INMA2345 Differential Equations : boundary value problems

[30h] 3 credits

This course is taught in the 2nd semester

Teacher(s): Denis Bonheure
Language: French
Level: Second cycle

Aims

This course aims to introduce boundary value problems for ODE and the related analysis method.

Main themes

Boundary value problems
The subjects considered might depend upon the interests of the students.

Content and teaching methods

Boundary value problems :
- Phase plane analysis.
- Contraction method (Banach Theorem).
- Compactness method (Schauder Theorem).
- Monotony method (positive operator, lower and upper solutions).
- Variational method.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites :
The course INMA 1315 "Compléments d'Analyse" is a prerequisite. It is advisable to work this material together with MATH 2111.

Other credits in programs

MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(3 credits)
MATH22/G	Deuxième licence en sciences mathématiques	(3 credits)