UCLouvain

UCL Study programme 2020 - 2021

Minor in Engineering Sciences: Applied Mathematics (only available for reenrolment)

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Learning outcomes

The primary objective of the " polytechnic " minors organized by the Faculté des Sciences Appliquées is to allow students taking a baccalaureate in engineering science, if they so wish, to acquire, through a polytechnic major/minor, basic training in two specialist areas of engineering science, and thus to broaden their technical range of skills, or prepare for a master's in engineering science in a domain which spans the various basic courses offered at baccalaureate level.

The disciplinary objectives of the minor in applied mathematics are to allow the student to acquire training in the basic concepts of the discipline, and, more specifically, to:

- Acquire basic skills in and knowledge of the fundamental disciplines in applied mathematics (optimization and operational research, algorithm and discrete mathematics, differential equations and dynamic systems, numerical analysis, statistics and probability)
- Gain an introduction into how mathematical models for engineering are designed, analyzed implemented in industry and organizations as well as drawing up effective strategies to improve the way such models work

Detailled programme

PROGRAMME BY SUBJECT

O Mandatory	⊠ Optional
△ Courses not taught during 2020-2021	⊘ Periodic courses not taught during 2020-2021
⊕ Periodic courses taught during 2020-2021	Activity with requisites

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

O *Content:*

O Cours obligatoires de la mineure en mathématiques appliquées. (30 credits)

Les étudiants ayant le cours LMECA1120 dans leur majeure MECA le remplacent par LMAT1223. Les étudiants ayant le cours LINMA1510 dans leur majeure (ELEC, GBIO, MECA) le remplacent par LINMA1315. Les étudiants suivant la majeure GC prennent le cours LMECA1120 au sein de leur majeure lors du le bloc annuel 2, et complètent ensuite leur programme de mineure en prenant LINMA1315 lors du bloc annuel 3.

					Year 2	Year 3
O LINMA1170	Numerical analysis	François Henrotte (compensates Jean-François Remacle)	30h +22.5h	5 Credits	q1	x
O LINMA1691	Discrete mathematics - Graph theory and algorithms	Vincent Blondel Jean-Charles Delvenne	30h +22.5h	5 Credits	q1	x
O LINMA1702	Optimization models and methods I	François Glineur	30h +22.5h	5 Credits	q2	x
O LINMA1510	Linear Control	Denis Dochain	30h+30h	5 Credits	q2	x
O LINMA1731	Stochastic processes : Estimation and prediction	Pierre-Antoine Absil Luc Vandendorpe (coord.)	30h+30h	5 Credits	q2	x

COURSE PREREQUISITES

There are no prerequisites between course units (CUs) for this programme, i.e. the programme activity (course unit, CU) whose learning outcomes are to be certified and the corresponding credits awarded by the jury before registration in another CU.

THE PROGRAMME'S COURSES AND LEARNING OUTCOMES

For each UCLouvain training programme, a reference framework of learning outcomes specifies the competences expected of every graduate on completion of the programme. You can see the contribution of each teaching unit to the programme's reference framework of learning outcomes in the document *"In which teaching units are the competences and learning outcomes in the programme's reference framework developed and mastered by the student?"*

MINMAP - Information

Access Requirements

Evaluation

The evaluation methods comply with the regulations concerning studies and exams (https://uclouvain.be/fr/decouvrir/rgee.html). More detailed explanation of the modalities specific to each learning unit are available on their description sheets under the heading "Learning outcomes evaluation method".

Possible trainings at the end of the programme

Majors-minors leading directly to a master's course(s) :

For students who have performed well and obtained a bachelor's qualification in engineering science - civil engineering, the polytechnic minors guarantee them, as part of a program which includes one of these minors, unconditional access, without additional training, to the civil engineering master's which corresponds to this minor.

- For the minor in applied chemistry and physics: the civil engineering master's in chemistry and material science and the civil engineering master's physicist
- For the minor in construction : the civil engineering master's in construction
- For the minor in electricity: the civil engineering master's electrician
- For the minor in IT: the civil engineering master's in IT
- For the minor in mechanics: the civil engineering master's mechanic
- For the minor in applied mathematics: the civil engineering master's in applied mathematics
- For a program which combines the major in electricity/minor in mechanics, or major in mechanics/minor in electricity: the civil engineering master's electromechanic.

Contacts

Curriculum Management

Entity

Structure entity	SST/EPL/MAP
Denomination	(MAP)
Faculty	Louvain School of Engineering (EPL)
Sector	Sciences and Technology (SST)
Acronym	MAP
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Useful Contact(s)

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