

**REAU2MC**

2015 - 2016

Advanced Master in Water Resources

**At Louvain-la-Neuve - 60 credits - 1 year - Day schedule - In french**Dissertation/Graduation Project : **YES** - Internship : **NO**Activities in English: **NO** - Activities in other languages : **NO**Activities on other sites : **YES**Main study domain : **Sciences de l'ingénieur et technologie**Organized by: **Faculté des bioingénieurs (AGRO)**Programme code: **reau2mc** - Francophone Certification Framework: 7**Table of contents**

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## REAU2MC - Introduction

### Introduction

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## REAU2MC - Teaching profile

### Learning outcomes

This inter-university programme, organized jointly by the Wallonia-Europe Academy and the Louvain Academy is designed to provide advanced French-speaking training in the field of water resources. There is special emphasis on understanding the processes which determines the flows in the terrestrial hydrosystem (quantitative and qualitative), characterization (data acquisition and processing) and predictive modelling and, overall, the best possible management of the resource that is water. It offers a special combination of subjects currently available in a very different selection of training courses. The programme is designed to train specialists in the field of water who are capable of working in institutions in the public sector (e.g. ministries and international institutions) private companies, research departments and other different organizations. It also enables students to acquire in-depth knowledge which is both useful and necessary to lead on to a doctoral programme in this area.

### Programme structure

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[> Programme détaillé](#) [ en-prog-2015-reau2mc-lreau220t.html ]

## REAU2MC Detailed programme

### Programme by subject

#### CORE COURSES [60.0]

○ 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...)

○ LREAU3900	Mémoire de fin d'études	N.		15 Credits	
○ <b>Cours obligatoires dispensés à UCL - Louvain-la-Neuve</b>					
○ LREAU2301	Vadoze zone hydrology	Mathieu Javaux (coord.), Marnik Vanclooster, Marnik Vanclooster (compensates Mathieu Javaux)	30h+15h	4 Credits	2q
○ LBIRE2101	Statistical analysis of spatial and temporal data	Patrick Bogaert	22.5h+15h	3 Credits	2q
○ LBRES2204	Integrated water management of water resources	Olivier Cogels, Marnik Vanclooster (coord.)	30h+22.5h	5 Credits	1q
○ LREAU2302	Seminar :a tool for integrated water management	null SOMEBODY, Marnik Vanclooster (coord.)	30h+15h	4 Credits	1q

**o Cours obligatoires dispensés à ULg - Gembloux Agro Bio Tech**

○ LGBLX3302	Hydraulic watershed management: trips and visits	N.	12h+12h	2 Credits	1q
○ LGBLX3301	Water in soils: measurements and interpretation	N.	12h+24h	3 Credits	1q

**o Cours obligatoires dispensés à ULg - Liège et FUNDP - Namur**

○ LULG3305	Surface hydrology and hydraulics	N.	25h+25h	4 Credits	2q
○ LULG3306	Applied hydrogeology	N.	25h+25h	4 Credits	1q
○ LULG3307	Antropic perturbations of aquatic ecosystems	N.	30h+15h	4 Credits	1q
○ LULG3308	Climatology and hydrology	N.	23h+7.5h	3 Credits	1q
○ LFNDP2308	Ecological state of surface water	N.	25h+25h	4 Credits	2q

**o Cours au choix (5 credits)**

*Cours à choisir pour 5 crédits minimum dans les programmes des institutions partenaires, en fonction de la formation antérieure de l'étudiant et du choix du thème du mémoire et en accord avec le comité de gestion du programme.*

## 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.

## REAU2MC - Information

### Admission

*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.

#### Specific Admission Requirements

Students who hold the following academic degrees may gain direct entry ([1]) to the Advanced Master in Water Resources, subject to a possible modification of the programme (up to 15 additional credits) :

- Master in the field of engineering;
- Master (120 credits) in the field of science;
- Master in the field of agriculture and bio-engineering;
- 2nd cycle degree corresponding to one of the above-mentioned degrees and awarded before the decree of 31 March 2004;
- 2nd cycle degree corresponding to one of the above-mentioned degrees and awarded in the Flemish Community.

( [1] ) Before enrolment, students should make contact with the local programme director to seek approval from the programme management committee. Candidates are required to submit their c.v. and a list of courses already taken.

Students who hold the following academic degrees may gain entry to the Advanced Master in Water Resources, subject to the approval of the academic authorities and any additional requirements they may impose :

- Master in industrial engineering (L);
- a degree similar to those mentioned above and awarded by the Royal Military School ;
- a foreign degree recognized as equivalent to one of those mentioned above;
- a foreign degree judged by the panel to be comparable and validated as being worth 300 credits.

When the additional entry conditions consist of one or more additional courses worth more than 15 credits, the panel must, if they accept the student's application, require an extra year of study (preliminary programme for Advanced Master). The preliminary programme does not lead to an academic degree. However, on satisfactory completion of this programme, a certificate is awarded and the student may enrol for the Advanced Master.

**Where entry to the Advanced Master is not direct, and for applications which do not fall into the above-mentioned categories, students should submit their files to the Admissions Office of the relevant institution.**

**Before enrolment, students should make contact with the local programme director to seek approval from the programme management committee. Candidates are required to submit their c.v. and a list of courses already taken.**

## Teaching method

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The control and sustainable management of water resources are primarily based on understanding all the processes which determine hydrological flows in terrestrial ecosystems. They also rely on different techniques and technologies for characterization, modelling and management, all of which relate different disciplines.

There are various institutions involved in the organization of the Advanced Master. This enables the different aspects necessary for the study of the processes and techniques in water resource management 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, the experience of our partners in applied studies in water resource management in the Walloon Region, internationally and especially in the Southern hemisphere, ensures that the training is closely allied to the needs of the sector, both at regional and international levels. There are currently many other forms of exchange between students, staff and the countries of the Southern hemisphere: the Advanced Master is also expected to rapidly become one of them.

First, the Master offers advanced training and techniques in the area of characterization and modeling of water resources, focussing on the physical, chemical and biological functions of the hydrosystem, as well as the pressures on the resource, especially the climate. Subsequently, the programme goes on to develop interdisciplinary skills through compulsory cross-disciplinary seminars. These seminars tackle issues raised by the study of practical cases, introduced by experts in water management from the region and elsewhere.

Depending on the prerequisites, students may complete their programme with optional subjects from other Master programmes.

E-learning aids used at different institutions such as iCampus at UCL are used for coordinating special teaching sessions.

## Mobility and/or Internationalisation outlook

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The partner institutions enjoy an international reputation in this area.

Up until 2005, some of them organized specialized studies in hydrology. The new programme for the Advanced Master has adapted this content to reflect changes in the subject. The subject and the focus of the training should attract international students.

The expertise of the teaching staff means that activities on this programme will include case studies likely to be of international interest, particularly in the context of the compulsory interdisciplinary seminars. Final dissertations may include some experimental work carried out abroad.

## 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 2nd 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 :** [Marnik Vanclooster](#)

**Jury:**

Président de jury : [Alain Dassargues](#) (Tel: +32 (0) 4 366 23 76 )

Secrétaire de jury : [Marnik Vanclooster](#)

## Usefull Contacts



