2EL1840 – Advanced Mechanics for Civil Engineering: "Building tomorrow"

Instructors: Brice Bossan
Department: DÉPARTEMENT MÉCANIQUE ENERGÉTIQUE PROCÉDÉS
Language of instruction: FRANCAIS
Campus: CAMPUS DE PARIS - SACLAY
Workload (HEE): 60
On-site hours (HPE): 35,00
Elective Category : Engineering Sciences
Advanced level : Yes

Description

The aim is to materialize a project for a construction in the future, and therefore to simultaneously exercise innovation and scientific skills, and also to work in project mode ...
Through this problematic posed by a constrained and different environment from that of the Earth today, students develop their innovation capacities and acquire skills in Civil Engineering, Materials, Thermal, Construction & Logistics, and also Environmental...
As the tutorials are done in sub-groups, students acquire skills in teamwork, transdisciplinary project management, reporting and scientific communication during project reviews and the final defense.

Quarter number

SG6

Syllabus

Session 1 (3h): launching lecture, constitution of the 4 project groups, commented bibliography in 4 groups of 25 students.
Sessions 2 and 3 (4 times 1.5h): 4 thematic conferences followed by Q&A with students
Sessions 4, 6, 8, 10 (4 times 3 hours): tutorials in 4 groups of 25 students (working in parallel) with a science facilitator present for each group. The scientist then gives the theoretical and applied lessons that the students need to progress in their work.
Sessions 5, 7, 9 11 (4 times 3 hours): alternating with sessions 4, 6, 8 and 10, the project review (carried for each group) allows the students to measure the progress of the work on all the themes, to make coherent choices and to record what they have learned, then to identify the locks to be lifted for the good continuation of the work they will do in TD, and in personal work.

Session 12: restitution of the work via a presentation in the lecture hall of the 4 groups of 25 as well as a synthesis of the solution by the 4 rapporteurs of the 4 groups. The evaluation of the students is done by the course leaders + the scientific and innovation facilitators.

Grading

The individual evaluation of the students is done "continuously" by the Scientist during the TD/TP, that of the group is done during sessions 5-7-9-11 and 12.

Resources

Teaching staff: B.Bossan is responsible for the organization of the elective. Each theme is piloted by a scientist.
Size of the TDs: 4 groups of 25 students

Description of the skills acquired at the end of the course

C2 Develop in-depth skills in an engineering field and a family of process. C7 Know how to covince. C8 Lead a project, a team.