Erasmus Mundus

The Erasmus Mundus programme launched in 2004 by the European Commission is a co-operation and mobility programme in the field of higher education which promotes the European Union as a centre of excellence in learning around the world. It supports European top-quality Masters Courses and enhances the visibility and attractiveness of European higher education in third countries. It also provides EU-funded scholarships for third country (Outside of EU) nationals participating in these Masters Courses, as well as scholarships for EU nationals studying in third countries.

By supporting the international mobility of scholars and students, Erasmus Mundus intends to promote its European and non-European participants for life in a global, knowledge-based society. The programme, a new global approach, is intended to strengthen European co-operation and international links in higher education by supporting high-quality European Masters Courses, by enabling students and visiting scholars from around the world to engage in postgraduate studies of European universities, as well as by encouraging the outgoing mobility of European students and scholars towards third countries (Out of EU countries).

Erasmus Mundus Masters Courses and scholarships will provide a framework to promote valuable exchange and dialogue between cultures.

- Details about the Erasmus Mundus programme can be found at: http://europe.eu/erco/digitale/programmes/mundus/index_en.html

Scholarships

According to the Erasmus Mundus rules, Euro-Aqua consortium offers every year about 25 scholarships for non-European participants. 2 years grants of 42,000 Euro are proposed after selection of candidates by the Euro-Aqua consortium and validation by the European Commission. The programme is also open to candidates who do not request financial support through Erasmus Mundus programme.

Scholarships for studying during 3 months in third countries through the Erasmus Mundus framework are offered to about 15 European students every year. EU participants are also supported by Erasmus and Leonardo grants.

- The time schedules for candidature and selection process are available on the Euro-Aqua website: www.euroaquaeuro.org
- Applications form may be obtained as request at: euaqua@bluewin.fr

For further details please contact:

Philippe GOUYSSENS
Coordinator
University of Nicosia - Sophia Antipolis
96, boulevard E.N. Rétif
08204 Nicosia 3
France
Tel: +33 4 93 37 54 52 / 55 41
Fax: +33 4 93 37 53 58
email: gouve@bluewin.fr

Peter KLUSK
Faculty of Architecture, Civil Engineering and Urban Planning
Institute for Water Informatics
Branding Universiteit of Technology-Corvinus
D-11988 Budapest
Germany
Tel: +43 1/534 76 22 52
Fax: +43 1/534 76 22 51
email: pk@www.fu-berlin.de

Janos KOLTAY
Department of Hydraulics and Water Resources Engineering
Budapest University of Technology and Economics
Momentum sq. H-1111 Budapest
Hungary
Tel: +36 5475 5196
Fax: +36 5475 5179
email: pkoltay@kit.tuwien.ac

Manuel GOMEZ
International Center for Numerical Methods in Engineering
Technical University of Catalunya
Campus de Dalt, 15 Building C1 3rd floor - Barcelona
Spain
Tel: +34 93402 6357
Fax: +34 93401 6357
email: manuel.gomez@upc.es

Vedrana KUTLE
Schools of Civil Engineering and Geosciences
University of Newcastle upon Tyne
10 Kensington Terrace
NE1 2TR, Newcastle upon Tyne
United Kingdom
Tel: +44 191 222 0 542
Fax: +44 191 222 0 969
email: vedrana.kutle@newcastle.ac.uk

Visit our website: www.euroaquaeuro.org
Email: euaqua@bluewin.fr
Hydroinformatics and water management

The evolution of human activities, in the foreground of climate changes and growing earth population, involves situations more and more complex to manage. The sustainable development of water resources in the economic environment and its management represents today a major challenge. The global aim of the management is to avoid or minimize risks of water supply, irrigation, floods, waste waters treatment. In this context Hydroinformatics, a European concept encompassing progress of modeling technologies and management of operations, emerges as an essential tool in activities aiming at sustaining social and economic requirements. The main objective of the Master is to prepare and train future scientists and engineers in charge of modeling and managing projects in hydroinformatics and environment. These professionals will assist decision-makers of local, regional, national and international authorities, of public services, or they will be involved in consulting activities with private companies. Their professional excellence will be accomplished by understanding of social and economical requirements the techniques should serve.

Master programme structure

Eurolake is based on a two years programme with 4 semesters of 30 ECTS (European Credit Transfer System). Participants must follow at least 80% of the curriculum in different institutes from their “European Home Institution”.

The course is divided into a joint activity by University of A Coruña, University of Ulster, Brabander University of Technology, Carles III University, Technical University of Eindhoven, and University of Patras. The course is conducted in English, for a total number of 40 European and third-country participants. The master is organized in a pedagogical framework to provide:

- an introduction and common knowledge and skills to the participants offered by each of the consortium members during semester 1;
- the execution and the use of the hydroinformatics concepts, methods and tools done at the University of A Coruña, open-tyn during semester 2 for all participants;
- a thematic specification for semester 3, at one of the 4 partners universities, following one of the main options according to the student’s expertise and experience, the deep cooperation through the consortium members for the development of the master course and hydroinformatics: hydroinformatics systems, urban waters management, inland waters management, decision support systems.
- research project or a professional practice during semester 4. The course provides one more research and one more practice oriented specializations. The choice of a research project or the last semester is answered to the demands of the participants who have the opportunity to deepen their professional skills and understand importance of good practices which are essential for a good integration within the international professional community.

Behavior within the course programme and the consortium is established through Web-based collaboration in the spirit of a “Virtual European University”.

The Eurolake consortium awards joint degree (Erasmus Master in Hydroinformatics & Water management) recognized by all the participating countries and counting the Erasmus Mobility Grant.

Every successful participant is like that graduated from the 4 European universities of the Eurolake consortium.

Core Modules (semesters 1 & 2)

- Mathematics & Physics
- Hydrology & Hydroclimatics
- Numerical methods and computational hydrology
- Water and aquatic environment management
- Hydroinformatics & Integrated Water Resources Management
- Introduction to software packages (commercial & industrial modeling systems)
- Databases & GIS (ICU)
- Software engineering
- Web-based collaborative engineering

Specialization modules (semester 3)

- Modelling methods for urban waters
- Methods for water supply and waste waters treatment
- Geographical and legal environments - Water industry & municipalities
- Project management & communication
- Catchment basin and groundwater modeling
- Geometric modeling and presentation methods
- Modelling and development of complex hydroinformatics software systems
- Monitoring, data acquisition and documentation
- Modelling methods for inland surface waters
- Hydrological modeling and forecasting
- River basin management and planning
- Advanced hydrometry and data analysis in surface waters
- Artificial neural network for Decision Support Systems (DSS)
- Robust models and applications in river basin management
- DSS for flood risk in urban areas
- Real time control and operation of navigable canals, rivers and reservoirs

Admission criteria

- Minimum qualification is 2nd class degree from University (B.Sc.) or its equivalent. Preferred first degree subjects are Engineering (any branch), Environmental Sciences, Physics, Computer Sciences, Geography, Mathematics, Chemistry, Geology or a similar subject.
- Advanced level Mathematics is required.
- IELTS score of minimum 5.75 (or equivalent) is required. Basic knowledge of one of the other languages (German, French, Spanish, Hungarian) used by the consortium has to be acquired during the 2 years programme. Evaluation of the level of scientific and engineering knowledge, as well as the English command of each candidate is made by the Eurolake consortium.