# BRAS2MC

*2013 - 2014*

# Advanced Master in Bio-engineering : Brewery

**At Louvain-la-Neuve - 60 credits - 1 year - Day schedule - In french**
Dissertation/Graduation Project : **YES** - Internship : **optional**
Activities in English: **NO** - Activities in other languages : **NO**
Activities on other sites : **NO**
Main study domain : **Sciences agronomiques et ingénierie biologique**
Organized by: **Faculté d'ingénierie biologique, agronomique et environnementale (AGRO)**
Programme code: **bras2mc** - European Qualifications Framework (EQF): 7

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# BRAS2MC - Introduction

# BRAS2MC - Admission

***For the specific conditions of this program : refer to the French version***

Decree of March 31st 2004 defining higher education, favoring its integration in the European framework of higher education and refinancing universities.
The admission requirements have to be met at the time of enrolment at the university.

All information can be obtained from the University's Enrolment Office (Service des inscriptions – SIC).

The following students, after meeting the conditions set by the academic authorities, have access to the complementary Master's degree with the aim of obtaining the grade that these studies sanction:

- An academic Master's degree within the same field allowing 2nd-cycle studies, including at least 120 credits
- An academic Master's degree, following a decision by the academic authorities, under the complementary conditions that they set and as a result of a motivated decision by the jury
- An academic grade which is similar to those mentioned above, issued by the Flemish Community, the German Community or the Royal Military Academy, under the same conditions
- A foreign academic grade that has been acknowledged as being equivalent to those mentioned above, in application of this decree, a European-level directive or an international convention, under the same conditions
- Under the same conditions, one or several titles or academic grade issued by the Flemish Community, the German Community or the Royal Military Academy, sanctioning 2nd-cycle studies and valued at least 300 credits by the jury, or sanctioning 2nd-cycle studies and valued at least 240 credits completed of 60 credits, the all that must be valued by the jury according to the decree of March 31st, 2004 (art 54, 5 °)

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

# BRAS2MC - Information

## Learning outcomes

For candidates who have prior training in fields such as biochemistry, microbiology and other aspects of engineering, this course offers special training for the brewery sector and enables them to gain a high-level, professional qualification.

## Teaching method

The teaching staff on the programme have a wide variety of backgrounds, both academic and industrial, and at an international level : this enables candidates to acquire themultidisciplinary knowledge necessary to understand these complex subjects. Being able to join a unit at the forefront of brewing research and undertaking a research placement sponsored by a manufacturer are major benefits for candidates who wish to improve their knowledge of the brewery world.

## Evaluation

The methods by which students are assessed include written and/or oral examinations as well as a placement which forms the subject of a written report and a public oral defence before a group of lecturers and researchers whose work relates to the area of the placement.

## Mobility and/or Internationalisation outlook

The wide variety of participants on the programme for the Advanced Master in Bio-engineering : Brewery gives it a strong international outlook and offers many useful opportunities for exchanging experiences. There is special emphasis in the syllabus on globalization of the sector e.g. sourcing raw materials or problems in production methods. It is possible to undertake a placement in an international unit: this is clear evidence of the international scope of this Master.

## Possible trainings at the end of the programme

This programme may only be taken after gaining a first Masterâ€™s degree for 2$^{nd}$ cycle studies worth at least 300 credits. It may lead to doctoral training.

# BRAS2MC - Contacts

## Curriculum Managment

Entite de la structure AGRO

| | | |
|---|---|---|
| Sigle | **AGRO** | |
| Dénomination | Faculté des bioingénieurs | |
| Adresse | Croix du Sud, 2 bte L7.05.01<br>1348 Louvain-la-Neuve<br>Tél 010 47 37 19 - Fax 010 47 47 45 | |
| Site web | https://www.uclouvain.be/agro | |
| Secteur | Secteur des sciences et technologies (SST) | |
| Faculté | Faculté des bioingénieurs (AGRO) | |
| Mandats | Philippe Baret | Doyen |
| | Christine Devlesaver | Directeur administratif de faculté |
| Commissions de programme | Commission de programme - Master Bioingénieur-Sciences agronomiques (BIRA)<br>Commission de programme - Master Bioingénieur-Chimie et bioindustries (BIRC)<br>Commission de programme - Master Bioingénieur-Sciences & technologies de l'environnement (BIRE)<br>Commission de programme - Bachelier en sciences de l'ingénieur, orientation bioingénieur (CBIR)<br>Commission de programme interfacultaire en Sciences et gestion de l'environnement (ENVI) | |

**Academic Supervisor :** Sonia Collin

## Jury

Président de jury : **Pierre Bertin**
Secrétaire de jury : **Marc Maudoux**

## Usefull Contacts

Responsable du programme : **Sonia Collin**

# BRAS2MC - Detailled programme

## Programme structure

This programme is designed to provide training and preparation for professional practice in the brewery sector. It comprises theoretical and practical training as well as a placement- dissertation in industry.

• Schematic description of the course components

1. Theoretical training

The theoretical training includes the biochemistry, chemistry and the microbiology of procedures used in the malting house and the brewery. It also covers the practical and technological aspects linked to these two industries as well as the organoleptic aspects. It will widen studentsâ€™ knowledge of related subjects such as the chemistry and microbiology of foodstuffs.

2. Placement-dissertation

The aim of this work is to enable students to discover the brewery sector in a practical context. They will familiarize themselves with the activity of a team working on a specific problem related to the production of malt or beer. They will have to use the theoretical knowledge they have acquired in the framework of a piece of scientific research (ability to analyze the context of the problem from all perspectives, understand the methodology adopted and analyze the teamâ€™s results). In addition, students will become more familiar with the different analytic techniques (e.g. GC-MS and HPLC) applied to brewing/malting.

This work is sponsored by a lecturer from the Master programme and a manufacturer. It forms the subject of a written report and a public oral defence before a group of lecturers and researchers whose work relates to the area of the placement.

Core study

> Programme détaillé *[ en-prog-2013-bras2mc-lbras220t.html ]*

## Programme by subject

## Core courses [60.0]

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|---|---|---|---|
| O Mandatory | | ⊠ Optional | |
| △ Courses not taught during 2013-2014 | | ⊘ Periodic courses not taught during 2013-2014 | |
| ⊕ Periodic courses taught during 2013-2014 | | ⧺ Two years course | |

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

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|---|---|---|---|---|---|
| O LBRAL2101 | Beer organoleptic and microbiological quality | Sonia Collin (coord.), Marc Maudoux | 30h+22.5h | 5 Credits | 2q |
| O LBRAL2103 | Food chemistry | Sonia Collin | 30h+22.5h | 5 Credits | 1q |
| O LBRAL2104 | Food microbiology | Jacques Mahillon | 30h+22.5h | 5 Credits | 2q |
| O LBRAL2105 | Brewing biochemistry | Stephan Declerck (coord.), Laurence Gijs, Laurent Mélotte | 30h+22.5h | 5 Credits | 1q |
| O LBRAL2106 | Brewing biochemistry | Sonia Collin | 30h+22.5h | 5 Credits | 1q |
| O LBRAL2201A | Food technology (partim) | Axel Kather | 52.5h | 5 Credits | 2q |
| O LBRAS3390 | Stage-mémoire | N. | | 27 Credits | |
| O LBIRC2213A | Séminaire d'accompagnement à la recherche en brasserie | N. | 30h | 3 Credits | 2q |