

MATH-416

**Abstract analysis on groups**

Monod Nicolas

Cursus	Sem.	Type
Ing.-math	MA1, MA3	Opt.
Mathématicien	MA1, MA3	Opt.

Language of teaching	English
Credits	5
Session	Winter
Semester	Fall
Exam	Oral
Workload	150h
Weeks	14
<b>Hours</b>	<b>4 weekly</b>
Lecture	2 weekly
Exercises	2 weekly
<b>Number of positions</b>	

**Summary**

We study analytic phenomena on groups, notably paradoxical decompositions, fixed point properties and harmonic functions.

**Content**

Paradoxical decompositions  
 Fixed point theorems  
 Harmonic functions  
 Invariant means  
 Amenable groups

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

**Metric and topological spaces**  
**Analyse fonctionnelle I**

**Learning Outcomes**

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

- Quote the main results of the course

**Teaching methods**

Ex cathedra lecture and exercises in the classroom

**Expected student activities**

Follow the lectures  
 Attend the exercise sessions  
 Attempt to solve all exercises and write up the result of these attempts  
 Work over the lecture

**Assessment methods**

Oral exam

=====

Dans le cas de l'art. 3 al. 5 du Règlement de section, l'enseignant décide de la forme de l'examen qu'il communique aux étudiants concernés.

**Supervision**

Office hours	No
Assistants	Yes
Forum	No