion and brainstorming:** Several class periods will be dedicated to group discussions and brainstorming sessions. During these sessions, students will discuss lecture materials in small groups with guidance from the instructors. The aim is to help students conceptualize and propose ways to integrate the learned concepts into their studio projects.

**Keywords**

Daylight, Architecture, Emotion, Comfort, Vitality

**Learning Prerequisites**

**Required courses**

AR-442 - Comfort and architecture: sustainable strategies (can be taken concurrently or been completed previously)  
AR-401 - Théorie et critique du projet MA1 / Studio MA1 (must be taken concurrently)

**Recommended courses**

PENS-313 - Le temps de la lumière

**Learning Outcomes**

By the end of the course, the student must be able to:

- Integrate daylighting into the creative design process
- Assess / Evaluate the daylight performance of a design decision
- Interpret the results of the different evaluation tools
- Visualize design and daylight performance intent

**Transversal skills**

- Use a work methodology appropriate to the task.
- Demonstrate a capacity for creativity.
- Demonstrate the capacity for critical thinking
- Take feedback (critique) and respond in an appropriate manner.
- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Make an oral presentation.

**Expected student activities**

Student activities will include in-class and out of class hands-on exercises (involving different types of mediums, tools and equipment), individual explorations and group discussions, as well as readings and writings, drawings and renderings.

**Assessment methods**

Class participation and exercises will be part of the final grading (weight: 20%)  
The final exam consists of a written report (weight: 40%) and an oral presentation (weight: 40%)

**Resources****Virtual desktop infrastructure (VDI)**

Yes

**Moodle Link**

- <https://go.epfl.ch/AR-464>