

MICRO-405 **Systems engineering**

Cursus	Sem.	Type
Microtechnics	MA1, MA3	Opt.
Systems Engineering minor	H	Opt.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	During the semester
Workload	90h
Weeks	14
Hours	3 weekly
Lecture	2 weekly
Project	1 weekly
Number of positions	

Remark

Pas donné en 2024-25

Content**Learning Outcomes**

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

- Describe the most important systems engineering standards and best practices as well as newly emerging approaches
- Analyze the key steps in the systems engineering process starting with stakeholder analysis and ending with transitioning systems to operations
- Structure the important role of humans as beneficiaries, designers, operators and maintainers of aerospace and other systems
- Characterize the limitations of the way that current systems engineering is practiced in terms of dealing with complexity, lifecycle uncertainty and other factors
- Apply some of the fundamental methods and tools of systems engineering to a simple cyber-electro-mechanical system as a stepping stone to more complex and real world projects

Assessment methods**Supervision**

Office hours	Yes
Assistants	Yes

Resources**Virtual desktop infrastructure (VDI)**

No

Ressources en bibliothèque

- [NASA Systems Engineering Handbook](#)
- [INCOSE Systems Engineering Handbook: A Guide for System Life Cycle Processes and Activities](#)