

MATH-201

Analysis III

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Cursus	Sem.	Type
Physics	BA3	Obl.

Language of teaching	English
Credits	5
Session	Winter
Semester	Fall
Exam	Written
Workload	150h
Weeks	14
Hours	5 weekly
Courses	3 weekly
Exercises	2 weekly
Number of positions	

Summary

Introduction to vector calculus and Fourier series.

Content

- line integrals
- surface integrals
- theorem of Green, Gauss and Stokes
- coordinate free definitions of div, grad, curl
- scalar & vector potentials for vector fields
- Fourier series

Learning Prerequisites**Required courses**

Analysis I, II
Linear Algebra I, II

Learning Outcomes

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

- Expound applications of all of the material in the course
- Construct simple proofs using the material in the course

Teaching methods

Ex cathedra lecture and exercises in the classroom

Assessment methods

Written exam

Resources**Bibliography**

S.D. Chatterji, Cours d'Analyse vol. 1, 2, 3, PPUR
Polycopié J. Descloux, Analyse III, 1979
Polycopié C.A. Stuart (available on web)

Ressources en bibliothèque

- [Cours d'analyse / Chatterji](#)
- [Analyse III / Descloux](#)