

**TROP2MC**

2015 - 2016

Advanced Master in Tropical and Subtropical Culture

Protection

**At Louvain-la-Neuve - 60 credits - 1 year - Day schedule - In french**  
 Dissertation/Graduation Project : **YES** - Internship : **YES**  
 Activities in English: **NO** - Activities in other languages : **NO**  
 Activities on other sites : **YES**  
 Main study domain : **Sciences agronomiques et ingénierie biologique**  
 Organized by: **Faculté des bioingénieurs (AGRO)**  
 Programme code: **trop2mc** - Francophone Certification Framework: 7

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## TROP2MC - Introduction

### Introduction

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## TROP2MC - Teaching profile

### Learning outcomes

This programme is designed to train and update professionals working in the field of crop protection, especially in tropical countries. The Advanced Master aims to offer interdisciplinary training which provides students with :

1. a global view of the special features of the biology and ecology of bio-agressors as well as their interactions with plants and the environment,
2. a global and integrated view of different protection strategies,
3. the ability to think in terms of context and synthesis, to put theoretical knowledge and analytical procedures into practice in a perspective of taking action,
4. the ability to identify the biological, phytotechnic and socio-economic factors to take into account in the resolution of crop protection problems.

### Programme structure

The workload is as follows :

Compulsory courses and seminars : 42 credits, divided into two semesters of courses and distributed between the three major institutions of the Advanced Master, the Catholic University of Louvain, the Faculty of Agriculture in Gembloux and the National School for Higher Education in Agricultural Sciences in Montpellier.

The final assignment is a piece of research work or a professional work placement equivalent to 18 credits.

Schematic description of the programme :

The programme lasts for a complete academic year. It comprises two semesters of courses which represent two thirds of the programme, during which students take two additional course modules:

1. Characterization of bio-agressors and diagnosis techniques (21 credits). The first part (at the FUSAGx campus and UCL) introduces the general concepts in crop protection and examines the different kinds of losses caused by plant agressors, the main groups of agressors responsible for plant damage, special features in their biology and their relationship with plants.
2. Analysis of sustainable attack strategies and case study (21 credits). The second part introduces protection strategies against bio-agressors. While there is a mainly monodisciplinary approach to the subjects on the first part of the syllabus, the second part examines topics differently, requiring students to adopt a systemic approach to problems. These special modules are made up of case studies which enable students to acquire cross-disciplinary skills through a series of learning situations focused on the solution of real problems.
3. Final assignment (18 credits). The third part requires students to demonstrate their ability to use the knowledge they have acquired in the context of either a research placement or the preparation of a project, depending on their choice:

- the research placement

§ the experimental research placement enables students to familiarize themselves with the work of a research team on a problem relating to the protection of tropical crops. It enables them to use the knowledge they have acquired in the context of a piece of scientific research (ability to analyze the context of the problem in every dimension, understand the methodology adopted and analyze the team's results).

§ Each placement is supervised by a member of the teaching staff from the Advanced Master and the placement director (the scientist in charge of the laboratory). The placement forms the subject of a written report submitted to the placement director and an oral presentation. Individual assessment of students is undertaken by a group of lecturers (from at least two institutions) whose expertise relates to the subject area of the placement, together with the president of the examining board.

§ The list of research placements is available to students at the beginning of the year.

The project relates to an issue suggested by the student. It is supervised by a team of lecturers and/or researchers under the direction of a lecturer who acts as project director. The project enables students to make use, in a synthetic way, of the knowledge they have acquired to solve a problem relating to crop protection. Each project forms the subject of a written report submitted to the project director and an oral presentation. Individual assessment of students is undertaken by a group of lecturers (from at least two institutions) whose expertise relates to the subject area of the placement, together with the president of the examining board.

[> Programme détaillé](#) [ en-prog-2015-trop2mc-Itrop210t.html ]

## TROP2MC Detailed programme

## Programme by subject

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### CORE COURSES [60.0]

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○ Mandatory

△ Courses not taught during 2015-2016

⊕ Periodic courses taught during 2015-2016

⊗ Optional

⊖ Periodic courses not taught during 2015-2016

■ Activity with requisites

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

○ LTROP3900	Travail de fin d'études	N.		20 Credits	
○ LGBLX3412	Séminaire de préparation au TFE	N.		8 Credits	2q
○ LBRPP2205A	Phytotechnique	Claude Bragard, Anne Legrève	60h	5 Credits	1 + 2q
○ LBIRA2106	Principles of phytiatry	Claude Bragard (coord.), Anne Legrève	30h	3 Credits	1q
○ LGBLX3406	Entomologie appliquée	N.	24h	2 Credits	1q
○ LGBLX3411	Fondements de phytopharmacie	N.	24h	2 Credits	1q
○ LGBLX3414	Méthodes alternatives de contrôle des adventices et des bio-agresseurs	N.	45h+29h	6 Credits	1q
○ LBRPP2101A	Biologie des bactéries : champignons, nématodes phytopathogènes	Claude Bragard, Stephan Declerck, Anne Legrève	37.5h	4 Credits	2q
○ LGBLX3413	Littérature scientifique et méthodologie documentaire	N.	4h+6h	2 Credits	1q
○ LENZA3301	Modalité d'application de la protection intégrée aux cultures tropicales et subtropicales	N.	90h	8 Credits	2q

## The programme's courses and learning outcomes

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For each UCL 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?"

The document is available by clicking [this link](#) after being authenticated with UCL account.

## TROP2MC - Information

### Admission

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*In the event of the divergence between the different linguistic versions of the present conditions, the French version shall prevail*

Decree of 7 November 2013 defining the landscape of higher education and the academic organization of studies.

The admission requirements must be met prior to enrolment in the University.

#### General requirements

Subject to the general requirements laid down by the academic authorities, admission to the specialized Master's degree programme will be granted to students who fulfil the entry requirements for studies leading to the award of a Master's (second-cycle) degree and who hold a second-cycle diploma, degree, certificate or other qualification issued within or outside the French Community of Belgium, or whose prior learning or experience has been accredited by the Examination Board as being equivalent to at least 300 credits.

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#### Specific Admission Requirements

##### Special procedures :

- 2<sup>nd</sup> cycle university degree in natural sciences, agriculture, chemistry or other degree recognized as equivalent ;
- professional activity (teaching, research, administration) directly linked to the subject area of the placement; students undertaking a placement must be able to show evidence of three years' professional experience;
- fluency in French and passive knowledge of English.

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#### Accessible to adults

The admission requirements state : "professional activity (teaching, research, administration) directly linked to the subject area of the placement; students undertaking a placement must be able to show evidence of three years' professional experience." This programme is therefore clearly designed for mature students.

## Teaching method

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Understanding problems of plant protection is based on mastery of a large number of disciplines. There are various institutions involved in the organization of the Advanced Master. This enables the different aspects of phytopathology, entomology and the phytopharmacy of tropical and subtropical crops to be thoroughly covered. The collegial nature of the teaching, based on teaching teams (cfr. programme) should help students to acquire the necessary cross-disciplinary skills. In addition, both the Belgian and French lecturers have experience of countries in the Southern hemisphere: this strengthens the syllabus relating to the phytotechnic and socio-economic factors to consider when solving problems of crop protection.

Student exchange is an important part of the programme (Standing Committee for University Co-operation towards Development grants for students from Southern hemisphere countries, student exchanges particularly with France – ENSAM and CNEARC), as well as exchanges of lecturers between institutions (cross-participation in UCL/FUSAGx courses).

There are currently many other forms of exchange between students and staff (e.g. ERASMUS and North/South exchanges) : the Advanced Master is also expected to rapidly become one of them.

Some of the teaching sessions are based on a problem-solving approach with case studies which put students' prior experience to use.

The e-learning site, iCampus, is used to coordinate special teaching sessions.

## Evaluation

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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".

Students are assessed in different ways, set out in the programme. Assessment can take the form of written and/or oral examinations, or through individual and/or group work.

## Mobility and/or Internationalisation outlook

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This Advanced Master has a clear international outlook. Part of the course is held at ENSAM in Montpellier (France), where it is also possible to do the placement-dissertation.

The target audience for which this Advanced Master is designed is also international. For example, in 2004 the Standing Committee for University Co-operation towards Development received 70 applications from North Africa (Algeria, Tunisia, and Morocco), West Africa (Senegal, Mali, Niger, Benin, Ivory Coast, Cameroon, and Nigeria), Central Africa (Democratic Republic of Congo, Burundi, and Rwanda) and Haiti. The participation of foreign students with a wide range of professional experience enriches the syllabus, particularly in the courses based on making use of prior experience. The language of instruction for the Advanced Master is French. However a passive knowledge of English is required as a prerequisite.

## Possible trainings at the end of the programme

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This programme may only be taken after gaining a first Master's degree for 2<sup>nd</sup> cycle studies worth at least 300 credits. It may lead to doctoral training.

## Contacts

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### Curriculum Management

Entite de la structure AGRO

Sigle	<b>AGRO</b>	
Dénomination	Faculté des bioingénieurs	
Adresse	Croix du Sud 2 bte L7.05.01 1348 Louvain-la-Neuve Tél 010 47 37 19 - Fax 010 47 47 45	
Site web	<a href="https://www.uclouvain.be/agro">https://www.uclouvain.be/agro</a>	
Secteur	Secteur des sciences et technologies (SST)	
Faculté	Faculté des bioingénieurs (AGRO)	
Mandats	<a href="#">Yvan Larondelle</a> <a href="#">Christine Devlesaver</a>	Doyen Directeur administratif de faculté

Commissions de programme

- Commission de programme - Master Bioingénieur-Sciences agronomiques ([BIRA](#))
- Commission de programme - Master Bioingénieur-Chimie et bioindustries ([BIRC](#))
- Commission de programme - Master Bioingénieur-Sciences & technologies de l'environnement ([BIRE](#))
- Commission de programme - Bachelier en sciences de l'ingénieur, orientation bioingénieur ([CBIR](#))
- Commission de programme interfacultaire en Sciences et gestion de l'environnement ([ENVI](#))

**Academic Supervisor :** [Claude Bragard](#)

**Jury:**

Président de jury : [Philippe Lepoivre](#) (Tel: 32 (0) 81 622 433 )

Secrétaire de jury : [Claude Bragard](#)

## Usefull Contacts



