

ENV-443

**Spatial decision support systems**

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<b>Cursus</b>	<b>Sem.</b>	<b>Type</b>
Environmental Sciences and Engineering	MA2, MA4	Opt.
Urban Planning and Territorial Development minorE		Opt.

Language of teaching	English
Credits	3
Session	Summer
Semester	Spring
Exam	Oral
Workload	90h
Weeks	14
<b>Hours</b>	<b>3 weekly</b>
Courses	2 weekly
Exercises	1 weekly
<b>Number of positions</b>	

**Summary**

The course deals with the methods and instruments supporting decision processes in the geographical space. The focus is on multi-criteria decision analysis, with the special requirements carried by space-related scenarios and solutions, and by the participatory processes among numerous stakeholders.

**Content**

- Situations and cases of decision making in territorial and environmental planning and management
- Spatial decision processes and steps
- Spatial decision support processes and tools
- Multi-criteria decision making (MCDM) and its spatial applications
- Collaborative/group spatial decision-making
- Hands-on exercises of MCDM with GIS
- Cases studies and seminars

**Learning Prerequisites****Recommended courses**

Basic knowledge and skills in GIS

**Learning Outcomes**

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

- Expound most importance issues of spatial decision making
- Choose relevant methods for spatial decision support
- Apply most important multi-criteria decision analysis processes
- Organize a decision making process involving many stakeholders

**Transversal skills**

- Make an oral presentation.
- Summarize an article or a technical report.

### **Teaching methods**

Lecture, exercises, seminars

### **Assessment methods**

33 % spot written check during the semester

33 % continuous control during the semester (seminar synthesis)

33 % written test (120 min) during the exam session

### **Resources**

#### **Ressources en bibliothèque**

- [Multicriteria Decision Analysis in Geographic Information Science /Malczewski](#)