MATH-503

Inequalities and trace theory for Sobolev spaces

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Cursus	Sem.	Type
Ing.-math	MA2, MA4	Opt.
Mathématicien	MA2	Opt.

Language of teaching	English
Credits	10
Session	Summer
Semester	Spring
Exam	Written
Workload	300h
Weeks	14
Hours	**8 weekly**
Lecture	4 weekly
Exercises	2 weekly
Project	2 weekly
Number of positions	

Summary

We discuss various inequalities related to the Sobolev, Poincare inequalities et the trace theory.

Content

Poincare's inequality
Sobolev's inequality.
Gagliardo Nirenberg's inequality.
Caffareli, Kohn, Nirenberg's inequality.
Trace theory
Applications.

Keywords

Inequalities, trace theory.

Learning Prerequisites

Required courses

Analyse III + IV
Parabolic and hyperbolic PDEs

Important concepts to start the course

Sobolev spaces

Learning Outcomes

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

- Inequalities
- Use inequalities
- trace theory

Teaching methods

Course + seminars

Assessment methods

Written

Supervision

Office hours	No
Assistants	Yes
Forum	No