UCLouvain

UCL Study programme 2023 - 2024

# Specialization track in Applied Mathematics

## Table of contents

# FILMAP - Introduction

## Introduction

### Introduction

The aim of this track is to enable the students to increase and improve their knowledge and skills in various fields of applied mathematics and to understand their basic concepts. More precisely this specialization trains the students in the design, analysis and implementation of mathematical models for engineering sciences in the industry, and in the elaboration of effective strategies to optimise their performance.

# FILMAP - Teaching profile

## Learning outcomes

## Programme

### DETAILED PROGRAMME BY SUBJECT

- Mandatory
- Optional
- Not offered in 2023-2024
- Not offered in 2023-2024 but offered the following year
- Offered in 2023-2024 but not the following year
- Not offered in 2023-2024 or the following year
- Activity with requisites
- Open to incoming exchange students
- Not open to incoming exchange students
- [FR] Teaching language (FR, EN, ES, NL, DE, ...)

Click on the course title to see detailed informations (objectives, methods, evaluation...)

*30 crédits*

| | | | | Year 2 | Year 3 |
|---|---|---|---|---|---|
| **Content:** | | | | | |
| LINMA1315 | Mathematical analysis : complements | Jean Van Schaftingen<br>Jean Van Schaftingen (compensates Pierre-Antoine Absil) | FR [q2] [30h+22.5h] [5 Credits] | x | |
| LINMA1702 | Optimization models and methods I | François Glineur | FR [q2] [30h+22.5h] [5 Credits] | x | |
| LINMA1170 | Numerical analysis | Jean-François Remacle | FR [q2] [30h+22.5h] [5 Credits] | | x |
| LINMA1691 | Discrete mathematics - Graph theory and algorithms | Vincent Blondel<br>Jean-Charles Delvenne | FR [q1] [30h+22.5h] [5 Credits] | | x |
| LINMA1510 | Linear Control | Gianluca Bianchin | EN [q1] [30h+30h] [5 Credits] *> French-friendly* | | x |
| LINMA1731 | Stochastic processes : Estimation and prediction | Gianluca Bianchin<br>Gianluca Bianchin (compensates Pierre-Antoine Absil)<br>Luc Vandendorpe | EN [q2] [30h+30h] [5 Credits] *> French-friendly* | | x |

### THE PROGRAMME'S COURSES AND LEARNING OUTCOMES

For each UCLouvain training programme, a reference framework of learning outcomes specifies the the skills expected of every graduate on completion of the programme. Course unit descriptions specify targeted learning outcomes, as well as the unit's contribution to reference framework of learning outcomes.

# FILMAP - Information

## Evaluation

***The evaluation methods comply with the regulations concerning studies and exams. More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".***