

PENS-210

Renewable energy and solar architecture in Davos

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| Cursus | Sem. | Type |
|------------------------|------|------|
| Projeter ensemble ENAC | BA4 | Opt. |

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|----------------------|---------------------|
| Language of teaching | English |
| Credits | 4 |
| Withdrawal | Unauthorized |
| Session | Summer |
| Semester | Spring |
| Exam | During the semester |
| Workload | 120h |
| Weeks | |
| Hours | 48 weekly |
| Courses | 4 weekly |
| Exercises | 22 weekly |
| Project | 22 weekly |

Number of positions

It is not allowed to withdraw from this subject after the registration deadline.

Remark

pas donné en 2018/19

Summary

The ENAC School offers a series of ENAC Weeks to the students of all three Sections on various territory-related themes. Through a practical project, the students will tackle a specific issue to be situated, analyzed and represented in a multidisciplinary fashion.

Content

The ENAC week at Davos offers interdisciplinary learning, in which aspects of landscape development and sustainable construction are jointly looked at from the perspectives of environmental and civil engineering, architecture, and important factors of the natural environment. The focus is on production and management of renewable energy.

- 1) Students learn about the complex interactions of society, infrastructure and environment in a touristic town situated in a comparatively pristine mountain environment.
- 2) Students develop a manageable project concept within available time and resources. There is a choice of two focus areas related to «Renewable Energy Production» or «Sustainable Housing Infrastructure». For both themes, an economic feasibility study is required.
- 3) From the selected concept, students design their own development case, in which the diverse aspects of the theme are represented and discussed.

Keywords

Renewable energy production in mountain areas
Sustainable building infrastructure/architecture
Landscape planning and development
Interdisciplinarity

Learning Outcomes

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

- Apply a multidisciplinary method or approach
- Organize experimental or other collected data

- Develop and plan a complex project
- Analyze results with a critical stance
- Present the project to a multidisciplinary audience

Transversal skills

- Communicate effectively with professionals from other disciplines.
- Use a work methodology appropriate to the task.
- Evaluate one's own performance in the team, receive and respond appropriately to feedback.
- Keep appropriate documentation for group meetings.
- Respect relevant legal guidelines and ethical codes for the profession.
- Take feedback (critique) and respond in an appropriate manner.
- Make an oral presentation.
- Collect data.

Teaching methods

Lectures and presentations

Input from Teachers/Lecturers/Assistants

Interdisciplinary Group/Team Work

Practical work, Experiments, Hands-on Experience

Assessment methods

Written Report

Oral presentation

Supervision

| | |
|--------------|-----|
| Office hours | Yes |
| Assistants | Yes |
| Forum | No |

Resources

Websites

- <http://enac.epfl.ch/projeter-ensemble/semaine-ENAC/themes-actuels>

Moodle Link

- <http://moodle.epfl.ch/course/view.php?id=13968>