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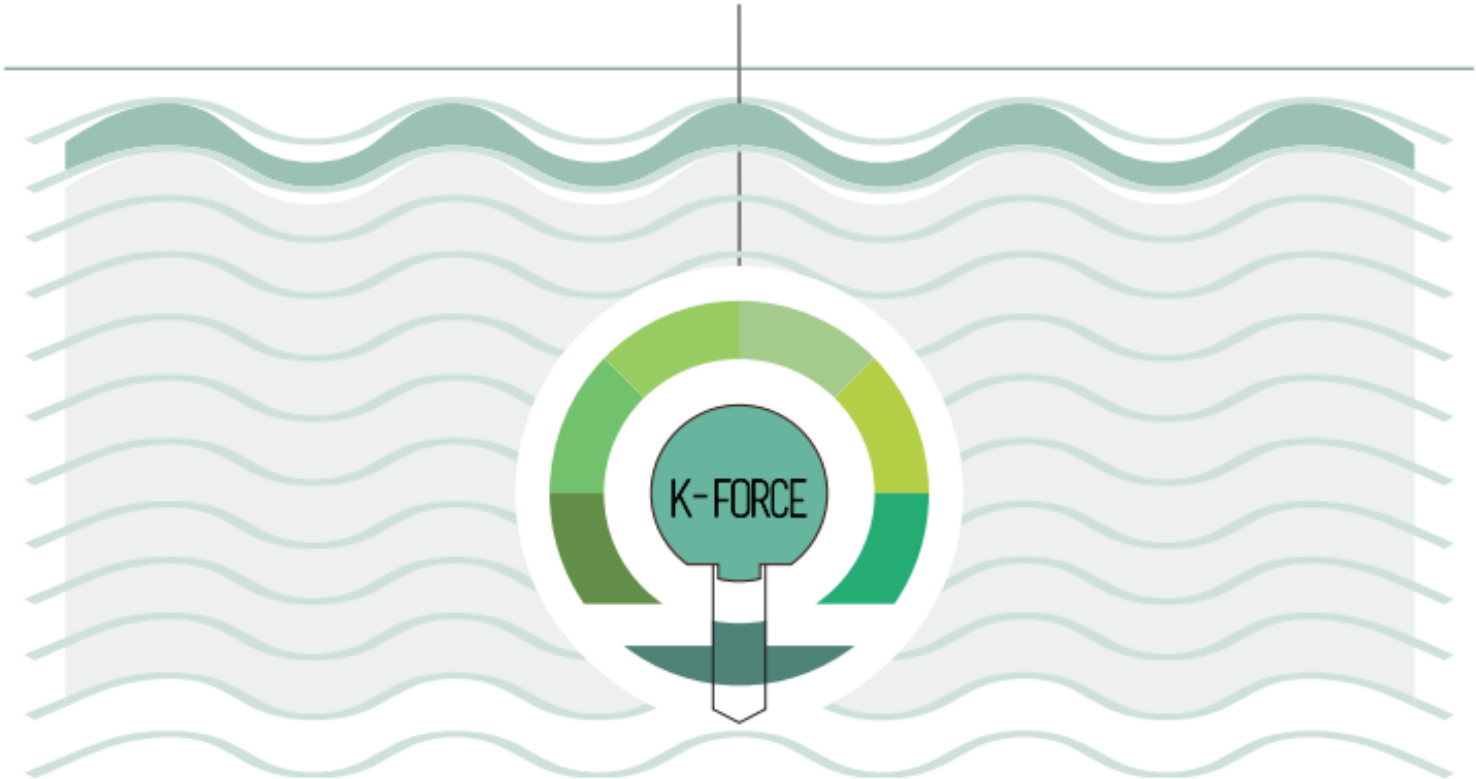
Knowledge FOr Resilient soCiEty

K - FORCE

573942-EPP-1-2016-1-RS-EPPKA2-CBHE-JP



WP1

AN ANALYSIS OF THE DISASTER RISK MANAGEMENT AND FIRE SAFETY ENGINEERING MASTER PROGRAMMES IN EUROPE AND WESTERN BALKAN COUNTRIES

Part 2 – Report on existing master programmes in EU

Deliverable 1.1

Prepared by:

Allborg University, Department of Civil Engineering, Denmark
University of Žilina, Faculty of Security Engineering, Slovakia
University of Novi Sad, Faculty of Technical Sciences, Serbia
Higher Technical School of Professional Studies in Novi Sad, Serbia
The University of Tuzla, Faculty of Mining, Geology and Civil Engineering, Bosnia and Herzegovina
The University of Banja Luka, Faculty of Architecture, Civil Engineering and Geodesy, Bosnia and Herzegovina
University of Tirana, Faculty of Economy, Albania
Epoka University, Faculty of Architecture and Engineering, Albania

Edited by:

Suzana Draganić, University of Novi Sad
Danijela Ćirić, University of Novi Sad

Report 1.1 - Part II gives an overview on master programs related to the Disester Risk Management and Fire Safety Engineering area that are being offered in K-FORCE project's Programme countries (Denmark, Sweden Slovakia and FYR of Macedonia). Additional EU countries are also included within report (UK, Ireland, Norway, Spain, Germany, Netherland, Belgium, Italy, France, Czech Republic, Croatia, Greece, Hungary, Romania, Bulgaria). The purpose of this activity is to map the external environment in which the K-FORCE future Master programs in DRM&FSE will be operating, as well as to gather ideas about the possible structure and curriculum of the envisaged program.

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v.01	17.04.2017.	First draft version	AAl, UNIZA, UNS, VTSNS, UNTZ, UBL, UT, Epoka

TABLE OF CONTENT

INTRODUCTION

The subject area, Disaster Risk Management and Fire Safety Engineering, refers to Multidisciplinary/Interdisciplinary disciplines, with Engineering and engineering trades as the dominant academic discipline, while other disciplines addressed by curricula being Environmental protection, Architecture and Construction, Civil Protection, Fire Science, Climatology, Hydrology, Seismology and Economy.

In this regard, the following session will give an overview on master programs related to the area there are being offered in K-FORCE project's Programme countries – Denmark, Sweden, Slovakia and FYR of Macedonia. A list of all master programs which related to the area was compiled, even though their title was not specifically "Disaster Risk Management and/or Fire Safety Engineering". Therefore, MPs in the field of Civil Engineering, Environmental Protection, Sustainable development and Climate Change, Environmental Engineering and other related fields have been listed. Besides this, an overview on master programs related to the area there are being offered in other EU countries (UK, Ireland, Norway, Spain, Germany, Netherland, Belgium, Italy, France, Czech Republic, Croatia, Greece, Hungary, Romania, Bulgaria) was provided within this report.

The purpose of this activity is to map the external environment in which the K-FORCE future MPs in DRM&FSE will be operating, as well as to gather ideas about the possible structure and curriculum of the envisaged program.

The research MPs in Disaster Risk Management and Fire Safety involved the following steps:

1. Making of the list of HE institutions with the programmes;
2. Searching for the information on the selected programmes at the websites of the HE institutions;
3. Narrowing the list of programmes to those actually dealing with some aspects of Disaster Risk Management and Fire Safety;
4. Preparation of the cumulative table with data on relevant programmes;
5. Commenting the results.

Within an analysis, collected data included the following categories:

- **Country** offering the program
- **Academic Title** of program
- **Host Higher Education Institution (University/Faculty/ Department)**, offering the program
- **Risk Area**
- Number of years **Since** the program has been operational
- **Number of students** enrolled
- **Duration** of program in years and semesters
- Tuition **Fee**
- Programme **Description**, including objectives and target audience
- **Admission** requirements
- **Content**, including organization and curriculum
- **Teaching/Learning** describing teaching methodology and assessment
- **Academic staff**

DENMARK

AALBORG UNIVERSITY

Department of Civil Engineering
Aalborg, Denmark

MASTER ACADEMIC STUDY PROGRAMME
Crisis Management

Basic data

Risk area: Reliability and Safety in Engineering
Since: 2014
Duration of studies: 2 years (4 semesters)
Number of students: 12
Fee: EU/EEA – free
Others: 94,300 DKK
Academic title: MSc in Crisis management
Scope of studies: 120 ECTS
Website: www.en.aau.dk

Description

During the Master's programme you will gain knowledge about basic probability theory and collection of data within risk analysis and the social conditions that are relevant to risk control. Furthermore, you will be presented with the theoretical methods and strategies that are used in risk perception and -communication.

During your studies, you will learn how to apply risk analysis and simulations to identify the crisis situations and risks that can occur when a project is carried out in a company. You will learn to work out plans to handle projects and to gain insight into implementation methods, ways to carry out routine tests and reporting.

As an expert in risk and safety management, you could help companies to prevent and manage different risk scenarios such as

- the collapse of a building or a bridge
- an oil leak
- fire on a drilling rig
- a chemical accident in the pharmaceutical production
- accident during discharging and installation of parts for wind turbine generators in wind parks.

Admission

Admission to the Master of Science and Technology in Risk and Safety Management presupposes one of the following:

- BSc degree in Chemistry
- BSc in Structural and Civil Engineering
- BSc in Mechanical Engineering
- BSc in Public Health Science
- Bachelor's degree in Business Economics
- Bachelor of Architectural Technology and Construction Management

All applicants are evaluated individually. Students with another Bachelor's degree may be admitted following an academic assessment if the applicant is considered to have comparable educational prerequisites.

IELTS (academic test): Minimum score: 6.5
TOEFL (paper-based): Minimum score: 560
TOEFL (internet-based): Minimum score: 88
Cambridge Certificate of Proficiency (CPE)
Certificate in Advanced English (CAE)
Cambridge First Certificate with the grade B

Content

1st semester

1st semester is about the legislation the project is subject to, and the different industry standards that are in force in the given area. Through the project work, you will work with how the different statutory requirements have influence on the project, including the possibilities and restrictions they cause. Moreover, you follow courses in applied statistics and probability theory, risk assessment, and systems engineering.

List of courses in 1st semester

1st semester	
Course	**ECTS**
Systems Engineering	5
Applied Statistics and Probability Theory	5
Risk Analysis	5
Industry Standards and Legislation	15
Total ECTS	**30**

2nd semester

During the 2nd semester, you work with analysis of risk and safety management. Through the courses, you learn about risk management and decision-making. In addition to that, there is an opportunity to choose courses in maintenance planning and risk communication. The content of the courses are integrated into the project work. For instance, based on risk analysis, you can work with how you outline and choose between alternatives to a current solution.

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Risk Management	5
Decision Making	5
Choose between Risk Communication and Maintenance Management	5
Risk Analysis and Management	15
Total ECTS	**30**

3rd semester

During the 3rd semester, the operative part of risk management in connection with projects will be in focus. Through the project work, you will work with how you can use risk management to prevent and handle the emergencies that can occur in connection with carrying out a project. Besides that, you also follow courses within simulation and handling of emergency situations. Additionally, you have the opportunity to choose between the courses Risk and Safety of Constructions and Health and Safety Management.

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Simulation of Emergencies	5
Emergency Management	5
Choose between Risk and Reliability in Engineering and Health and Safety Management	5
Operational Risk Management in Projects	15
Total ECTS	**30**

4th semester

You will finish the study programme with a final academic thesis – the Master's thesis. This project is larger than the projects you have carried out so far. When carrying out the thesis, you have the

opportunity to combine all the knowledge and skills you have acquired throughout the study programme. The Master's thesis can be in nature of industrial development, further development of a project, or actual research.

List of courses in 4th semester

4th semester	
Required work	**ECTS**
Master's thesis	30
Total ECTS	**30**

Teaching/Learning

The study method at AAU is called Problem Based Learning (PBL). Together with your fellow students you will work with real life problems by way of problem based project work.

Academic Staff

- Anders Schmidt Kristensen, Associate Professor and Director of Program
  Phone: 4218 0842
  E-mail: ask@civil.aau.dk

TECHNICAL UNIVERSITY OF DENMARK

Department of Civil Engineering
Kgs. Lyngby, Denmark

MASTER ACADEMIC STUDY PROGRAMME
Fire Safety

Basic data

Risk area: Fire risk
Since: 1999
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: Kr. 18.000 covering the access course "Engineering Mathematics and Physics for Bachelors"
Kr. 12.000 per course
Kr. 24.500 covering Fire Engineering Project Task
Besides this, expenses for books plus other teaching material, software and excursions is to be added. DTU expects that the course fee in great extent will be paid by the participants'

employers. When the deposit of course fee is registered in DTU's system, there will be no refunding.

Academic title: Master in Fire Safety
Scope of studies: 120 ECTS
Website: www.brand.dtu.dk

Description

Since 1999 the Technical University of Denmark (DTU) has offered a 'Master in Fire Safety' as an open education. The master is aimed at persons who will lead and coordinate tasks within fire technology both in private companies and in the public sector.

If all modules are attended, the duration of the education is typically 4 half years (semesters), where the working load is corresponding to half time. The courses are to a great extent taught as remote learning via the Internet containing 3 meetings with duration of 1½-2 days. The typical availability is 3 courses per semester.

Admission

The target group is civil/structural engineers or building technicians with passed access course and two years of working experience.

It is possible for others on a corresponding level – after specific evaluation – to be enrolled in the courses. If you are not an educated engineer (B. Eng., BSc Eng., BSc Eng. (hon.), MSc Eng.) or building technician with a passed DTU access course, you can only participate in some specific courses on the master education (appears on the course description). Participation in some supplementing courses before start of the education can be required.

A typical student on the master can be: Employees with working experience as caseworkers or project managers in national or municipal organisations, technical administrations, emergency management agencies etc., employees with background as designing engineers, product developers or as building material manufacturer.

For applicants not completely meeting the technical and scientific requirement, DTU offers the essential supplementing courses.

The master is currently taught in Danish, why there will be requirements of appropriate skills in the Danish language. For many students the master means a career leap. To open the international job market some of the teaching will be held in English. Literature and programs in both English and Danish will occur.

Both the structure of the single courses in the education and the professional and pedagogical organisation supports the utilisation of the student's general, vocational and personal skills and maturity.

Content

List of courses in 0. Semester – Fall

0. semester
Course
Engineering Mathematics and Physics for Building Technicians

List of courses in 1st semester –Spring

1st semester
Course
Fire Chemistry
Building Fire Safety Engineering
Fire Dynamics

List of courses in 2nd semester - Fall

2nd semester
Course
Structural Fire Safety Design
Environmental Chemistry
Fire Modelling

List of courses in 3rd semester - Spring

3rd semester
Course
Fire Risk Management
Technical Fire Dimensioning
Optional course
Complex Buildings
Modelling of Buildings on Fire

List of courses in 4th semester – Fall

4th semester
Course
Fire Engineering Project Task

Academic Staff

- Luisa Giuliani, DTU Civil Engineering, building 118
  Phone: +45 45 25 18 12
  E-mail: lugi@byg.dtu.dk

COPENHAGEN UNIVERSITY

Faculty of Health Sciences
The Department of Public Health
Copenhagen, Denmark

MASTER ACADEMIC STUDY PROGRAMME
Disaster Management

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 1 year f/t or 3 years p/t
Number of students: 1No data
Fee: EU/EEA DKK 112,500
Non-EU DKK 150,000
Academic title: Master of Disaster Management
Scope of studies: 60 ECTS
Website: www.mdma.ku.dk

Description

The aim of the Master of Disaster Management is to provide government, international, and civil society organisations with professionals equipped with a solid interdisciplinary knowledge base and skills that can meet the increasing demands and expectations from those who work in the humanitarian field.

The Master of Disaster Management is relevant to a lot of professions and is designed to accommodate various disciplinary backgrounds - risk managers, engineers, doctors, nurses, military officers, social scientists, logisticians, journalists, etc. This means a broad array of people working in national authorities, international organisations (e.g. UN, Red Cross/Red Crescent Movement, EU), public services (civil protection, health, energy, water) and humanitarian organisations (e.g. MSF, Oxfam, DEMA).

Admission

- A Bachelors degree in a relevant field (e.g. engineering, medicine, social sciences, science, journalism, etc.) or an equivalent qualification from a recognized higher education institution
- At least two years of work experience
- This may be a paid or unpaid employment (regular employment, internship, volunteer work, practicum, job placement, etc.) obtained after your qualifying degree. Work experience obtained before or during your qualifying degree can in special circumstances be taken into consideration.
- The minimum acceptable score for the IELTS is 6.5; the minimum acceptable score for the TOEFL is 560 on the paper test, or 83 on the internet-based test.

Content

The Master of Disaster Management consists of 60 ECTS earned through four intensive core courses, two elective courses and a thesis.

I. CORE COURSES

1. Disaster Risk Management – From Theory to Practice

The course is an introduction to the central space vulnerability takes in understanding disasters. It is mainly an examination of the nature, scope, context, concepts, and dynamics of vulnerability and risk. This will be undertaken through looking at factors contributing to vulnerability due to structural forces created by economic globalisation and their impact on local-level vulnerability. The course puts people at the centre of the examination focusing on the socio-economic and political dimensions as well as health aspects of vulnerability and disasters rather than hazards per se. The course also touchs on issues of climate change and forced migration, and overall vulnerability reduction and resilience building.

2. Preparedness and Response to Humanitarian Crises

The course includes a wide range of topics within Disaster Preparedness and Response such as: Conflicts and complex emergencies; International security; Management of disaster situations; Needs assessment and monitoring; Legal framework for refugees and IDPs; Information management and GIS; Communications in emergencies; Financing and donors; Personal safety in the field. These four weeks of Disaster Preparedness and Response also include a thorough introduction to the cluster-approach with extensive coverage of the most essential clusters (Water, Sanitation and Hygiene; Health; Emergency Shelter; Logistics; Food/Nutrition; Protection; Camp Coordination and Management; Education) as well as many international actors working within response (e.g. Save the Children, UNICEF, WHO, UNOSAT, UNOPS, UN-OCHA).

3. Disaster Recovery Planning and Development

Recovery refers to the actions taken in the aftermath of a disaster to enable basic services to resume functioning, assist victims' self-help efforts to repair physical damage and community facilities, revive economic activities and provide support for rehabilitation including the psychological and social well being of the survivors. It focuses on enabling the affected population to resume more-or-

less normal (pre-disaster) patterns of life with the added dimension of reducing risks and vulnerabilities that led to the disaster in the first place and avoid creating new ones. It may be considered as a transitional phase between immediate relief and return to more major, long-term development. This course primarily refers to recovery after fast-onset disasters, such as earthquakes, landslides, high winds and flooding as well as major health issues and outbreak of epidemics. Recovery after drought introduces many factors, which are outside the scope of the course, since timing and actions needed in this context are significantly different. The course also touches on recovery after war or civil strife.

4. Research Methodology and Ethics

The course introduces the principal study designs, methodological approaches and ethical considerations in disaster research; with a focus on research development.

II. ELECTIVE COURSES

1. Vulnerability and Risk Management Methods

This intensive course focuses on the entire vulnerability and risk assessment process, from different methods for analysing risk to evaluating their results. The concept of vulnerability is vital in this context, as it allows us to understand why some individuals or systems are at more risk than others, thus widening our scope of possibilities for risk reduction.The students of this course will go on a three week field trip in Sri Lanka or any alternative field location. This gives the student a chance to work in a developing country with the risk assessment methods they learn during the first week of the course.

2. Health in Emergencies & Refugee Health

The course aims at providing participants with an in-depth understanding of the complex range of issues involved in planning, implementing and accounting for health interventions in contemporary emergencies. This includes an understanding of the rapidly evolving humanitarian reform process, and the roles which may be taken by local, national and international partners.

3. Water Supply & Sanitation in Emergencies

Early identification of technically sound and sustainable water and sanitary interventions is crucial when it comes to saving lives and preventing diseases in almost any disaster situation. The University of Copenhagen offers an intensive course on water supply and sanitation in emergencies for professionals working with - or aiming to work with - disasters and relief operations.

4. Geo-Information in Disaster

To meet this challenge UNOSAT and the University of Copenhagen are offering a course that presents an integrated approach to how info management and sharing is enhanced by use of geo-information systems (GIS) tools in disaster situations. The GIS database can be accessed for damage assessment or to locate critical infrastructure. To get an overview of the disaster situation it is crucial for disaster managers to be equipped with these basic tools. On completion of the course, students will be able to critically analyze the prerequisites and challenges for effective situation analysis, rapid

mapping and preliminary damage assessments. This includes identifying, collecting, preparing, analyzing and creating maps which will match the needs arising from anticipated future disasters.

5. Shelter & Settlements in Disasters

The course will enable students to work with these shelter mandated international and national organizations in both natural disasters and complex emergencies (conflicts). They will acquire knowledge, tools and critical analytical skill to address shelter in disasters from relief to recovery. Students will study various types of shelter solutions and how they are applied in both natural disasters and in conflict situations. They will learn how effectively to plan and coordinate shelter needs assessments, develop strategies and implement plans with international organizations, national authorities, the displaced and the affected population.

III. THESIS

Teaching/Learning

Priority is given to research-based teaching and learning complemented with an interdisciplinary practice based exercises and activities. The MDMa programme combines lectures and other learning approaches such as team work, discussions, presentations based on own working experience or studies, case studies, and study visits. Several of the elective courses are blended learning courses combining e-learning and traditional face-to-face learning approaches.

Academic Staff

- Emmanuel Raju, Assistant professor, Global Health Section, Dept. of Public Health
- Flemming Konradsen, Professor, Head of Section, Global Health Section, Dept. of Public Health, University of Copenhagen
- Henrik Bregnhøj, Env.engineer, e-learning consultant, Centre for Online and Blended Learning
- Henrik Ø. Breitenbauch, Senior researcher, Dept. of Political Science
- Ib Bygbjerg, Professor, Global Health Section, Dept. of Public Health
- Kristian Cedervall Lauta, Assistant professor, Centre for International Law and Justice
- Kristian Cedervall Lauta, Assistant professor, Centre for International Law and Justice
- Peter Kjær Jensen, Associate Professor, Global Health Section, Dept. of Public Health
- Rasmus Dahlberg, PhD fellow, COPE, Global Health Section, Dept. of Public Health
- Roger Hearn, Part time lecturer, Global Health Section, Dept. of Public Health
- Siri Tellier , Part time lecturer, Global Health Section, Dept. of Public Health, former director of United Nations Population Fund (UNFPA) in Geneva
- Tania Dræbel, Part time lecturer, Global Health Section, Dept. of Public Health

Faculty of Social Sciences
Department of Political Science
Copenhagen, Denmark

MASTER ACADEMIC STUDY PROGRAMME
Security Risk Management

Basic data

Risk area: Security (Risk)
Since: No data
Duration of studies: 2 years f/t
Number of students: No data
Fee: DK/EU/EEA – free
Others - €10,000 per academic year
Academic title: MSc in Security Risk Management
Scope of studies: 120 ECTS
Website: www.studies.ku.dk

Description

The MSc in Security Risk Management provides students with a solid theoretical and empirical knowledge about security policy, risk analysis and organisations in a global and changeable world. This includes an introduction to Security and Strategy Studies, Political Risk Analysis, Organisational Studies and Risk Communication. The purpose of the programme is to train graduates to identify opportunities for change in the complex and risky environments in which they operate and to put these reflections into action. The programme offers an innovative combination of research-based and active teaching, in close interaction with practitioners and real-life work situations.

Admission

A bachelor degree within the Social Sciences, including Business Studies, or have passed a programme at a similar level.

Competences obtained within the field of Social Science Methods, including qualitative and/or quantitative methods, equivalent of 20 ECTS at bachelor level.

Documented competences acquired within one or more of the following areas:

- International/regional relations
- Management and organisation
- Security
- Proficiency in English corresponding to at least English B-level

Content

The MSc programme in Security Risk Management is a full-time 2-year programme (120 ECTS), which is completed with a master's thesis. The programme is taught in English.

The first year consists of five compulsory courses and two elective courses. The programme offers courses within category one and two. The second year consists of four courses and the master's thesis. The four courses must include either Transformations of the Public-Private Divide or Intelligence or both. The rest of the courses are elctives chosen from category three and four. The four courses have to comply with the following criteria:

- At least one course has to be either Transformations of the Public-Private Divide or Intelligence
- At least one course has to be from the category III electives
- At least one course has to be from the category IV electives

List of courses in 1st semester

1st semester	
Course	**ECTS**
Security Studies and Strategy	7.5
Political Risk Analysis	7.5
Knowledge Production and Evaluation	7.5
Security Risk Management	7.5
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Organisational Management and Leadership	15
Elective (category I)	7.5
Elective (category II)	7.5
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Transformation of the Public-Private Divide OR	7.5
Intelligence	7.5
Elective (category III)	7.5

Elective (category IV)	7.5
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Required work	**ECTS**
Master Thesis	30
Total ECTS	**30**

List of elective courses

Elective Course
Category I: Comparative Politics: regions, institutions and trends
Category II: Decision Theory and Tools
Category III: New Threats
Category IV: Organisational Management, Ethics and Accountability

Teaching/Learning

The MSc in Security Risk Management is an innovative combination of both research-based teaching and involvement of practitioners and real-life cases that enables graduates to operate and deal with issues of security and risk in complex and changing organisational environments. The teaching is thus comprised by a mix of classroom lectures, guest lectures by practitioners, seminars, student discussions and exercises based on real-life working situations (e.g. policy assessments, crisis communication exercises and compilations of work-life products).

Academic Staff

The teaching staff at the MSc programme in Security Risk Management comprises of a wide range of well-renowned researchers within the field of security and risk studies.

- Associate Professor, Karen Lund Petersen (Political Risk Analysis & Security Risk Management)
- Professor, Lene Hansen (Security Studies and Strategy)
- Postdoc, Trine Villumsen Berling (Knowledge Production and Evaluation)
- Professor, Peter Dahler-Larsen (Organisation, Management and Risk Communication)
- Professor, Lars Bo Kaspersen (Transformations of the Private-Public Divide)
- Senior Researcher, Kristian Søby Kristensen (Transformations of the Private-Public Divide)
- Professor, Ole Wæver (Intelligence)

ROSKILDE UNIVERSITY

Department of Science and Environment
Roskilde, Denmark

MASTER ACADEMIC STUDY PROGRAMME
Environmental Risk

Basic data

Risk area: Environmental Risk
Since: No data
Duration of studies: 2 years f/t
Number of students: No data
Fee: DK/EU/EEA free
Others EUR 18,000 p/year
Academic title: MSc in Environmental Risk
Scope of studies: 120 ECTS
Website: www.typo3.ruc.dk

Description

The programme is based on an interdisciplinary approach to analyzing and solving environmental problems. Although emphasis is on theory and methods of Natural Sciences, the programme includes elements from Social Sciences with focus on practices of risk assessment of real environmental problems.

The programme covers subjects such as evaluation of environmental risks in connection with natural disasters; volcanic eruptions, earthquakes, landslides and flooding as well as evaluating technologies and chemical agents that have the potential to harm ecosystems, animals and human health. You will acquire the skills necessary to professionally implement environmental legislation and regulatory programmes and to provide in depth advice to future environmental regulation.

You will be trained to analyze the spatial patterns and relationships that may occur in the context of environmental risks. You will be able to identify and articulate issues within the key disciplines of environmental risk especially ectoxicology, population and systems ecology, environmental management, environmental history, natural systems, geohazards and resource management.

Content

The programme is a 2-year master's programme (120 ECTS), which consists of a group of joint introductory courses (obligatory courses) and profiling courses, for 30 ECTS each. The programme is completed with a Master's thesis (60 ECTS). This means that is it not possible to combine Environmental Risk with other Master programmes at RUC.

List of obligatory courses

Obligatory Course	ECTS
Principles of environmental risk assessment ➢ Ecosystems, ecosystems service and management, ecotoxicology, water resources, natural hazards, economics of environmental issues	5
Environmental regulation and history ➢ Environmental regulation and policy, environmental history, environmental economics and political processes	5
Introduction to Natural hazards ➢ Earthquakes, landslides, volcanic eruptions, flooding and climate change, risk assessment and mitigation strategies for society and the environment	5
Principles of environmental risk assessment ➢ Human impact, regulatory strategies: command, control, governance and voluntary agreements	5
Introduction to quantitative methods in environmental risk assessment ➢ Environmental statistics, statistical design considerations in monitoring risk, environmental modelling	5
Spatial analysis ➢ Geographical information systems, remote sensing, spatial dynamics, digital databases	5
Master's thesis	60
Total ECTS	**90**

List of elective courses

Elective Course	ECTS
Applied ecology	
Estuarine & coastal ecology and human impacts	
Energy and Element Cycling	
Ecotoxicology – Principles and practice (incl. tools used by EPA)	
Drainage basins: processes, modeling and management	
Global change	
Climate and resources	
Environment and Economics	
Management of water, oil and natural gas resources	
Energy planning	
Europe in the modern world	

Environmental history	
Air pollution – science and management	
Water resources and habitat modeling	
Urban Ecology	
Natural resource economics	
Integrated environmental-economic models	
Introduction to methods in history	
Volcanoes and society: risks and benefits	
Total ECTS	**30**

Academic Staff

- Annemette Palmqvist, Associate Professor
  E-mail: apalm@ruc.dk
- Eva Bøgh, Associate Professor
  E-mail: eboegh@ruc.dk

SWEDEN

LUND UNIVERSITY

The Faculty of Engineering
Lund, Sweden

MASTER ACADEMIC STUDY PROGRAMME
Disaster Risk Management and Climate Change Adaptation

Basic data

Risk area: Disaster Risk/Climate change
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: EU/EEA – free
Full programme course tuition fee: SEK 290 000
Academic title: MSc in Disaster Risk Management and Climate Change Adaptation
Scope of studies: 120 ECTS
Website: www.lunduniversity.lu.se

Description

The Master's programme in Disaster Risk Management and Climate Change Adaptation has support from important national and international institutions, e.g. UN agencies, the Red Cross/Red Crescent movement, NGOs, and national authorities.

The programme contributes to meeting the need for qualified professionals who can:

- contribute to resilient and sustainable societies through use of concepts, methods and tools within disaster risk management and climate change adaptation such as risk assessment, capacity assessment, preparedness and contingency planning, and urban/rural planning;
- work with capacity development and project management for disaster risk management and climate change adaptation in local, national and international settings;
- utilise and contribute to research in this field.

Admission

A Bachelor s degree with relevance to the applied education. English 6/English Course B. This is the equivalent of an overall IELTS score of 6.5 or a TOEFL score of 90.

Content

List of obligatory courses

Obligatory Course	ECTS
Foundations for Risk Assessment and Management	7.5
Societal Resilience	7.5
Direction and Coordination in Disaster Management	7.5
Capacity Development	7.5
Governance of Sustainability	7.5
Research Methodology	5
Urban and Rural Systems and Sustainability	10
Preparedness and Planning	7.5
Master's degree project	30
Total ECTS	**90**

List of elective courses*

Elective Course	ECTS
Geographic Information Technology	15
Fundamentals of Logistics and Operations Management	7.5
Humanitarian Logistics	7.5
Internship-based course	15
Integrated Water Resources Management: International Aspects	7.5
Total ECTS	**30**

** Additional courses might be available*

Teaching/Learning

The programme offers a mix of practical and theoretical learning with a strong focus on interaction between students and teaching staff, as well as with important factors within this field of study. Examples of the latter are involvement of experts from national and international organisations in some of the courses and the possibility of taking an elective internship-based course.

The programme has connections with potential hosts for interns and students conducting research for their Master's thesis within the UN-system, the Red Cross/Red Crescent movement, and Governmental agencies on different administrative levels in various parts of the world.

Academic Staff

- Programme director: Magnus Hagelsteen
- International Master's Coordinator: Helene von Wachenfelt, drmcca@master.lth.se

MASTER ACADEMIC STUDY PROGRAMME
Fire Safety Engineering

Basic data

Risk area: Fire risk
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: Program countries: € 7,000 per year
Partner countries: € 10,000 per year
Academic title: MSc in Fire Safety Engineering
Scope of studies: 120 ECTS
Website: www.lth.se

Description

The program is jointly offered through the Erasmus Mundus framework by 3 partner universities: Ghent University, Belgium (coordinator), Lund University, Sweden and The University of Edinburgh, UK. Additionally, there are three Associated Partners where students can perform thesis research: The University of Queensland, Australia, ETH Zurich, Switzerland, The University of Maryland, USA. These three universities with complementary expertise in the field of Fire Safety Engineering (FSE) join together to create an educational program that defines the required knowledge for a professional fire safety engineer, capable of developing a Performance Based Design (PBD). Ghent aims at general FSE, Lund is recognized in enclosure fire dynamics, CFD modelling, human behavior during fires and evacuation and towards methods for risk assessment, and Edinburgh is the developer of the first curriculum in structural Fire Safety Engineering.

Admission

A Bachelor's degree or recognized equivalent from an accredited institution (minimum 3 years full-time study or 180 ECTS credits) in civil / structural / mechanical / electrical / chemical / industrial engineering, material sciences, chemistry, physics, applied physics, architecture, urbanism and spatial planning or a related discipline.

English:

- A recent (maximum two years old) IELTS (Academic) Certificate (TRF: test report form) with a minimum score of 6.5 (with at least 6.0 in each section).
- A recent (maximum two years old) Cambridge Certificate in Advanced English (CAE) Grade B.
- A recent (maximum two years old) TOEFL-iBT (internet-based) Certificate with a minimum score of 92 (with at least 20 in each section).
- A recent (maximum two years old) Pearson PTE (Academic) Certificate with a minimum score of 62 (with at least 56 in each section and at least 61 for writing).
- A recent (maximum two years old) Cambridge Certificate of Proficiency in English (CPE) Grade C.
- A recent (maximum two years old) Trinity ISE II with distinctions in all four components.

Content

Semester 1

- Ghent University, Belgium or
- University of Edinburgh , UK

Ghent University, Belgium

List of courses in 1st semester

1st semester	
Course	**ECTS**
Fire Dynamics	6
Basics of Structural Engineering	9
Thermodynamics, Heat and Mass Transfer	6
Elective course 1	9
Total ECTS	**30**

List of elective courses

Elective Course	**ECTS**
FSE Based Firefighting	3
Modelling of Turbulence and Combustion	3
Turbomachines	6
Introduction to Entrepreneurship	3

University of Edinburgh , UK

List of courses in 1st semester

1st semester	
Course	**ECTS**
Fire science and Fire Dynamics	9
Fire Safety Engineering	6
Fire Safety Engineering and Society	9
Engineering Project Management	6
Total ECTS	**30**

Semester 2 - Lund University , Sweden

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Risk Assessment	8
Advanced Fire Dynamics	9
Human Behaviour in Fire	8
Simulation of Fires in Enclosures	5
Total ECTS	**30**

Between year 1 and year 2, students can opt for doing an industrial internship.

Semester 3

- Ghent University, Belgium
- The University of Edinburgh, UK

Ghent University, Belgium

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Explosions and Industrial Fire Safety	6
Passive Fire Protection	6
Active Fire Protection I: Detection and Suppression	6
Active Fire protection II: Smoke and Heat Control	3
Fire Safety and Legislation	3
Performance-based Design	6
Total ECTS	**30**

The University of Edinburgh, UK

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Fire Science Laboratory	9
Structural Design for Fire	6
Fire Investigation and Failure Analysis	9
Finite Element Analysis for Solids	6
Total ECTS	**30**

Semester 4

The Master thesis research is supervised in either Ghent, Lund or Edinburgh (full partners), in an Associated Partner (ETH Zürich - Switzerland, The University of Queensland - Australia, The University of Maryland - USA) or an industrial company.

List of courses in 4th semester

4th semester	
Required work	**ECTS**
Master Thesis	30
Total ECTS	**30**

MASTER ACADEMIC STUDY PROGRAMME
Risk Management and Safety Engineering

Note: Program taught in Swedish. All information in Swedish only.

UNIVERSITY OF UMEA

Faculty of Social Science
Department of Political Science
Umea, Sweden

MASTER ACADEMIC STUDY PROGRAMME
Crisis Management and Peacebuilding

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 2 years (4 semesters) in English
Number of students: No data
Fee: EU/EEA Citizens are not required to pay fees
Full tuition fee for international students: 180,000 SEK
Academic title: MSc in Crisis Management and Peacebuilding
Scope of studies: 120 ECTS
Website: www.umu.se

Description

Master's Degree Program in Crisis Management and Peacebuilding from Umea University gives you in-depth knowledge about crisis management and peacebuilding at national and international level. The main perspective is governance under uncertainty caused by crisis, disasters and conflicts. You will develop skills to analyze and manage uncertainty in light of knowledge about crisis management systems, legal norms, power relations and planning for societal reconstruction.

You will get in-depth training in analysis methods and writing of scientific reports. The program can be attended for one year for the degree of Master of Science 60 credits or for two years for the degree of Master of Science 120 credits. In both cases the first year starts with mandatory courses such as Crisis Management Systems in Comparative Perspective, Global and Regional Governance, and Reconstruction after Crisis and Disasters, as well as courses in method which will prepare you for the work on Master's Degree Thesis.

There are also opportunities to study elective advanced level courses from other disciplines and universities within Sweden as well as broad. Master's Degree Program includes internship period that can be conducted once or twice during the program. Thus, the program is characterized by a high degree of free choice of courses, internships and thesis topics.

Admission

Proficiency in English equivalent to Swedish upper secondary course English A/5. A Bachelor's Degree (equivalent to a Swedish Kandidatexamen, 180 ECTS) from an internationally recognised university with 90 credits in Peace and Conflict Studies or equivalent, or a Bachelors Degree with 90 credits in Political Science and a with minimum of 30 credits in Peace and Conflict Studies or equivalent.

Content

List of courses

Course
Crisis Management in Comparative Perspective
Qualitative Research Methods for the Social Sciences
Quantitative Research Methods for the Social Science
Internship I
Thesis in Peace and Conflict Studies
Global and Reginal Governance

SLOVAKIA

UNIVERSITY OF ŽILINA

Faculty of Security Engineering
Department of Crisis Management
Žilina, Slovakia

MASTER ACADEMIC STUDY PROGRAMME
Crisis Management

Basic data

Risk area: Interdisciplinary, man-made disasters, safety, security, environmental disasters, crisis management cycle
Since: Accredited 2015
Duration of studies: 2 years (4 semesters)
Number of students: 68
Fee: 2500 EUR/per year (study in English)
Academic title: Master in Crisis management
Scope of studies: 120 ECTS
Website: www.fbi.uniza.sk

Description

The graduates of the second degree of the university study - the study specialisation Civil Security, the study programme Crisis Management, are able to identify the risks and threats in the social, economic, natural and technical processes, to analyse and assess them comprehensively as well as to design procedures, methods and forms for their elimination and reduction. They have deep knowledge from the Crisis Management theory with an emphasis on designing and realising preventive measures, monitoring and analysing the development of the risk and crisis factors, preparation of an adequate response on the arising crisis phenomenon, management of a complex response to the arisen crisis situation as well as realising the recovery of the systems after eliminating the crisis factors.

The graduates are able to prognosticate the development of a particular part of the social, economic, natural or technical processes, to utilise the optimisation methods of the operation analysis and other tools of the scientific management for increasing the effectiveness of their work. They know the structure of the public administration and the management system of the country and individual territorial units including the regional self-government, with the special aspects of economy in the public administration institutions. They have mastered the principles of the public institution management in the crisis situations, special aspects of the personal management and other specific activities connected with the process of solving crisis. They are prepared to perform the management functions in the state administration at the level of its central bodies as well as the

local state administration, the regional and local self-government, the managing institutions of the executive elements of the state security system but also in the entrepreneurial subjects with an emphasis on the subjects of the economic mobilisation.

Admission

The study programme prerequisites for the enrolment are completed undergraduate studies and the passed enrolment examination. The basic condition of admission to the university study programme of the second degree is graduating from the study programme of the first degree – according to the Law about universities § 56, section 2. Further conditions for admission of the applicants for the study of the study programmes of the engineering study at the Faculty of Security Engineering are stated according to the Law about universities § 57:

- a graduate of the BA study of the same or similar specialisation can apply for the study,
- we will take in students on the basis of the capacity possibilities of the individual study programmes and assessment of the applicants where the main criterion will be the study results in the BA study; particularly the school result criteria will be stated by the Dean in the Public Note for the corresponding academic year,
- based on the decision of the guarantor of the corresponding study programme (the second degree) the application can be rejected if his/her university education of the first degree does not fulfil the requirements for the bachelor's profile of the given study specialisation,
- the applicants of similar study programmes will undergo written tests from the profile subjects of the BA degree in the study programme Crisis Management.

Content

Upon completion of the studies, students receive the academic title: **Master in Crisis management.** Study is implemented for two school year (for four semesters), and scope of studies is 120 ECTS.

The graduates of the second degree of the daily university study – specialisation Civil Security, the study programme Crisis Management achieved knowledge, skills and experience characterising the study programme in two years.

After completing the first year of the study programme Crisis Management the students:

- are able to utilise their knowledge from psychology for recognising the personality qualities of the employee, for understanding the social dynamics in the working groups, for their own psycho hygiene and for coping with psychical load in the crisis teams, during selecting suitable decisions and for an effective management of their subordinates,
- have mastered the methods of the mathematical analysis and stochastic methods of the operation analysis, they are able to utilise them during solving decision problems which cannot be programmed in connection with unexpected crisis situations and their consequences, with planning the transport operations during evacuation and removing the consequences,
- are able to utilise the econometric methods for simulating and prognosticating the economic development, they are able to analyse and assess the needs of economy for solving the crisis situations,

- have knowledge of logics especially the formal logic and the basic forms of thinking, they are able to implement them in formulating the problem-solving methods and for selecting the methods suitable for working out the chosen topic of the diploma work,
- they achieved deeper knowledge and skills for utilising the information technologies, management information systems, programmes and means for supporting the decision-making processes, for solving the crisis situations, they are prepared to take measures for restricting the disruptions of their security.

The graduates of the study specialisation Crisis Management after graduating from the study:

- know the principles of prognosticating and planning, they are able to use the expert and research methods for analysing the risk factors in various areas of life, for prognosticating their possible development and for preparing the bases for the crisis and emergency planning,
- know the content, principles and methods of the crisis planning (the economic preparation for the crisis situations, the subjects of the economic mobilisation, the system of the crisis planning, the types and purpose of the crisis plans, creation of the material reserves, etc.), based on the analyses and assessing the information, they are able to process a content structure of the crisis plan for a particular subject,
- know the theoretical bases of the area of the risk management, the mathematical model of the risk, the principles of coping with risks, the risk analysis) and are able to implement them for analysing the economic, entrepreneurial, technological and environmental risks, for restricting the risks of the major industrial accidents and their consequences,,
- know the development of the basic legal standards in the crisis management in Slovakia and in the EU, they know their current state as well as the assumptions for their implementation; based on knowing the essence, content and importance of these standards they are able to suggest the necessary measures for their implementation to the concrete conditions,
- know the structure and the current system of the public administration in Slovakia and chosen EU countries, they know the importance and tasks of the state administration and self-government in the area of the crisis management, they know the sources and principles of the economic provision of the state,
- know the basic principles, methods and techniques of the scientific work, they are able to utilise them for investigating the problems of the management and the crisis management, they are able to implement the achieved knowledge and skills in solving current problems of the management practice (the decision-making process, planning, change management, quality management, HR activities and influencing the social behaviour of people in the organisation).

The achieved capabilities of the graduate are proved by working out a topic of the diploma work, defending its results and knowledge proved by answers during the state exam.

List of courses in Winter Semester/Autumn semester

Course
Psychology
Ethics of crisis situations
Company strategy
Prognosticating and planning
Legal environment of the crisis situations
Crisis planning
Risks of industrial processes
Project management
Prognosticating and planning
Crisis planning
Project management
Economics of the private sector
Entrepreneurial risks
Professional practice abroad

List of courses in Summer Semester/Spring semester

Course
Crisis management
Management methods and techniques
Logics
Financial management
Professional practice
Management methods and techniques
Logics
Econometrics
Change management
World economics
Quality management
Political science
Practical exercises from psychology
Diploma work seminar
Defence of the diploma work

Psychology in emergency services
Organisation of manager's performance
Development of working teams
Theory, processes and methods of crisis management

Teaching/Learning

Verbal textual methods (lectures, interviews, written materials), illustrative demonstration (Power point presentations, animations, simulations), the laboratory-experimental autonomous and demonstration exercises mark.

Academic Staff

For the realization of the study programme in Crisis management, there is teaching staff with necessary professional and scientific qualifications. Scientific and professional qualifications of the teaching staff match the educational and scientific field and level of their assignments. Each teacher has at least 10 references in the specific scientific or technical field, which is related to his teaching activities at the particular study program.

- Prof. Ladislav Šimák, Chair of the study programme, PhD
  E-mail: ladislav.simak@fbi.uniza.sk
- Assoc.prof. Jozef Klučka, PhD
  E-mail: jozef.klucka@fbi.uniza.sk
- Assoc.prof. Jozef Ristvej, PhD
  E-mail:jozef.ristvej@fbi.uniza.sk
- Katarína Hollá, PhD.
  E-mail: katarina.holla@fbi.uniza.sk
- Assoc.prof. Stanislava Strelcová, PhD
  E-mail: Stanislava.strelcova@fbi.uniza.sk
- Other staff

Department of Fire Engineering
Žilina, Slovakia

MASTER ACADEMIC STUDY PROGRAMME
Rescue Services

Basic data

Risk area: Interdisciplinary, Rescue Services, Fire Engineering
Since: Accredited 2000
Duration of studies: 2 years (4 semesters), 3 years (6 semesters) part – time study
Number of students: cca 150
Fee: 600 EUR/ year for part – time students
Academic title: Master in Resque Services
Scope of studies: 120 ECTS
Website: www.fbi.uniza.sk

Description

The purpose of the study programme "Rescue Services" is the education of students for the profession of fire protection and fire engineering in accordance with the needs of society.

The objective of the study programme is to educate an expert who is able to analyze independently the situation and issues related to providing assistance in an emergency. This concernings in particular the field of fire protection, where the graduated student has skills and knowledge to manage teams of rescuers, to take responsibility for their actions, comprehensively organize action in carrying out rescue operations during emergencies, natural disasters and other types of emergencies. He or she can implement and realizes measures in the field of fire protection at the national level and is able to perform tasks within The Integrated Rescue System. He or she is able to conduct research with a high degree of creativity and self-reliance in the field of technical interventions and technical resources, in the field of principles at tactical interventions and eliminations of fires. The graduated student is able to work as an individual, as an participant of a team and as well as a team leader. He or she has knowledge of current legislation in the field of fire protection, that can be used at every type of accidents and fires.

Besides the above mentioned the graduated student has basic engineering knowledge in mathematics, physics, statistics, chemistry, fire protection of structures, etc.

Admission

The study programme prerequisites for the enrolment are completed undergraduate studies with at least 180 ECTS in previous bachelor study at The Faculty of Security Engineering and the passed enrolment examination.

Each year a certain number of students are enrolled at the Faculty of Security Engineering on the undergraduate or master academic studies of fire engineering, in accordance with social needs and infrastructure resources.

Students from similar master academic programs as well as persons who have completed bachelor studies may be enrolled to this study program. In this respect, the evaluation committee evaluates passed admission tests of candidates for enrollment on the basis of all received points from tests.

Content

Fundamental scientific disciplines, studied at this level, give the research character of the program, enabling even better understanding of complex processes in particular field of study. All courses carry a certain number of ECTS according to their difficulty and number of hours.

An integral part of the curriculum of study programme „Rescue Services“ is a professional practice and practical work of 40 hours. A student is completing his/her studies by elaboration of the graduate - master thesis, which consists of theoretical and methodological preparation necessary for indepth understanding of the chosen field for writing master thesis paper.

Study is implemented for twoo academic years (for four semesters) and the student is needed to receive at least 120 ECTS.

List of courses in 1st semester

1st semester	
Course	**Status of course**
Fire Fighting Technics	Compulsory
Rescue Service Management	Compulsory
Structural Fire Engineering	Optional
Fire Protection Safety of Buildings	Compulsory
Radiation, Chemical and Biological Protection	Compulsory
Stochastic Methods of Operational Analysis	Compulsory
Heat Transmission	Optional
Technical Safety in Crisis Situations	Optional
Managerial Information Systems	Optional
Foreign Language 1	Elective
Physical Education 1	Elective

List of courses in 2nd semester

2nd semester	
Course	**Status of course**
Intervention Control Tactics	Compulsory
Fire-extinction Systems	Compulsory
Information Systems in Fire and Rescue Services	Compulsory
Crisis management	Compulsory
Logic	Optional
Econometrics	Optional
Managerial Methods and Techniques	Optional
Modelling of Internal Fires	Optional
Safety and Health at Work - in Rescue and Firefighting Services	Optional
Foreign Language 2	Elective
Physical Education 2	Elective

List of courses in 3rd semester

3rd semester	
Course	**Status of course**
Prognosticating and Planning	Compulsory
Physical Chemistry and Kinetics of Explosions	Compulsory
Explosion prevention	Compulsory
Project Management	Compulsory
Crisis Planning	Optional
Forensic Engineering	Optional
Solving of Fire Protection Safety of Buildings	Optional
Construction and Maintenance of Fire-fighting Facilities	Optional
Fire Protection Examination	Optional
Abroad Professional Training	Optional
Physical Education 3	Elective

List of courses in 4th semester

4th semester	
Course	**Status of course**
Psychology in Rescue Services	Compulsory
Technology of Rescue Works	Compulsory
Applied Industrial Safety	Compulsory
Detection of Fires Causes	Compulsory
Professional Training	Compulsory
Defence of Master Thesis	Compulsory
Master Thesis Seminar	Compulsory
Comprehensive Prevention in Fire and Rescue Services	Optional/state exam
Technique, Tactics and Technologies of Rescue Works	Optional/state exam
Integrated Industrial Safety	Optional/state exam

Teaching/Learning

Verbal textual methods (lectures, interviews, written materials), illustrative demonstration (Power point presentations, animations, simulations), the laboratory-experimental autonomous and demonstration exercises mark.

Academic Staff

For the realization of the study programme in Crisis management, there is teaching staff with necessary professional and scientific qualifications. Scientific and professional qualifications of the teaching staff match the educational and scientific field and level of their assignments. Each teacher has at least 10 references in the specific scientific or technical field, which is related to his teaching activities at the particular study program.

- Prof. Ladislav Šimák, Chair of the study programme, PhD
  E-mail: ladislav.simak@fbi.uniza.sk
- Assoc.prof. Jozef Klučka, PhD
  E-mail: jozef.klucka@fbi.uniza.sk
- Assoc.prof. Jozef Ristvej, PhD
  E-mail:jozef.ristvej@fbi.uniza.sk
- Katarína Hollá, PhD.
  E-mail: katarina.holla@fbi.uniza.sk
- Assoc.prof. Stanislava Strelcová, PhD
  E-mail: Stanislava.strelcova@fbi.uniza.sk
- Other staff

TECHNICAL UNIVERSITY IN ZVOLEN

Faculty of Wood Sciences and Technology
Department of Fire Protection
Zvolen, Slovakia

MASTER ACADEMIC STUDY PROGRAMME
Fire Protection and Security

Basic data

Risk area: Rescue services
Since: 1998
Duration of studies: 2 academic years (4 terms)
Number of students: No data
Fee: 1500 EUR
Academic title: MSc in Fire Protection and Security
Scope of studies: 120 ECTS
Website: www.tuzvo.sk

Description

The specialisation of the department is created mainly by teaching of technical (profile) subjects as well as specialised subjects of theoretical basis in the accredited branch of Fire Protection. The subject profile focuses on development of disciplines in fire protection from the point of view of material burning (reaction of materials to fire), fire –technical properties of materials leading to fire prevention and safety of structures, safety of technological processes from fires and explosions, material means, fire-fighting technique and fire-fighting tactics.

On the basis of accreditation certificates, DFP is the guarantor of lifelong learning of technicians and fire protection specialists and of the basic preparation training for fire-fighting units.

Department of Fire Protection is the guarantor of Rescue Services subject of study represented by the study programs of Fire Protection and Security in I., II. and III. degree within the full-time as well as extramural studies.

Study program of II degree - Fire Protection and Security

Graduates have a general knowledge of legislation, system analysis, planning and management. They are able to lead special teams and to coordinate their activities within more complex systems. They can design, check and evaluate construction projects from the point of view of their safety and fire protection.

Graduates will find employment as middle and senior management in state administration and local administration, with organizations providing services of persons and property protection and as independent workers - experts on comprehensive assessment of fire protection and safety systems, or they are free to continue in III degree studies.

Content

List of compulsory courses

Compulsory course
Hazardous substances in POB, Fire and extinguishing in buildings
Heat and Mass Transfer
Crisis management
Rescue equipment and technology
Applied FCH POB
Manipulation of Flammable
Controlled evacuation
Solution fire safety engineering
Testing in POB
Fire-fighting technique
Organization of managerial work
Management and organization of the IRS
Risk theory
Tactics in the fire
Prevention and emergency planning
Air conditioning equipment
OHS and environment
Controlled explosions
Thesis and Diploma Thesis

List of optional courses

Optional course
Prevention and emergency planning
Spatial and Building Acoustics
Statistical evaluation of data
Applied Electronics in POB
Air conditioning equipment
English language
Human resources management
Physical and sports-specific preparedness

FYR OF MACEDONIA

SS. CYRIL AND METHODIUS UNIVERSITY OF SKOPJE

Faculty of Civil Engineering
Skopje, FYR of Macedonia

MASTER ACADEMIC STUDY PROGRAMME
Civil Engineering

Basic data

Risk area: -
Since: No data
Duration of studies: 2 year (4 semesters)
Number of students: No data
Fee: No data
Academic title: Master in the area of civil engineering
Scope of studies: 120 ECTS
Website: www.gf.ukim.edu.mk

Description

The program consists of three semesters of studies and one final of thesis. The course studies concern the attendance of lectures and seminars and the successful examination in professional master courses. Each course lasts a semester. The third semester is structured upon elective courses to be selected according to the thesis theme of the study. The preparation of a thesis, which concerns a specialised study, takes place in the fourth semester. The program provides a wide range of elective courses.

Admission

The study program can be enrolled by:

- Candidates that have a first academic cycle of studies diploma with at least 180 credits according to the ECTS acquired at the study programs (geodesy, civil engineering, geotechincs) at the Faculty of Civil engineering. The candidates of the faculty of Architecture and the faculty of Mechanical engineering as well students of the faculty of Economics can be enrolled with the appropriate equivalence.
- The candidates with completed graduate studies at the faculties stated in point 1, according to the study plans and programs until the introduction of the ECTS, in accordance with the transitory and concluding regulations of the Law for higher education.
- Candidates with graduate degrees at the faculties stated in point 1 with the duration of at least 8 semesters in the study plans and programs before the introduction of the ECTS, with a comparison of the closeness of the finished studies with the ones that are being enrolled

by an appropriate commission of the faculty of Civil engineering. The committee might assign taking of differential exams.

Additional limitations will be taken into considerations if they are specified with national laws or with the rules of the University.

Content

List of courses that are relevant to the topic of DRM & FSE

Course	Orientation	ECTS
Fire resistance of structures	Construction	6
Aseismic designing of engineering structures		6
Fundamentals of aseismic designing		5
Erosion and movement of sediment	Hydrotechnics	6
Assessment of risks in geotechnics	Roads and Railroads	5

Teaching/Learning

Verbal textual methods (lectures, interviews, written materials), illustrative demonstration (Power point presentations, animations, simulations), the laboratory-experimental autonomous and demonstration, exercises mark.

Academic Staff

- PhD Meri Cvetkovska
- PhD Dumova Jovanoska
- PhD Milorad Jovanovski
- PhD Cvetanka Popovska

UNITED KINGDOM

UNIVERSITY OF PORTSMOUTH

School of Earth and Environmental Sciences
Portsmouth, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Geological and Environmental Hazards

Basic data

Risk area: Natural hazards, environmental hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: -
Fee: UK/EU full time: £6,400 part time: £3,200 ;
International students: full time: £14,400 part time: £7,200
Academic title: MSc in Geological and Environmental Hazards
Scope of studies: 90 ECTS (equal to 180 UK credits)
Website: www.port.ac.uk

Description

This course focuses on the physical processes that generate natural hazards through an advanced understanding of geological and environmental processes.

Students will be fully trained by internationally recognised experts in hazard identification, terrain evaluation techniques as well as hazard modelling and risk assessment techniques. Providing you with the essential skills to monitor, warn and help control the consequences of natural hazards.

Admission

Honours degree or equivalent (2.2) in Geology, Earth Science, Applied Geology, Civil Engineering, Geography, Environmental Science or a related discipline. Industrial experience will also be considered on an individual basis.

English language proficiency: at a minimum of IELTS band 6.5 with no component score below 6.0.

Content

This MSc course consists of 180 credits of study, comprising of four taught units (each 30 credits) and a research project (60 credits). Each 30 credit taught represents 300 hours of study time that

includes 90 hours of timetabled campus based activities. Awards include the MSc award (180 credits), Postgraduate Diploma (120 credits) and Postgraduate Certificate (60 credits).

The course is divided into two parts. The first part comprises the lecture, workshop, practical and field work elements of the course, followed by a five-month independent research project. The course is a mixture of taught units and research project.

List of courses

Course
Natural Hazard Processes ➢ advanced knowledge of geological and environmental hazards, incl. floods, landslides, collapsible ground, volcanoes, earthquakes, tsunamis, hydro-meteorological and anthropogenic hazards. External speakers are used to provide insights and expertise from an industry, regulatory and research perspective.
Numerical Hazard Modelling and Simulation ➢ develop skills in computer programming languages and use them to develop numerical models that are then used to simulate different natural hazard scenarios.
Catastrophe Modelling ➢ application of natural hazard modelling to better understand the insurance sector exposure to a range of geological and environmental hazards. It includes external speakers and sessions on the application of models for this type of catastrophe modelling.
Volcanology and Seismology ➢ the nature of volcanism and associated hazards and seismology, associated seismo-tectonics and earthquake hazards. This unit is underpinned by a residential field course in the Mediterranean region that examines the field expression of volcanic, seismic and other natural hazards.
Flooding and Hydrological Hazards ➢ in-depth background to these hazards and opportunities to simulate flooding in order to model the flood hazard and calculate the risk.
Hazard and Risk Assessment ➢ the techniques that are employed once a hazard has been identified and its likely impact needs to be measured. Application of qualitative and quantitative approaches to hazard and risk assessment.
Field Reconnaissance and Geomorphological Mapping ➢ fieldwork training in hazard recognition using techniques such as geomorphological mapping and walk-over surveys, combined with interpretation of remote sensing and aerial photography imagery.
Spatial Analysis and Remote Sensing ➢ how to acquire and interpret aerial photography and satellite imagery, and the integration and analysis of spatial datasets using GIS.

Geo-mechanical Behaviour of Earth Materials ➢ geotechnical testing and description of soils and rocks to the British and international standards used by industry.
Landslides and Slope Instability ➢ advanced understanding of landslide systems, types of slides in soils and rocks and methods for identification and numerical analysis.
Impacts and Remediation of Natural Hazards ➢ the impact of hazardous events on society and the environment, and potential mitigation and remediation methods.

Teaching/Learning

The course provides a balanced structure of lectures, seminars, tutorials and workshops. Students will learn through hands-on practical sessions designed to give you the skills in laboratory, computer and field techniques. The course also includes extensive field work designed to provide field mapping and data collection skills.
Assessment is varied, aimed at developing skills relevant to a range of working environments. Here's how we assess your work:

- poster and oral presentations
- project reports
- literature reviews
- lab reports
- essays

MASTER ACADEMIC STUDY PROGRAMME

Crisis and Disaster Management

Basic data

Risk area: Disaster Risk
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: -
Fee: UK/EU full time: £5,200 part time: £2,600
Overseas full time: £12,700 part time: £6,350
Academic title: MSc in Crisis and Disaster Management
Scope of studies: 90 ECTS
Website: www.port.ac.uk

Description

Understanding about hazards, vulnerability and the risk of disaster, underpinned by a practical awareness of the planning and logistics of an emergency, are at the core of this degree. Our

internationally-recognised academics, with cross-disciplinary expertise from our School of Earth and Environmental Sciences and our Business School, will ensure you gain the ability to contribute successfully in the face of a crisis.

Admission

A 2:2 honours degree or equivalent, preferably with relevant work experience. Exceptionally, equivalent professional experience and/or qualifications will be consideredEnglish language proficiency at a minimum of IELTS band 6.5 with no component score below 6.0.

Content

The course is a mixture of taught units and a research project, covering:

- hazard, vulnerability and risk assessments; disaster risk reduction; emergency planning; crisis management; logistics and financial planning; business continuity; community resilience; humanitarian emergency response, and disaster management techniques, such as Geographical Information Systems (GIS).

The course consist of the following core units:

- Disasters: Hazard, Vulnerability and Risk
- Emergency Management and Planning
- Disaster Management Techniques and Study Visits
- Crisis Management and Governance (option)
- Humanitarian Emergency Response and Recovery (option)
- Research Project

Teaching/Learning

The course units are delivered as a series of three-day teaching blocks, at three to four-week intervals from October to May, with all assessment by coursework assignments. Formal classes, such as lectures and seminars, enable you to gain the relevant knowledge, which is developed further through activity-based practicals, simulation exercises and study visits.

Assessment is varied, aimed at developing skills relevant to a range of working environments. Here's how we assess your work:

- 3000-word illustrated reports
- Poster and oral presentations
- Literature reviews and research proposals
- An individual Research Project

Portsmouth Business School
Portsmouth, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Risk, Crisis and Resilience Management

Basic data

Risk area: Enterprise Risk Management with some Project Risk
Since: No data
Duration of studies: 1 year full time, 30 months part time
Number of students: -
Fee: UK/EU full time: £6,400 part time: £2,130
Overseas full time: £13,300 part time: £4,430
Academic title: MSc in Risk, Crisis and Resilience Management
Scope of studies: 90 ECTS
Website: www.port.ac.uk

Description

This course will help you to acquire the knowledge, skills and tools to become a proficient and capable risk manager. The increase in British and International Standards in Risk and Crisis Management, Organisational Resilience and Continuity highlight the importance of this area which has grown into more than just a specialist subject in the education of managers, risk specialists and others.

Admission

A second-class honours degree or equivalent professional experience and/or qualifications.English language proficiency at a minimum of IELTS band 6.5 with no component score below 6.0.

Content

Modules are delivered in two blocks of three days which run from Tuesdays to Thursdays allowing Monday and Friday to be available for further research or for time in the office. The flexibility this provides is one of the benefits of this course.

List of modules

Module
Strategic Risk and Risk Behaviour ➢ This explores the theoretical frameworks and interdisciplinary nature of risk and effective risk management in organisations. The importance of human factors and people skills in risk perception and management are also considered, examining the roles of the individuals, teams and leaders in the context of developing and implementing risk management policies and strategies.

Organisational and Environmental Risk ➢ This unit will investigate theories of environmental and organisational risk management and the approaches that an organisation may employ to achieve these successfully. The role of environmental and organisational risk management within the context of legislation will also be explored.
Crisis Management and Governance ➢ This unit studies the development of effective, transparent continuity and crisis planning. The challenges facing organisations in ensuring robust governance, continuity and crisis management plans, highlighting the differences between this and generic risk management will be explored. Training and exercise preparedness will also be reviewed, enabling students to design appropriate scenarios for their organisations.
Project and Research Methods ➢ This focuses on project risk management processes, systems and technology. Central to the module is a consideration of the key challenges in the application of project risk identification and response frameworks. This will be linked to the research dissertation as a project to be managed, preparing students for the research element of the programme.
Dissertation ➢ This unit comprises the final part of the course. You will undertake a 15,000-word management research project (dissertation) that combines a review of previous research undertaken in your chosen topic, with your own data collection and analysis. During this phase, your research will be supervised by an experienced academic with expertise in your chosen topic area.

Teaching/Learning

All assessment is via coursework, the majority of which will be in the form of written assignments. You will also complete a self-directed research dissertation supported by supervisors.

KINGSTON UNIVERSITY

Faculty of Science, Engineering and Computing
Kingston, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Hazards and Disaster Management

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: No data
Fee: UK/EU: MSc part time £3,465; MSc full time £6,300

Overseas: MSc part time £7,095; MSc full time £12,900

Academic title: MSc in Hazards and Disaster Management

Scope of studies: 90 ECTS

Website: www.kingston.ac.uk

Description

This course focuses on both the scientific knowledge of hazards and modern strategies of emergency planning. Its interdisciplinary approach combines traditional classroom and field-based teaching and learning techniques with modern ICT-based learning support. A strong emphasis is placed on research-led teaching, student-centred learning and team-based activities, all of which develop the necessary skills required by practitioners in the field of hazard and disaster management.

Underpinning scientific principles of both natural hazards (eg hurricanes, storms and tornadoes, flooding, landslides, volcanic eruptions, earthquakes, tsunamis and radon gas emissions) and human-induced disasters (eg terrorism, explosions and oil tanker accidents). The program also covers modern disaster management strategies and planning techniques for the mitigation (eg structural measures and education), preparation (eg early warning), response (eg search and rescue) and recovery (eg insurance) phases.

Graduates of the Hazards and Disaster Management MSc will be equipped with the skills and knowledge to seek employment in a range of areas including:

- emergency planning (eg in government, the police or the fire brigade);
- hazard analysis for insurance companies;
- catastrophe analysis for risk consulting companies;
- humanitarian aid and relief work;
- volcanology, seismology or landslide engineering;
- environmental geography/geology;
- town and rural planning;
- various government organisations such as the Met Office (eg weather forecaster) or the Environment Agency (eg flood analyst); or
- research and teaching.

It is also ideal preparation for PhD studies.

Admission

The Hazards and Disaster Management course is open to both those entering direct from their undergraduate studies and those already in employment.

Minimum entry requirements are:

- Good honours degree (lower second or better) or equivalent in a relevant subject such as geography, geology, environmental sciences, GIS or Earth science or equivalent;
- relevant non-certificated learning; or
- an appropriate combination of certificated and non-certificated learning.
- Your degree qualifications will be checked and verified once we receive your application.

Each application is assessed on an individual basis and may be subject to additional requirements, such as undertaking short course(s), work experience and/or English language qualification(s). Meeting particular minimum entry requirements does not automatically guarantee a place.

In order to complete programme successfully, it is important that students have a good command of English and be able to apply this in an academic environment. Therefore, if students are a non-UK applicant, they will usually be required to provide certificated proof of English language competence before commencing your studies. For this course the minimum requirement is Academic IELTS of 6.5 overall with 6.0 in Writing and 5.5 in Reading, Listening and Speaking.

Content

Modules:

- Natural Hazards: Science and Society
- Managing Disasters
- GIS for Hazards and Emergency Planning
- Research Methods and Techniques
- Research Project (Dissertation)

Teaching/Learning

Free language classes in one of the following: Arabic, French, German, Italian, Japanese, Mandarin, Portuguese, Russian and Spanish.

Fieldwork is used to: improve understanding of the techniques used to gather field data; and provide an opportunity to conduct 'read-world' hazard management exercises. Students undertake a supervised week-long visit to a European field destination affected by multi-hazards (usually to Tenerife in June), where they conduct hazard, risk and vulnerability assessment of the area and evaluate existing hazard management strategies by the regional/local authorities.

Written examinations, coursework (incorporating scenario-based hazard management exercises,

ICT- and paper-based practical exercises, role-play exercises, oral presentations, field reports, essays).

Academic Staff

- Dr Ian Greatbatch, Course director
  Email: g.gillmore@kingston.ac.uk
- Dr Alan Dykes, Senior Lecturer in Civil Engineering
- Dr Tracey Coates, Lecturer in Human Geography

UNIVERSITY COLLEGE OF LONDON

Faculty of Mathematical and Physical Sciences
Department of Earth Sciences
London, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Geophysical Hazards

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: No data
Fee: UK/EU £9,840 (FT); £4,970 (PT)
Overseas £27,540 (FT); £13,770 (PT)
Academic title: MSc in Geophysical Hazards
Scope of studies: 90 ECTS
Website: www.ucl.ac.uk

Description

Broad introduction to geohazards, together with advanced courses in seismology, volcanology, hydrogeological hazards and meteorology. A key goal is to provide an essential grounding in quantitative modelling that can be widely applied to several fields, from pure research to the commercial sector.

Admission

Normally a minimum of an upper second-class Bachelor's degree in a relevant discipline from a UK university or an overseas qualification of an equivalent standard. Applicants whose qualifications are of a lower standard may be admitted if evidence of an adequate academic background and appropriate field experience can be shown.

Content

Students undertake modules to the value of 180 credits. The program consists of six core modules (120 credits) and a research dissertation (60 credits). There are no optional modules for this program.

Core modules:

- Geological and Geotechnical Hazards
- Meteorological Hazards
- Research Methods

- Earthquake Seismology and Earthquake Hazard
- Physical Volcanology and Volcanic Hazard
- Meteorological, Climate and Hydrogeological Hazard

Dissertation/report:

All students undertake an independent research project in geophysical hazards, which culminates in a dissertation of 15,000 words.

Teaching/Learning

Combination of lectures, directed reading and practical exercises. There are excellent opportunities for field investigations in the UK and abroad. Assessment is through unseen written examinations, practical problem-solving exercises and essays. The independent research report is assessed through the dissertation and an oral presentation.

Academic Staff

- Dr Christopher Kilburn, Principal Research Fellow
  Email: c.kilburn@ucl.ac.uk

MASTER ACADEMIC STUDY PROGRAMME
Risk and Disaster Reduction

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: No data
Fee: UK/EU £9,290 (FT); £4,645 (PT)
Overseas £20,820 (FT); £10,430 (PT)
Academic title: MRes in Risk and Disaster Reduction
Scope of studies: 90 ECTS
Website: www.ucl.ac.uk

Description

The MRes is a research-intensive program, which aims to meet the rapidly growing need for experts trained to analyse and provide solutions to complex issues relating to risk and disasters. Students will learn about and explore the characterisation, quantification, management and reduction of risk and disasters, and their associated impacts, from a diverse range of scientific, technical, socio-economic, political, environmental, ethical and cultural perspectives. They will acquire advanced levels of knowledge of empirical, theoretical and practical aspects of risk and disaster reduction, and will gain research experience and the ability to effectively communicate research findings through the independent research project.

Admission

Normally a minimum of an upper second-class UK Bachelor's degree in a relevant discipline or an overseas qualification of an equivalent standard is required.

Content

Skills modules

- Risk and Disaster Reduction Research Tools
- Research Appraisal and Proposal

Optional modules (students choose three of the following modules):

- Integrating Science into Risk and Disaster Reduction
- Natural and Anthropegenic Hazards and Vulnerability
- Emergency and Crisis Planning
- Emergency and Crisis Management

Dissertation/report:

All students undertake a substantial research project of 15,000 to 20,000 words, which culminates in an independent research report and oral presentation.

Teaching/Learning

There are a number of UK-based day fieldtrips as part of the program. These look at the multiple facets of disaster risk including the physical hazard, vulnerability of structures and communities, and mitigation measures and management.
There is also a NGO-led disaster scenario exercise.

MASTER ACADEMIC STUDY PROGRAMME

Risk and Disaster Science

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: No data
Fee: UK/EU £9,840 (FT) £4,970 (PT)
Overseas £22,850 (FT) £11,800 (PT)
Academic title: MSs in Risk and Disaster Science
Scope of studies: 90 ECTS
Website: www.ucl.ac.uk

Description

The Risk and Disaster Science MSc aims to meet the growing need for experts trained in disaster science in sectors ranging from finance to humanitarian response. In a science-led program, students will explore the characterisation of risk from a fundamental understanding of hazard, statistical modelling, appreciation of causes of vulnerability, and quantifying exposure to the management and reduction of disaster risks. There is an emphasis on scientific analysis and statistical methods. Students will enjoy a wide range of taught modules covering scientific, technical, socio-economic, political, environmental, ethical and cultural perspectives.

Admission

Normally a minimum of an upper second-class UK Bachelor's degree in a relevant discipline or an overseas qualification of an equivalent standard.

Content

Students undertake modules to the value of 180 credits.

The program consists of six core modules (90 credits), optional modules (to the combined value of 30 credits) and an independent research project (60 credits). A Postgraduate Diploma (120 credits, six core modules and two optional modules), full-time nine months, part-time two years, is also offered.

Core modules:

- Decision and Risk Statistics
- Earthquake Hazard Risk
- Emergency and Crisis Management
- Natural and Anthropogenic Hazards and Vulnerability
- Risk and Disaster Reduction Research Tools
- The Variable Sun: Space Weather Risks

Optional modules - choose options (to the combined value of 30 credits) from a list which may include the following:

- Climate Risks to Hydro-ecological Systems
- Emergency and Crisis Planning
- Integrating Science into Risk and Disaster Reduction
- Seismic Risk Assessment
- Statistical Computing

Dissertation/report:

All students undertake an independent research project of 10,000-12,000 words which culminates in a research project and poster presentation.

Teaching/Learning

Combination of lectures, practicals, field visits, directed reading and problem-solving exercises and a real-time disaster scenario event, with an emphasis on hands-on learning and tutorial-style dialogue between students and lecturers. Assessment is by independent and group oral presentations, written examination, coursework essays, and the independent project. Practical applications of critical and creative problem solving will be encouraged and assessed throughout.

Department of Space and Climate Physics

MASTER ACADEMIC STUDY PROGRAMME

Space Risk and Disaster Reduction

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: UK/EU £9,020 (FT); £4,480 (PT)
Overseas: £22,400 (FT); £10,980 (PT)
Academic title: MSc in Space Risk and Disaster Reduction
Scope of studies: 90 ECTS
Website: www.ucl.ac.uk

Description

Uniting emergency response, disaster risk reduction and space technology this program is designed to prepare students to work in the fields of satellite technology and disaster response to explore the management of risk and disaster losses from a range of perspectives, focusing on emerging risks posed to modern technology by space weather and the monitoring of hazards on Earth from outer space.

Admission

Normally a minimum of an upper second-class UK Bachelor's degree in a relevant discipline or an overseas qualification of an equivalent standard. Evidence of an adequate level of English proficiency.

Content

Students will learn about a wide variety of natural hazards, how to prepare and plan for emergencies and disasters and how to respond. Students will also learn practical aspects of designing, building and operating satellites and spacecraft including the challenges and risks posed by the environment of outer space.

Core modules:

- Integrating Science into Risk and Disaster Reduction
- Emergency and Crisis Management
- Research Appraisal and Proposal
- The Variable Sun: Space Weather Risks
- Space Science, Environment and Satellite Missions
- Space Systems Engineering

Optional modules (students choose two 15-credit optional modules):

- Decision and Risk Statistics
- Emergency and Crisis Planning
- Global Monitoring and Security
- Mechanical Design of Spacecraft
- Natural and Anthropogenic Hazards and Vulnerability
- Risk and Disaster Research Tools
- Space-Based Communication Systems
- Space Instrumentation and Applications
- Spacecraft Design - Electronic Sub-systems

Optional modules are subject to availability of places.

Dissertation/report:

All students undertake an independent project culminating in a report of between 10,000 and 12,000 words.

Teaching/Learning

Teaching is delivered by lectures, seminars and interactive problem sessions. Assessment is by examination, poster, presentation and written essay coursework.

Academic Staff

- Dr Robert Wicks
  E-mail: r.wicks@ucl.ac.uk

Faculty of Engineering Sciences
Department of Civil, Environmental and Geomatic Engineering
London, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Earthquake Engineering with Disaster Management

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year full time, 2 years part time, up to 5 years flexible learning
Number of students: No data
Fee: UK/EU £11,800 (FT)£6,010 (PT)
Overseas £24,610 (FT)£12,570 (PT)
Academic title: MSc in Earthquake Engineering with Disaster Management
Scope of studies: 90 ECTS
Website: www.ucl.ac.uk

Description

The Earthquake Engineering with Disaster Management MSc combines specialist earthquake engineering knowledge with an understanding of the social, economic and political impact of earthquake events in order to produce engineers who can deliver holistic design solutions and are able to work in both engineering and disaster management roles.

Graduates will be able to:

- Determine the vulnerability of ordinary and special structures to seismic actions.
- Apply both current seismic codes and novel unconventional methodologies of seismic design, repair and assessment.
- Assess the adequacy, economic viability and life-saving effectiveness of pre-event risk mitigation and post-event risk management solutions.

Admission

A minimum of a second-class UK Bachelor's degree in a relevant discipline, or an overseas qualification of an equivalent standard. Extensive work experience covering related areas will be considered in addition to academic qualifications.

Content

Students undertake modules to the value of 180 credits. The programme consists of seven core modules (105 credits), one optional module (15 credits) and a research project (60 credits). A Postgraduate Diploma (120 credits) consisting of seven core modules (105 credits) and one optional module (15 credits) is offered.

Core modules:

- Engineering Seismology & Earthquake Geotechnics
- Structural Dynamics
- Disaster Risk Reduction
- Introduction to Seismic Design of Structures
- Advanced Seismic Design Structures
- Seismic Risk Assessment
- Seismic Loss Mitigation and Strengthening of Low-Engineered Buildings

Optional modules:

- Advanced Structural Analysis
- Earthquake Seismology and Earthquake Hazard
- Finite Element Modelling and Numerical Methods
- Natural and Environmental Disasters
- Integrating Science into Risk and Disaster Reduction

Dissertation/report:

All students undertake an independent research project which culminates in a dissertation of approximately 12,000 words.

Teaching/Learning

Taught modules have been developed and are delivered in collaboration with experts from industry and non-governmental organisations. In addition a field trip is organised every year to an earthquake affected region.

KING'S COLLEGE LONDON

School of Social Science and Public Policy
London, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Disasters, Adaptation and Development

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year f/t, 2 years p/t
Number of students: No data
Fee: Home/EU f/t £9,450
Overseas £18,420

Academic title: MSc in Disasters, Adaptation and Development
Scope of studies: 90 ECTS
Website: www.kcl.ac.uk

Description

The program takes a social development perspective and includes human vulnerability and response to natural and technological hazards and to hazards associated with climate change. It embeds training in disaster risk reduction with access to a broad range of modules that enable the student to craft a degree that can include technical specialties in GIS and remote sensing, organisational risk management, or poverty alleviation and international development.

Admission

2:1 undergraduate degree (or international equivalent, e.g. GPA of 3.3 from a US University).Candidates who do not achieve a 2:1 but have professional or voluntary experience will also be considered. Mature candidates will be considered favourably.

Content

Core modules:

- Dissertation in Disasters, Adaptation and Development
- Practising Social Research
- Disasters and Development
- Advanced Quantitative
- Spatial Methods in Human Geography

Teaching/Learning

Specialist taught modules assessed by essay, presentation, lab work and occasionally by examination. The three-month dissertation is compulsory and can be taken overseas or in the UK.

UNIVERSITY OF YORK

Department of Health Sciences
York, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
International Humanitarian Affairs

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: p/t distance learning 2 years

Number of students: No data

Fee: Freestanding modules are open to UK/EU students wishing to cover their own course fees.

- £1900 for all modules worth 40 academic credit points
- £1,200 for all modules worth 20 academic credit points
- £650 for all modules worth 10 academic credit points.

International students from outside the EU are not eligible to apply for our postgraduate freestanding modules as they do not comply with UK Border Agency requirements for a student (Tier 4) visa because they are classified as part-time programmes.

Academic title: MSc in International Humanitarian Affairs

Scope of studies: 90 ECTS

Website: www.york.ac.uk

Description

This MSc is unique as an interdisciplinary and multidisciplinary postgraduate program that examines the changing nature of humanitarianism. It is delivered exclusively online.

Admission

All applicants with a good first degree (2:1 or above) or relevant professional experience are welcome to apply.

Content

List of modules

Module
Stage 1 - Postgraduate Certificate
Examining Humanitarianism (Core) ➢ The module examines the history of humanitarianism whilst linking it with contemporary arguments for and against humanitarian interventions. The students will receive the opportunity to debate and discuss various humanitarian concepts from the mainstream academic and policy literature as well as alternative theories from different cultural and community perspectives.
Protection and Assistance in International Humanitarian Law (Core) ➢ This module investigates the key conventions related to international humanitarian law within protection and assistance such as the Universal Declaration of Human Rights, Geneva Conventions, Hague Conventions and various other protocols such as the Dar-es-salaam Declaration and the Kampala Convention. Through this investigation, students will examine the relevance and effectiveness of current international law related to protection and assistance and will analyse the debates surrounding emerging norms such as the Responsibility to Protect (R2P).
Humanitarian Response: Food and Nutrition, Shelter, Health and WASH (Core)

- This module introduces key concepts of humanitarian response in disasters and conflicts such as standards (Sphere Project), guidelines (Inter-Agency Standing Committee – IASC) and humanitarian accountability and quality management in food and nutrition, shelter, health and water, sanitation and hygiene (WASH). Students will receive the opportunity to explore, examine and understand different approaches to humanitarian responses (top-down, bottom-up and donor-driven) as well as to critically examine the idea that affected communities are the first humanitarian responders.

Stage 2 - Postgraduate Diploma

Research Methods in Humanitarian Affairs (Core)

- The students will be provided with the opportunity to learn a broad range of research methods and design approaches such as quantitative, qualitative, mixed-methods and participatory methodological techniques that will enable them to conduct sound research capable of generating robust evidence to inform policy and program decisions. The students will debate and discuss ethical implications including, health and safety issues and various international and local regulations and approaches of how to manage these.

Education in Emergencies (Optional)

- This module provides an opportunity for students to debate and discuss the emerging concerns of education in emergencies. One of the major societal impacts of disasters and conflicts is that educational facilities and personnel are often damaged or destroyed which has negative repercussions on affected children and youth within their communities. The students will investigate International approaches, local case studies and traditional educational mechanisms in disasters and conflicts that promote prevention, recovery and eventually sustainable development. The students will also learn and discuss the practical challenges and approaches to implementing education in emergencies.

Evaluating Humanitarian Programmes (Optional)

- This module will examine, debate and discuss different theories, methods and approaches to evaluation in addition to field realities and innovative techniques in evaluating humanitarian programs. The module will also allow the students to learn different evaluation guidelines and evaluative criteria (UN, ALNAP) and the practical implications of these in the field.

Communities in Humanitarian Affairs (Optional)

- In most disasters and conflicts, affected communities have been dealing with uncertainties and dangers for generations. Through their experiences, these communities have developed sophisticated, yet pragmatic approaches to dealing with and adapting to disasters and conflicts. This module will allow students to examine and understand uncertainties and dangers of disasters and conflicts from community perspectives. Community approaches to dealing with crises are founded and directed by their religions, traditions and cultures and as such the module aims to guide and facilitate students to develop and explore new ways of collaborating with affected communities.

Disasters in Complex Political Emergencies (Optional)

- Based on the argument that natural hazards create disasters when they collide with

human beings, this module will examine disasters in complex political emergencies. Examining case studies from Sri Lanka (2004 tsunami and the civil war), Aceh (2004 tsunami and separatist conflict), Somalia (2004 tsunami and protracted conflict) and Central African Republic (famine and civil war), the module aims to encourage students to examine and understand the double-bind catastrophes that people are facing through disasters in complex political emergencies. Further, the module will deliver a deep-level learning of the political (national and international), social, cultural, economic and environmental realities of working in the field of disaster response.

Stage 3 - Dissertation

Dissertation (Core)

- The module aims to encourage students to conduct their dissertation research on a subject matter or research question that is stimulating to them as well as to the field of contemporary humanitarian affairs. An appropriate tutor will supervise the dissertation and the student will receive support throughout the research period.

Teaching/Learning

The course attracts a wide variety of students from different backgrounds. As the Masters is divided over three years part time study, many of our students are professionals already working in the field, looking to broaden their knowledge and theory base to further the work that they are doing.

Academic Staff

- Contact: Dr Jo Rose
  E-mail: jo.rose@york.ac.uk

(MIHA) has two core academic staff members within the Department of Health Sciences at the University of York. More broadly, the Department of Health Sciences' Teaching and Research Teams also contribute to the teaching and learning of the MIHA. The MIHA Associates and collaborative organisations are contributing to enhance the networking and learning experiences of the MIHA students.

- Dr Janaka Jayawickrama, Program Leader
- Dr Jo Rose, Deputy Program Leader
- Dr Geoff O'Brien, External Examiner

Associates:

- Mr Robert Kaufman, Manager, International Relations and Strategic Partnerships at International Federation of Red Cross and Red Crescent (IFRC)
- Professor Phil O'Keefe, Emeritus Professor in Environmental Management and Sustainable Development, Northumbria University, United Kingdom
- Dr Alison Eyre, Director, Postgraduate Education, Department of Family Medicine, University of Ottawa, Canada
- Mr Melkamu Adisu, Psychologist, Sub-Saharan Africa

- Dr Ramani Jayasundere, Senior Technical Advisor on Law, Justice and Gender, The Asia Foundation, Sri Lanka

UNIVERSITY OF DUNDEE

School of Social Sciences
Dundee, Scotland, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Water Hazards, Risk & Reslience

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: UK/EU 2016-2017 £4,500 OS 2016-2017 £12,950
Academic title: MSc in Water Hazards, Risk & Reslience
Scope of studies: 90 ECTS
Website: www.dundee.ac.uk

Description

This course is uniquely placed as the only MSc in the UK to offer a balanced interpretation and adaptation to water hazards, bringing together an understanding of the science with its impacts on Society.

The course will be integrated with public and third sector bodies in order to meet the growing demand for graduates who wish to pursue or advance a career in water hazard or risk management, environmental monitoring, emergency planning or catastrophe-related mitigation for NGOs. Emergency response officers and members from a range of bodies will participate and run workshops as an integral part of research training.

Potential for work-based placements across the wide sector identified above will provide unique opportunities for students to gain real-hazards experience in conjunction with the dissertation module. Internationally recognised experts teach the MSc with cross-disciplinary expertise in environmental hazards, environmental sciences, human geography and health.

Admission

An upper second-class undergraduate honours degree is required in Geography, Environmental Science, Geoscience, Social Sciences, Civil Engineering or related fields.English Language Requirement: IELTS of 6.5 (or equivalent).

Content

List of modules in 1st semester

1st semester
Module
Core modules (20 credits)
Research Training
Water Hazard Geoscience
One option module (20 credits)
Hydrological Monitoring and Modelling
Quantitative Methods

List of modules in 2nd semester

2nd semester
Module
Core modules (10 ECTS)
Population Vulnerability and Resilience
Fieldcourse
One option module (10 ECTS)
Research in Practice (work placement)
Qualitative Methods
Applied GIS and Geospatial Data Analysis
Hydrological Applications

Students enrolled on the MSc program also complete a Dissertation (worth 30 ECTS) over the summer period.

Teaching/Learning

The course is taught using lectures, seminars and workshops as well as integrated field study of between 1 day to 1 week duration.

DURHAM UNIVERSITY

Department of Geography & Institute of Hazard, Risk and Resilience
Durham, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Geography (Risk)

Basic data

Risk area: Natural Hazards in social perspective
Since: No data
Duration of studies: 1 year full time, 2 years part time
Number of students: No data
Fee: UK/EU f/t £9,250
Overseas £18,250
Academic title: MSc in Geography (Risk)
Scope of studies: 90 ECTS
Website: www.dur.ac.uk

Description

This MSc is for students who want to receive specialised scientific training in physical hazards that pose large risks to communities living throughout the world. Students on this program will receive theoretical and practical training for understanding and quantifying hazards. They will learn about how hazards persist over long periods of time instead of merely as single events, but are composed of many smaller sub-events or how their effects are widespread.

Admission

Normally at least an upper second class degree (2:1).

Content

Students take the following core modules, and a selection of elective modules, which, when combined, add up to 180 credits:

Core Modules:

- Understanding Risk (30 credits)
- Risk Frontiers (15 credits)
- Fundamentals of Risk Research (15 credits)
- Dissertation by Research (or) Vocational Dissertation (60 credits)

Elective Modules available in previous years include:

- Hydro-Meteorological Hazards (30 credits)
- Spatial and Temporal Dimensions of Hazard (30 credits)
- Social Dimensions of Risk and Resilience (30 credits)
- International Relations and Security in the Middle East (15 credits)
- Strategic Asia: Policy and Analysis (15 credits)
- European Security (15 credits)
- Social Policy and Society (30 credits)

Teaching/Learning

The primary aim of this Masters program is to equip students with a general understanding of risk; whilst simultaneously providing specific training in elements of risk-related research. This will be achieved through an interdisciplinary framework for understanding risk from a variety of perspectives. Students will learn theoretical and practical approaches to identifying and framing risk, as well as the underlying physical and social mechanisms that generate it. They will also examine the relationship of risk to knowledge and policy, and will be made aware of the array of advanced tools and techniques to assess the physical and social dimensions of risk under conditions of uncertainty. They will also be trained in the substance and methods associated with a range of science and policy areas, and be expected to demonstrate that they can combine their general training in risk with their specific understanding of the substance and method associated with the chosen area, through either a research-based or a vocational dissertation.

Academic Staff

- Contact: geog.riskmasters@durham.ac.uk

LOUGHBOROUGH UNIVERSITY

School of Business and Economics
Loughborough, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Crisis and Emergency Resilience

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 3 years
Number of students: No data
Fee: No data
Academic title: MSc in Crisis and Emergency Resilience
Scope of studies: 90 ECTS
Website: www.lboro.ac.uk

Description

As an integrated part of Loughborough's OR suite of executive education degrees, this specialised program takes a holistic view to crisis and emergency resilience ensuring that professionals are informed by the latest thinking stemming from crisis, emergency, resilience and risk management.

The program is designed to provide an in-depth knowledge, yet reasonably flexible approach to studying crisis and emergency management and resilience in order to enable critical thinking across the breadth of current issues involved in the practice of crisis and emergency management.

Admission

Applicants with a Bachelor's degree from a UK or recognised overseas University with a Second Class honours or equivalent. ; Applicants who have achieved the academic requirements for corporate membership of a British Chartered Professional Institute (equivalent to QCF level 6 or above). ; Applicants who hold any other relevant qualification or professional experience as determined by the Program Director with a reasonable level of formal academic education.

Content

All students irrespective of their qualification aim will study the following modules:

- What is Resilience?
- Risk Management
- Population and Community Emergency
- Concepts of International Crisis Management

Students progressing from the Certificate study the following additional modules:

- Emergency Simulations
- Foreign Policy Management
- Practices of International Crisis Management

Plus one module from those listed below:-

- Response Strategies for Special Incidents
- International Security
- Intelligence Studies

Students progressing from the Diploma study the following additional module:

- Masters Research Project

Teaching/Learning

The program runs over 12 months to 36 months depending on the qualification. There are three levels of qualification, each leading to the next – Postgraduate Certificate, Postgraduate Diploma and MSc.

The individual modules are delivered in what is known as block format. So, as opposed to the usual style of university courses which are two or three hours of contact time per week over a ten week term, these modules are delivered in four full working days of contact time, with then guided study, tutor contact, and deliverables rounding the module off.

Students will be taught, via innovative teaching techniques, about the concepts and practice of crisis and emergency resilience, risk, management practices, handling emergency situations, communicating risk hazard and threat information and developing response strategies, as well as be involved in hands-on responses in order to provide a comprehensive academic and professional training experience in the field of crisis and emergency resilience.

UNIVERSITY OF LIVERPOOL

Department of Engineering
Liverpool, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Risk and Uncertainty

Basic data

Risk area: Risk Assessment in Engineering
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: UK/EU £6,000
International £13,950
Academic title: MSc in Risk and Uncertainty
Scope of studies: 90 ECTS
Website: www.liverpool.ac.uk

Description

The MSc aims to provide you with the theoretical and practical tools, along with professional and research skills, necessary to understand, model and tackle the major problems that arise from the complexity of systems which demand decision-making under Risk and Uncertainty.

The association of this programme to the Liverpool Institute for Risk and Uncertainty gives you the opportunity to learn from and interact with a truly multidisciplinary team of academics. Additionally, due to the strong links with industrial partners, you will be exposed to the knowledge of professionals who deal with risks and uncertainty from an industrial perspective.

The required modules are divided according to the following three aspects of educational content:

A comprehensive appraisal of risk and uncertainty from the point of view of different disciplines

The underlying theoretical and computational tools

Research skills necessary to complete the final project.

Admission

Normally the minimum entry requirement is a UK 2.1 honours degree or equivalent in a related subject from an accepted university or other institute of higher education. Students graduating from a UK university with a 2.2 (min. 55%) will be considered on a case by case basis.

Content

List of compulsory modules

Compulsory module	UK credits
Quantitative and Qualitative Perspectives of Risk	15
Research Skills and Project Planning	15
Risk and Uncertainty: Probability Theory	7.5
Risk & Uncertainty: Numerical Applications	7.5
MSc Project	60

List of optional modules

Optional module	ECTS
Probability Essentials for Financial Calculus - (15 credits)	15
Portfolio Management (15 credits)	15
Human Impacts On Environments (15 credits)	15
Geographic Data Science (15 credits)	15
Techniques In Environmental Planning & Management	15
Introduction To Project Management	15
Big Data Analysis	15
Privacy and Security	15
Research Methods and Statistics	30
Assessment, Mitigation and Communication of Risk	15
Analysis of Safety Critical Systems and Computational Inference	15
Stochastic Modelling In Finance	15
Financial Risk Management	15
Business & The Environment	15
Project Risk Management	15

Data Mining and Visualisation	15
Safety and Dependability	15
Advanced Statistics and Methods	30

Academic Staff

- Contact: Dr. Alejandro Diaz De la O
  E-mail: f.a.diazdelao@liverpool.ac.uk

List of academic staff contributing to the Institute for Risk and Uncertainty: https://www.liverpool.ac.uk/risk-and-uncertainty/staff/

NEWCASTLE UNIVERSITY

School of Engineering and Geosciences
Newcastle, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Flood Risk Management

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: Full time: 12 months, Part time: 24-48 months, CPD modules available
Number of students: No data
Fee: UK/EU f/t £9,000
Part time (2 year course): £5,000,
Part time (3 year course): £3,500,
Part time (4 year course): £2,750
Overseas f/t only £19,000
Academic title: MSc in Flood Risk Management
Scope of studies: 90 ECTS
Website: www.ncl.ac.uk

Description

You will train as a flood risk management specialist who can lead, develop and implement knowledge in this area in your own country and institution.

Admission

A 2:1 honours degree, or international equivalent, in subjects such as: engineering; geography; environmental sciences; Earth sciences; mathematics; physics; geology; chemistry; computer sciences; geomaticsYou will also be considered on an individual basis if you have different or non-standard qualifications, particularly if you have relevant industrial experience.If your first language is not English you need an overall IELTS score of 6.5 (with at least 6.0 in all sub-skills).

Through theoretical, practical and computational (informatics) components, the course provides the opportunity for you to enhance your knowledge of the water environment and flood risk management.

Content

List of compulsory modules

Compulsory module
Quantitative Methods for Engineering
Climate Change: Earth System, Future Scenarios and Threats
Integrated River Basin Management
Hydrosystems: Processes and Management
Geographic Information Systems
MSc Project and Dissertation in Water Resources
Hydrosystems Modelling
Options for Flood Risk Management
Flood Management: Governance, Planning and Project Appraisal

UNIVERSITY OF HUDDERSFIELD

School of Business
Huddersfield, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Risk Disaster and Environmental Management

Basic data

Risk area: Crisis Management/Preparedness
Since: No data
Duration of studies: 1 year full-time
Number of students: 15 places available
Fee: UK/EU £5,100
Overseases £13,000

Academic title: MSc in Risk Disaster and Environmental Management
Scope of studies: 90 ECTS
Website: www.hud.ac.uk

Description

This course looks at risks in the business and organisational environment and considers the consequences when things go wrong. Businesses and organisations increasingly need to anticipate the likelihood and consequences of unexpected events and the necessary short and long term responses.

The programme is structured around three core management themes:

- *Risk*: You will study a wide range of risks in business, organisational and geographical environments. You'll get the opportunity to learn how to identify, assess and manage these risks.
- *Disaster*: The disaster management element of the course will enable you to develop your ability to analyse the consequences when things go wrong, and will give you the opportunity to develop the practical skills for disaster prevention, preparedness, mitigation and management.
- *Environment*: The course will enable you to understand how we interact with the natural environment and will explore how human activity can be managed to minimise negative environmental damage.

Admission

A good first degree (2:2 or above) in a related area, such as business, geography, science and health. Applicants with degrees in other disciplines will be considered on an individual basis. Applicants with appropriate professional qualifications or work experience will be considered on an individual basis.

Content

All required modules:

- Disaster and Emergency Management
- Principles of Environmental Management
- Principles of Risk
- Corporate Responsibility and Governance
- Research Methods and Techniques
- Sustainable Business: Environment Management in Practice
- Business Continuity Management

Teaching/Learning

The course is taught primarily through block delivery. Modules are taught over a five day period, with a weekend break in the middle. There are eight taught modules, so this normally means four blocks in each semester. Most modules are assessed by coursework in the form of reports, essays and presentations.

UNIVERSITY OF READING

School of Law
Reading, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Global Crisis Conflict and Disaster Management

Basic data

Risk area: Disaster Risk
Since: No data
Duration of studies: Full Time 6-12 Months (Part Time 24 Months)
Number of students: No data
Fee: UK/EU f/t £7,575 per year; p/t £3,990 per year
Overseas f/t £15,670 per year; p/t £8,035 per year
Academic title: MSc in Disasters, Adaptation and Development
Scope of studies: 90 ECTS
Website: www.reading.ac.uk

Description

This exciting, timely, dynamic and innovative multidisciplinary postgraduate taught programme examines the role of global (i.e. national, regional and international) law, policy and practice across the spectrum of possible crises, conflicts (e.g. civil, international, post-conflict peace-building, terrorism), 'man-made' (e.g. pollution, contamination) and 'natural' (e.g. earthquakes, cyclones, tsunamis, health pandemics, wildfires) disasters. It considers the complete disaster cycle of prevention, mitigation, preparedness, response, and recovery. The programme reflects current and changing global priorities such as the Sendai Framework for Disaster Risk Reduction 2015-30; progressing the outputs of the UN Climate Change Conference 2015; UN Sustainable Development Goals 2015; and the World Humanitarian Summit 2016.

The overarching aim is to equip students with many of the substantive, professional, practical, and personal transferable skills and knowledge necessary to operate effectively in inherently multidisciplinary crisis, conflict and/or disaster environment(s).

Admission

IELTS: 6.5 overall with no element less than 5.5 (or equivalent).

Students are normally required to have a good undergraduate honours degree (or equivalent from a university outside the UK). If students have other qualifications and a number of years' relevant work experience then you may also be eligible to apply.

Standard requirement is a 2:1 or higher in an undergraduate degree. However, our participants come with a variety of relevant legal and non-legal experience and all applicants are considered on individual merit.

Content

It is possible to take an LLM or MSc pathway. Both are framed around the global architecture of crisis, conflict and disaster management with embedded multidisciplinary. The key distinction is that an LLM route takes more optional law modules, whereas optional modules for the MSc are more multidisciplinary in nature.

Planned Law modules include:

- Global Architecture of Crisis, Conflict and Disaster Management
- Human Rights Law, Policy, and Practice
- Disaster Management
- Hazard, Risk, Vulnerability and Resilience
- Public International Law
- International Refugee Law
- International Law and the Regulation of Armed Conflict
- International Criminal Justice and Post-Conflict Peace-building
- Climate Change Disasters
- Technologies and Weaponry
- Research project
- Professional placement

Non-law modules are expected to span such topics as:

- Development (e.g. foundational concepts, food security, gender)
- Political (e.g. contemporary diplomacy, conflict in the Middle East, terrorism)
- Economic (e.g. macro/micro-economics for developing countries, economics of public/social policy, climate change and economics)
- Preparing for Floods

Academic Staff

- Contact: Dr Katja Samuel, Programme Director
  E-mail: k.l.samuel@reading.ac.uk

UNIVERSITY OF SOUTH WALES

The School of Applied Sciences
Pontypridd, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Global Crisis Conflict and Disaster Management Disaster Management for Environmental Hazards

Basic data

Risk area: Disaster Risk – Environmental perspective
Since: No data
Duration of studies: Full-time: 1 year
Number of students: No data
Fee: Home/EU: £4,750;
International: £12,600
Academic title: MSc in Disaster Management for Environmental Hazards
Scope of studies: 90 ECTS
Website: www.courses.southwales.ac.uk

Description

This Masters course is a unique programme which will provide a balanced study of environmental hazards and disaster management, pre-event mitigation, disaster risk reduction and disaster relief, along with the development of technical and interpersonal skills. It will enable you to critically assess the effectiveness of the implementation of existing techniques, in order to evaluate good practice and apply it to new situations.

The Disaster Management course will develop knowledge, technical skills, interpersonal and management skills, and experience. Students will study a range of hazards using examples from the UK and other countries. This will provide them with the experience to assess risks and vulnerabilities from desk-based research, laboratory and field situations, consider hazard management and disaster risk reduction strategies, develop emergency plans, and critically review the concept of resilience along with techniques for its development.

Students will consider the dynamic and multi-faceted nature of disasters and examine a range of aspects pertinent to the operational, political and socio-cultural issues involved in disaster relief, including aspects of international law. The course will ensure a sound working knowledge and experience with one of the mostly widely used GIS platforms, extensively used by many planning authorities, GOs and NGOs, and you will develop valuable skills in the acquisition and processing of spatial datasets with a wide variety of disaster management applications, along with the ability to visualise and depict spatial information.

Opportunities for study on residential field courses will include the use of field simulations either in Finland or in the UK, and the opportunity to examine environmental hazards and evaluate management strategies on an overseas residential field course. Currently, the field course takes place in Italy or Greece, to examine volcanic, seismic, landslide and tsunami hazards.

Admission

A minimum 2:2 BSc (Hons) degree in either Geography, Geology, Earth Science, Environmental Science, Development Studies, or a related subject, or an equivalent international qualification. Other applicants will be considered on an individual basis. EU applicants will need to have achieved an overall IELTS score of 6.5.

Content

Compulsory modules:

- Principles and Concepts in Disasters
- Management of Coastal and Hydrological Hazards
- Management of Geological and Technological Hazards
- Personal Preparedness for Disasters
- Professional Development for Disasters

Plus two of the following optional modules:

- ArcGIS Principles and Practice
- Remote Sensing
- Work Based Learning
- Professional Practice in Disasters

Students need also to complete a Masters Dissertation Project. The literature review work and project plans will be completed before their work placements. The Master's dissertation will be undertaken after the placement has been completed. Preparation for the Master's project or dissertation will commence in the Spring term.

Teaching/Learning

Study will utilise a range of diverse learning approaches and activities to acknowledge the rich and diverse character and content of the body of knowledge that forms this Master's degree course. It will include:

- Attending the Summer School.
- Lectures
- Seminars and tutorials.
- Completing work packages by distance learning through the Virtual Learning Environment.
- Actively participating in computer workshops and laboratory work.
- Undertaking a range of field based studies and data collection.
- Participating in group based activities and simulations.

- One-to-one interactions with academic staff.
- Fieldwork including community-based learning.
- Self-directed study.
- Optional field or work-placement.

Field trips:

Fieldwork provides unforgettable educational and social experiences, bringing to life the theory and concepts of the lecture theatre. South Wales is a fantastic study location on the edge of rural and urban environments.

Department of Care Sciences
Pontypridd, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Disaster Healthcare

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 3 years p/t, mostly online
Number of students: No data
Fee: EU/EEA 5.550 EUR per year
International 14.724 EUR per year
Academic title: MSc in Disaster Healthcare
Scope of studies: 90 ECTS
Website: www.southwales.ac.uk

Description

This distinctive Master in Disaster Healthcare is the only course of its kind and is aimed at experienced healthcare professionals working in the humanitarian field, or those who aspire to do so.

A key element of this disaster healthcare degree is its strong international and trans-cultural focus. This degree involves studying via distance learning, plus an annual two-week residential Summer School at the beginning of the course.

Students will study the key areas of theory and practice that are relevant to healthcare in complex humanitarian disasters, from resilience and response to mitigation and recovery. The course will prepare students to provide high quality care to vulnerable populations in conflict zones, and disaster emergencies through humanitarian assistance.They will also develop your knowledge on how to reduce disaster risks and improve public health.

Graduates find work with national healthcare providers, non-governmental organisations (NGOs) and inter-government organisations.

Some of our graduates have taken up key posts with the International Federation of Red Cross (IFRC) and Red Crescent Societies, the UK Foreign and Commonwealth Office, the Department of Health, the armed forces and with NGOs in Sudan, Iraq, Angola and Afghanistan.

Admission

- Honours degree or
- a postgraduate diploma in a relevant subject or
- a recognised equivalent qualification.

Content

Year One

- Summer School (14 days attendance required).
- Personal Preparation for Disasters
- Principles and Concepts in Disasters
- Protecting Public Health in Disasters

Year Two

- Professional Development for Disaster
- Evidence-based Practice in Disasters
- Promoting Public Health

Year Three

- Professional Practice in Disasters
- Researching and Evaluating Disasters

Academic Staff

- Jeff Evans
- Caroline Whittaker
- Teresa Filipponi
- Nigel Taylor
- Patrick Deeny
- George Kernohan
- Hanna Oommen

COVENTRY UNIVERSITY

Faculty of Business and Law
Coventry, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Disaster Management

Basic data

Risk area: Disaster Risk
Since: No data
Duration of studies: 1 Year FT / 3 Years PT
Number of students: No data
Fee: £6,930
Academic title: MSc in Disaster Management
Scope of studies: 90 ECTS
Website: www.coventry.ac.uk

Description

The course aims to provide students with the research skills, knowledge and management expertise to deal with future crises, emergencies and disasters in the developed and developing world.

- Provides an understanding of theory and practice and their application within local, national and international contexts;
- Designed to give students the knowledge and skills necessary for successful disaster intervention in the UK, and elsewhere across the globe;
- Emphasis on academic content and on application of theory and principles;
- Uses case studies to ensure that applied and theoretical knowledge complement each other;
- Appropriate for professionals who wish to further their careers in the areas of disaster management, risk assessment, community development, humanitarian assistance and capacity building;
- Staff teaching on the course have a wide range of practice based and research skills and form a cohesive multi-disciplinary team with a strong commitment to advancing disaster management research and practice.

Admission

Successful applicants must normally hold at least a second-class honours degree from a discipline relevant to the Programme.Applicants with a lower class of degree and/or with a qualification in other subject areas will be individually considered and will usually be interviewed prior to being offered a place on the course.Applicants whose first language is not English are required to provide evidence of an ability to follow instruction in English. This is normally 6.5 IELTS or equivalent.

Content

The course covers a range of subject areas, such as:

- Disaster theory and practice;
- Risk assessment;
- Emergency and disaster planning;
- The management of natural and environmental disasters;
- Business continuity management;
- GIS, science and services;
- Humanitarian theory and practice in disasters;
- Development and disaster risk reduction;
- Research design and methods;
- Dissertation topic.

A Postgraduate Certificate may be awarded following completion of four modules; a Postgraduate Diploma would require the successful completion of four additional modules (eight in total), and an MSc degree would also require the successful completion of a dissertation.

Teaching/Learning

Modules are taught as 1 week 'face-to-face teaching' at the University (including lectures, workshops, seminars and exercises) followed by several weeks of directed and self-directed study, which may be undertaken off-campus.

UNIVERSITY OF CENTRAL LANCASHIRE

School of Forensics and Investigative Sciences
Preston, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Fire and Rescue Service Management

Basic data

Risk area: Fire safety
Since: No data
Duration of studies: Full time 1 year, Part time 2-3 years
Number of students: No data
Fee: F/T £6,300 per year (UK/EU);
P/T £1,000 per 20 credit module (first 6 modules) (UK/EU)
F/T £13,450 Overseas

Academic title: MSc in Fire and Rescue Service Management
Scope of studies: 90 ECTS
Website: www.uclan.ac.uk

Description

Strategic managers in the Fire and Rescue Service in risk critical situations face unique challenges in both preparing for and dealing with situations which threaten life and critical infrastructure or reputation. The purpose of this programme is to promote increased understanding of critical management processes and hopefully to enable satisfactory performance in high-consequence, high risk situations. This programme brings together insights regarding risk perception and decision making across domains ranging from the operational context, cognitive psychology, economics, and public policy. It suggests strategies to ensure a mature effective response to various managerial situations. Critical decision makers should develop their abilities build capability to grasp a situation, formulate a response assess success and failure and redefine an improved response. The programme offers tools and strategies which allow managers to generate, evaluate, and select among decision options.

Admission

Entry requirements for postgraduate courses vary and you are advised to check for any specific requirements with Enquiry Management and on our website. Normally the following general entry requirements apply: Postgraduate Diplomas, Certificates and Conversion Courses:A recognised British first degree or its equivalent, or a BTEC Higher Diploma/Certificate.A recognised British honours degree to a good standard, or its equivalent. Applications from all candidates will be considered on their merits and in the light of the nature and scope of the programme or work proposed. Informal enquiries are welcomed and will normally be followed by an initial advisory interview.

Content

Year 1

- Safety Health and Environment Management
- Risk Assessment and Management
- The Expert Witness in the Legal Process

Year 2

- Emergency Preparedness and Response
- Research Methods
- Accidents and Catastrophes

Year 3

- Research Project (can be completed in Yr 2)

OXFORD BROOKES UNIVERSITY

School of Architecture
Oxford, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Development and Emergency Practice

Basic data

Risk area: Disaster risk
Since: No data
Duration of studies: 1 year f/t, 2 years p/t
Number of students: No data
Fee: Home / EU full-time on-campus fee: £8,670
Home / EU part-time on-campus fee: £4,420
International full-time on-campus fee: £12,870
International part-time on-campus fee: £6,560
Academic title: MA in Development and Emergency Practice
Scope of studies: 90 ECTS
Website: www.brookes.ac.uk

Description

The Development and Emergency Practice course from Oxford Brookes University attracts students from all around the world, and is targeted at those with, or seeking, careers in NGOs, bilateral or multilateral humanitarian, development and human rights agencies, or governmental and commercial organisations working in international development.

Admission

The programme is open to all candidates who fulfil at least one of the following conditions:

- hold a good honours degree in a relevant discipline
- hold a relevant recognised diploma or professional qualification (eg in architecture, planning, environmental psychology, public health, geography, public administration)
- are in their final year of studying architecture or planning and are able to demonstrate their proficiency in written and design work
- have substantial and proven field experience.

English language requirements

- At least 6.5 in IELTS, with a minimum of 6.0 across all four components of the test

Content

List of compulsory modules

Compulsory module	UK credits
Theory of Practice: Approaches and Understandings	20
Practice of Theory: Tools and Methods	20
Research Methods	10
MA Dissertation	50

List of optional modules

Optional module	UK credits
Armed Conflict and International Humanitarianism	20
Disasters, Risk, Vulnerability and Climate Change	20
Human Rights and Governance	20
The Refugee Experience: forced migration, protection and humanitarianism	20
Shelter after Disaster	20
Partnerships for Development: a Critical Assessment	10
Learning Practice Masterclass	10
Working with Conflict: Practical Skills and Strategies	10
Independent Study	10

UNIVERSITY OF LEICESTER

School of Business
Leicester, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Risk, Crisis and Disaster Management

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 2 years online
Number of students: No data
Fee: Home/EU: £10,830;
International: £11,600;
Discounted fee for students studying in eligible countries: £8,760

Academic title: MSc in Risk, Crisis and Disaster Management
Scope of studies: 90 ECTS
Website: www.le.ac.uk

Description

This course provides students with a thorough grounding in risk management theory and its application to real world problems. Students will have the opportunity to engage in a wide-ranging interdisciplinary analysis of the extent, effects and explanations of crisis and disaster, and the use of risk theory.

As well as ensuring you are up-to-date with the latest developments in risk management, the course will provide students with the skills and confidence to plan and execute research and engage in debate. Students will develop skills in evaluating information critically, communicating ideas clearly, undertaking advanced conceptual analysis, understanding and applying theories and models, using information sources effectively, reporting and interpreting research critically, and developing new approaches to problem-solving.

Admission

A first- or second-class honours degree or an acceptable equivalent professional qualification.

Special consideration is given to applications from people with relevant work experience and knowledge.

Content

Course modules

- Theories of Risk and Crisis
- Managing Risk and Crisis
- Research Methods in the Study of Risk, Crisis and Disaster Management
- Case Studies of Crises and Disasters
- Models of Risk, Crisis and Disaster
- Emergency Planning Management
- Dissertation

Teaching/Learning

Online learning is an important feature of this course, therefore it is essential that you have reliable, regular access to the internet (preferably with a broadband connection) in order to participate. Students will be able to study by distance learning through our module study books - available in hard copy and electronically - and Blackboard, our virtual learning environment. This will give students online access to materials to support each module, discussions forums hosted by module tutors and chat rooms where they can network with fellow students.

Students will receive support throughout the course from a group of dedicated support staff available through our virtual learning environment, Blackboard, and via email. Students will be

provided with a timetable and key study targets to enable effective time management. Tutors will always be available to them to discuss any aspects of your study either by phone or email.

Individual work/assignments (with online group discussions), Online group works/assignments. The course is based on continuous assessment comprising a written assignment of 4,000 words for each of the six modules studied. Each module lasts 12 weeks. Approximately five months are allowed to prepare and complete the dissertation.

NORTHUMBRIA UNIVERSITY

Faculty of Health and Life Sciences
Newcastle, United Kingdom

MASTER ACADEMIC STUDY PROGRAMME
Disaster Management and Sustainable Development

Basic data

Risk area: Disaster Risk
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: No data
Academic title: MSc in Disaster Management and Sustainable Development
Scope of studies: 90 ECTS
Website: www.northumbria.ac.uk

Description

Students will learn how to prepare for, and respond in a crisis. They will develop the planning skills to help minimise impact and avert problems where possible. They will develop advanced knowledge, project management and analytical skills whilst developing a specialism in an area of their choice.

The course is supported by the Disaster and Development Network (DDN) hosted by Northumbria University, which can lead to placements across the world. Our highly employable graduates have moved into a range of exciting careers, including in the UN, governments, development, humanitarian aid organisations, charities and local authorities.

Admission

A minimum of a lower second class honours degree in an appropriate subject (i.e. geography, environmental management/studies, economics, sociology) or appropriate professional experience and/or qualifications.

International/English Language Requirements:

International applicants are required to have one of the following English language qualifications with grades as shown below.

A British Council International English Language Testing System (IELTS) score of 6.5 (or above) with a minimum score in each component of Reading, Writing, Listening and Speaking of 5.5

Pearson Academic score of 62 (or above) with a minimum score in each component of Reading, Writing, Listening and Speaking of 51

The University also accepts many other English language qualifications and if you have any questions about our English Language requirements please contact the International Admissions Office.

Additional: Applications are welcomed from those with relevant work experience. Suitable equivalent qualifications will be considered, particularly in the case of overseas and mature candidates.

Content

Programme Structure:

- Approaches to Project Management
- Subject Exploration in Disaster and Development
- Themes in Sustainable Development
- Disaster Risk Reduction and Response
- Health and Well-being in Disaster and Development
- Integrated Emergency Management
- Research or Work Related Dissertation
- Postgraduate Research Methods

Teaching/Learning

We also make use of technology in module delivery. Modules take a ‘virtual field study’ approach where real-world examples are brought into the classroom via video clips, podcasts and online discussions with external experts and practitioners.

Lecture materials, learning resources and assessment details are accessible on the eLearning portal (Blackboard), a university-wide system that also provides access to discussion boards where you can communicate with your fellow students and lecturers.

Assessment is designed to provide an authentic learning experience, using techniques and approaches common in professional practice and subject-based academic research and consultancy. We provide constructive ongoing and forward feedback to develop your understanding within and between modules.

IRELAND

DUBLIN CITY UNIVERSITY

Business School
Dublin, Ireland

MASTER ACADEMIC STUDY PROGRAMME
Emergency Management

Basic data

Risk area: Emergency/Disaster risk
Since: 2015
Duration of studies: 2 years, part-time
Number of students: -
Fee: No data
Academic title: MSc in Emergency Management
Scope of studies: This two year, part-time programme is delivered by block release on Thursday, Friday and Saturday, once a month.
While the programme is designed for you to achieve a Masters qualification, covering 90 credits, there is an exit route at Graduate Diploma level (60 credits).
Website: www4.dcu.ie

Description

The M.Sc. in Emergency Management is the first programme of its kind in Ireland. It has been endorsed by the National Steering Group for Major Emergency Management, The Emergency Planning Society (Republic of Ireland Branch) and Pharmachemical Ireland as being suitable for improving the emergency management skills of individuals in both the public and private sectors.

In recent years emergency planning and emergency management have moved up the Irish Government's priority list significantly. In 2006, a Framework for Major Emergency Management document was produced by an inter-agency review group supported by the Department of the Environment, Heritage and Local Government. This M.Sc. offers students excellent opportunities to fulfil the needs of these bodies.

Aims and Objectives:

The primary aim of the programme is to produce students who can deliver excellence in the practice of emergency management, as well as to:

- Instill a comprehensive understanding of the major theories of emergency management including planning, problem structuring, human aspects and communications, and how these are applied in practice.
- Utilise networking skills across agencies as a means of extending the knowledge base and facilitating best practice, in order to become an agent of change and reconciliation within professional settings.
- Understand the impact of information and communications technologies in emergency management and demonstrate a capacity to use these technologies.
- Take a rigorous approach to research design and implementation so that findings can illuminate practice and provide the foundation for models of excellent practice in the field.

Admission

Applicants should hold an honours primary degree or an equivalent professional qualification. A small number of students who do not meet the normal entry criteria may be considered for admission to the programme on the basis of their work experience and other relevant educational achievements.

Selection of applicants may include an interview.

Content

Core modules - Year 1:

- Leadership and Change
- Emergency Management Theory and Practice
- Systematic Emergency Management
- Research Methods

Core modules - Year 2:

- Crisis Communications
- Delivering Performance Excellence
- Strategy Organisation and Innovation
- Business Continuity

Teaching/Learning

Assessment is by competency test, continuous assessment (including project work), terminal examination, or a combination of these elements

NORWAY

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Faculty of Engineering
Department of Mechanical and Industrial Engineering
Trondheim, Norway

MASTER ACADEMIC STUDY PROGRAMME
Reliability, Availability, Maintainability and Safety

Basic data

Risk area: Reliability and Safety in Engineering
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: 30
Fee: There are no tuition fees at NTNU. However, students do need to cover their own living expenses. Furthermore, all international students who are not citizens of EU/EEA/EFTA countries must be able to document that they have enough money to live in Norway in order to be granted a student visa.
Academic title: MSc in Reliability, Availability, Maintainability and Safety
Scope of studies: 120 ECTS
Website: www.ntnu.edu

Description

The objective of this Master's program is to provide knowledge and skills to enable students in the development and operation of safe, reliable and easily maintainable systems. You will learn how products and systems can be used safely, and how technical faults can be avoided. Furthermore, you **will learn how to plan and cost-effectively perform maintenance.**

Admission

To qualify for admission to the MSc in RAMS, applicants must have completed either:

- A Bachelor's degree in Engineering or equivalent, or
- A 5-year integrated MSc in Engineering
- In order to qualify for admission to one of NTNU's 2-year Master of Science programmes in
- Technology, all applicants must have a minimum of 30 ECTS credits in mathematics and statistics in their Bachelor's/undergraduate degree, equivalent to the NTNU courses Calculus I, II, III and Statistics.

English:

- TOEFL (Test of English as a Foreign Language) with a minimum score of 600/90 points on the paper based/internet based test
- IELTS (International English Language Testing Service) with a minimum score of band 6.5
- APIEL (Advanced Placement International English Language) examination with a minimum score of 3 points

Content

List of courses in 1st semester

1st semester
Course
Safety and Reliability Analysis
Risk Analysis
Maintenance Management
Risk Management in Projects

List of courses in 2nd semester

2nd semester
Course
Experts in a Team
RAMS Engineering and Management
Elective course (2 of the following)
Lifetime Analysis
Applied Statistics
Methods and Tools in Safety Practice
Subsea Production Systems

List of courses in 3rd semester

3rd semester
Course
RAMS Assessment of critical Systems
RANS Specialization Project
Elective course (1 of the following)
Scientific Communication
Risk Governance
Corporate Responsibility and Ethics
Life Cycle Assessment

List of courses in 4th semester

4th semester
Course
Master thesis

Department of Civil and Transport Engineering
Trondheim, Norway

MASTER ACADEMIC STUDY PROGRAMME
Geotechnics and Geohazards

Basic data

Risk area: Natural hazards
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: 12
Fee: There are no tuition fees at NTNU. However, students do need to cover their own living expenses. Furthermore, all international students who are not citizens of EU/EEA/EFTA countries must be able to document that they have enough money to live in Norway in order to be granted a student visa.
Academic title: MSc in Geotechnics and Geohazards
Scope of studies: 120 ECTS
Website: www.ntnu.edu

Description

The Geotechnical Division at NTNU, together with the International Centre for Geohazards (ICG), works on assessment, prevention and mitigation of geohazards, including risks associated with landslides and mass transport in soil and rock due to rainfall, flooding, earthquakes and human intervention.

The MSc aims to provide technical-scientific insight into the phenomena connected with geohazards, and focuses on properties of soil and geotechnical materials, field exploration, field measurements, laboratory testing, computer simulations, risk evaluations and practical design skills needed for engineering solutions to geohazards and geotechnical challenges.

Admission

Application for admission to the MSc. programme in Geotechnics and Geohazards is based upon

- A Bachelor of Science degree in civil engineering or the equivalent.

- A good working knowledge of English, both oral and written (Certificate of proficiency is required)
- In order to qualify for admission to one of NTNU's 2-year Master of Science programmes in Technology, all applicants must have a minimum of 30 ECTS credits in mathematics and statistics in their Bachelor's/undergraduate degree, equivalent to the NTNU courses Calculus I, II, III and Statistics.

Content

List of courses in 1st semester

1st semester
Course
Geotechnics Field/Lab
Theoretical Soil Mechanics
Geohazards & Risk Analysis
Applied Geomatics

List of courses in 2nd semester

2nd semester
Course
Experts in Teamwork
Foundations and Slope Analysis
Structural Dynamics or Pavement Technology
Geology and Tunnelling

List of courses in 3rd semester

3rd semester
Course
Rock Engineering
Geotechnical Specialization Project
Geotechnical Advanced Course
Elective Course

List of courses in 4th semester

4th semester
Course
Master thesis

UNIVERSITY OF STAVANGER

Centre for Risk Management and Societal Safety (SEROS)
Stavanger, Norway

MASTER ACADEMIC STUDY PROGRAMME
Technology and Societal Safety
Societal Safety
Risk Management
Risk and Safety Management

Note: All programs only in Norwegian, as well as all data on programs.

SPAIN

KING JUAN CARLOS UNIVERSITY

Research Institute José Ortega y Gasset
Madrid, Spain

MASTER ACADEMIC STUDY PROGRAMME
Security, Crisis and Emergency Management

Basic data

Risk area: Disaster/Emergency Management
Since: No data
Duration of studies: 1 year f/t in Spanish
Number of students: No data
Fee: EU: 58,5 € per ECTS or 3.510 EUR full program
Non-EU: 87,3 € per ECTS or 5.328 EUR full program
Academic title: MSc in Security, Crisis and Emergency Management
Scope of studies: 60 ECTS
Website: www.urjc.es

Description

This academic qualification provides a broad and multidisciplinary training in management of public security, risk assessment and prevention and management of crises and emergencies. The content of the curriculum responds to the demands posed by a dynamic, modern and increasingly multicultural society in a democratic context in which justice, freedom and security are at the heart of the political model of the state.

This degree presents a new model that not only cares for a complete training in terminal capabilities, but presents and defines the new expert in public safety as a knowledge worker prepared to respond quickly to the different requirements associated with different risks.

Content

List of courses

Course
Dimensions of Security
Strategic Management of Human Resources. Leadership and Team Management
New Technologies of Information and Security
Strategic Planning and Coordination of Preventive Security Devices

Negotiation, Mediation and Resolution of Social Conflicts
Public Policy and Decision Making
Legal and Institutional Framework of Security System in Spain
Communication Management in Crisis and Emergency Situations
Knowledge Management : Information and Prospective Intelligence
Advanced Studies in Security
Advanced Studies in Crisis and Emergency
Master's Thesis

UNIVERSIDAD AUTONOMA DE MADRID

Madrid, Spain

MASTER ACADEMIC STUDY PROGRAMME
Psychological Intervention in Crises, Emergencies and Disasters

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 1 year f/t in Spanish
Number of students: No data
Fee: 3,420 EUR
Academic title: MSc in Psychological Intervention in Crises, Emergencies and Disasters
Scope of studies: 60 ECTS
Website: www.master-maestrias.com

Description

The Master proposed Psychological Crisis Intervention, Emergencies and Disasters has the characteristic of focusing on the professional, initial and prolonged aid, which can be exercised from current developments in psychology help and self-care potential victims of these types of situations and to contact relatives or caregivers as well as professionals and help of all kinds such as doctors, social workers, nurses, police officers, psychologists and others.

Associates: Spanish Red Cross

Admission

Given the characteristics of the proposed master is formal requirement of formal training course in psychology, as well as students with the title of degree in psychology well as students with a bachelor's degree in psychology. Will be complementary merits those from curriculum-related activities linked to intervention in crisis situations, emergencies and disasters, collaboration with

centers or entities that develop this type of intervention or academic training that allows a better understanding of psychological intervention either of master's degree, expert or training. The course therefore is aimed at students with a background in psychology accredited by a university and especially those that may be linked or related aid institutions and psychological intervention in crisis contexts. . The selection criteria for admission will be the candidate's CV, and possible confirmation by personal interview by the direction of the master.

Content

The overall objective of the master is to train participants in the development of an effective health care response from the psychosocial field, in crisis situations, emergencies and disasters.

Competencies:

- The main competencies that the objectives of this study are deducted are:
- Know the different models of assessment and intervention in Emergency Psychology
- To value and integrate different types of individual response to situations of crisis or emergency
- To value and integrate the involvement of different psychological aspects in the development of possible psychological disorders and health problems stemming both direct and indirect exposure to a critical event of any kind.
- Being able to achieve an appropriate level of analysis of the critical situation.
- Being able to achieve adequate management of material and personal in a situation of crisis, emergency or disaster resources. Know and implement the various protocols in crisis situations, emergency or disaster.
- To recognize the demand and performance objectives in crisis situations, emergency or disaster.
- Knowing the basis for selection of the techniques and methods most appropriate intervention to critical event.
- Know and comply with the ethical obligations of health psychology in general and Emergency psychology in particular.
- Being able to recognize and accept the ambiguity and complexity of psychological problems, as well as the tentative nature of their explanations and the social context in which they occur.

GERMANY

BAUHAUS UNIVERSITY WEINMAR

Faculty of Civil Engineering
Weimar, Germany

MASTER ACADEMIC STUDY PROGRAMME
Natural Hazards and Risks in Structural Engineering

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 2 years f/t
Number of students: No data
Fee: The standard of living in the Federal Republic of Germany is high and, consequently, so too are the costs and expenses needed to be able to share in that standard. You should reckon with monthly expenses totalling at least € 600. Your will find that this will allow you only a very modest lifestyle. If you do not hold a scholarship or grant, you have to proof to the German foreign mission in your country as well as to the Alien's Registration Authority in Germany, that you can finance your stay in Germany. This means, that you have to provide proof that you have sufficient financial resources at your disposal for the duration of your studies ("Finanzierungsnachweis"). The minimum amount is approximately € 7200 per year, i.e., € 600 per month, but may differ from Authority to Authority.
Academic title: MSc in Natural Hazards and Risks in Structural Engineering
Scope of studies: 60 ECTS
Website: www.uni-weimar.de

Description

The Natural Hazards and Risks in Structural Engineering (NHRE) master's degree programme has a strong international orientation. It trains students to apply themselves to demanding engineering tasks with regard to specific external influences, such as earthquakes. We teach students how to use modern equipment to assess the dangers and damage potential of natural phenomena, we show them how to create models and simulations, and we prepare them for conducting projects and- risk analyses of their own.

the master course aims at combining practical structural engineering with state-of-the-art concepts regarding computational mechanics, dynamics and probability theory/stochastic analysis. Consequently, the master course provides key qualifications for innovative work in the field of earthquake, flood and wind engineering and offers an international setting in which students will achieve both technical success and personal advancement.

Admission

All applicants have to hold a Bachelor degree (B.Sc., B.Eng. or B.Tech.) in Civil Engineering or a related field.

The minimum qualification of admission to this programme is normally a “Bachelor of Science” degree in Civil Engineering, or equivalent professional qualification with a final grade of 2.5 (acc. to German system) or better. The Examination Committee must ensure that the candidate’s prior degree is equivalent to that of the B.Sc. programme in Civil Engineering. If not, the Examination Committee may attach additional conditions for admission, which the candidate must meet. In such cases, candidates are not legally entitled to gaining admission to the programme.

Since English is the sole language of instruction at the Graduate School in Structural Engineering, all applicants seeking admission must possess an adequate knowledge of written and spoken English as a prerequisite to admission.

Content

Main areas covered by the master course in "Natural Hazards and Risks in Structural Engineering" are earthquake engineering and structural design, Geo- and hydrotechnical engineering, Finite element methods and structural dynamics, non-linear analysis of structures under extreme loading, stochastics and risk assessment, as well as disaster management and mitigation strategies. The course program covers, thereby, both theoretical and application orientated topics.

Teaching/Learning

The master’s degree programme in “Natural Hazards and Risks in Structural Engineering” is an intensive and application-based advanced course of study. The programme is highly supervised and research- oriented. It provides students a solid technical basis in the key areas of structural engineering through coherent and co-ordinated degree programme, integrating research and practical applications.

Academic Staff

Lecturers:

- Dr.-Ing. Jochen Schwarz, Head of course program NHRE Earthquake Damage Analysis Center (EDAC)
- Prof. Dr.-Ing. Hans-Joachim Bargstädt, Chair for Construction Engineering and Management , Professor for Construction Engineering and Management
- Prof. Dr. Fabrice Cotton, GFZ Potsdam
- Prof. Dr. phil. habil. Frank Eckardt, Chair of Urban Studies and Social Research
- Prof. Dr. Gottfried Grünthal, GFZ Potsdam
- Prof. Dr. rer. nat. habil. Klaus Gürlebeck, Institute of Mathematics and Physics, Professor for Applied Mathematics

NETHERLANDS

WAGENINGEN UNIVERSITY

Wageningen, Netherlands

MASTER ACADEMIC STUDY PROGRAMME
Geographical Information Management and Applications

Basic data

Risk area: Risk tools - GIS/Surveyllance
Since: No data
Duration of studies: 2 years f/t, 4 years p/t 85% distance learning; 15% classroom
Number of students: No data
Fee: EU/EEA: € 1.984
Non EU/non-EEA : € 15.000
Academic title: MSc in Geographical Information Management and Applications
Scope of studies: 120 ECTS
Website: www.msc-gima.nl

Description

The MSc Geographical Information Management and Applications (GIMA) offers a challenging programme in the domain of Geographical Information Sciences (GIS). It will help you to develop your knowledge and skills in the field of geo-information management and geo-information applications. As a future geo-information specialist, you have to address a wide number of fundamental issues in today's society such as: Why is geographical information needed and how can it be used to solve problems in the broadest variety of application fields (in flood risk management, spatial planning, location-based services, orientation and navigation, location of sales outlets, spatial aspects of crime, dealing with natural hazards and humanitarian disasters)? How can proof-of-concept geo-information and geo-information technology based solutions for societal problems be designed and implemented and how can the quality and usabiliy be evaluated? What are appropriate concepts, methods and techniques for the management of geo-information and geo-information processes, which may involve multidisciplinary teamwork?

Admission

You are eligible for the GIMA program, if you have: already obtained a Dutch or foreign university Bachelor degree or equivalent in a discipline related to geo-information, geography or geographic information management and applications; Academic and research skills on par with those expected at the level of a university Bachelor degree; basic computer skills; English language proficiency. Selection of participants will also be based on: motivation and talent; study progress and results

obtained in previous (post secondary) education (e.g. based on GPA); practical experience in the geo-information field will be an advantage.

Content

The MSc. GIMA program is offered as blended learning. At the beginning of each module there are 3 contact days in which the lectures are being held and the assignments explained. After that there is a period of distance learning of approximately 12 weeks. At the end of the module there are two examination days at one of the four universities.

Content

List of courses at 1st year

1st year
Course
Introduction
Methods and Techniques
Basic Applications
Management in Organisations

List of courses at 2nd year

2nd year
Course
Project Management
Advanced Methods and Techniques
Advanced Applications

List of courses at 3rd year

3rd year
Course
Internship/MSc Thesis

List of courses at 4th year

4th year
Course
MSc/Internship

Teaching/Learning

This Master programme is offered by four renowned universities in the Netherlands: Utrecht University, Delft University of Technology, University of Twente and Wageningen University. As a student, you have access to the large pool of experts from all four universities. You can choose between a full-time (two years) or parttime (four years) programme. Exemptions are possible for students who have relevant working experience, making it possible to complete a part-time programme in approximately three years. GIMA is a blended learning programme. It consists of distance learning (85%) with contact weeks at the four universities (15%).

UNIVERSITY OF TWENTE

Twente, Netherlands

MASTER ACADEMIC STUDY PROGRAMME
Applied Earth Sciences with specialization in Natural Hazards, Risk and Engineering

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 18 months f/t
Number of students: No data
Fee: Tuition fee € 21,000
Minimum living allowance € 15,750
Insurance cover € 740
Residence permit € 320
Academic title: MSc Applied Earth Sciences with specialization in Natural Hazards, Risk and Engineering
Scope of studies: 118 ECTS
Website: www.itc.nl

Description

This master's programme exposes you to different types of hazards and the disaster risk that they can cause. You will gain insight in methods to evaluate how hazards and risk may change in the future due to global changes (e.g. climatic, land use, socio-economic, urbanization). You will also learn how risk information is used for evaluation of risk reducing measures, disaster preparedness planning, post-disaster damage assessment and remediation.

The course offers a mix of theory and practice. More than half of the time is reserved for hands-on training and project work, using real world hazard and risk examples that are often linked to international projects. Throughout the course you will also use an array of software tools, for spatial analysis, image processing, digital terrain analysis, dynamic modelling, etc.

This master's course is for recent university graduates and academically oriented professionals who want to become experts in applying state-of-the-art remote sensing and GIS technology for the modeling and assessment of natural hazards and disaster risk, and the use of this geo-information in engineering context and/or disaster risk management. The course includes a strong research component and leads to an MSc degree.

Our students in Natural Hazards, Risk and Engineering typically have a background in earth science, geography, engineering, or environmental science.

Admission

Applicants for the Master of Science (MSc) degree programme should have a Bachelor degree or equivalent from a recognised university in a discipline related to the course, preferably combined with working experience in a relevant field.

- TOEFL Paper-based Test (PBT) 550
- TOEFL Internet-based Test 79-80
- British Council / IELTS 6.0
- Cambridge CPE/CAE

Content

The master Geo-information Science and Earth Observation is divided into four blocks. The blocks vary in length and are divided into three week modules. The number of modules for this programme is 23.

Important note: the following detailed content per module is derived from the academic year 2016-2017. When for instance developments in the relevant subject occur the course details can slightly differ at the time of your enrolment.

Block 1 - Core modules
GI Science and Earth Observation: a systems-based approach

Block 2 - Course modules
Course
Image Interpretation for Earth Science Studies
Advanced Image Analysis and Quantitative Remote Sensing
Soil and Rock Mechanics
Empirical Modelling of Hazard Processes
Process Modelling of Natural Hazards
Geotechnical Modelling
Risk Assessment
Natural Hazards in a Changing World
Project Natural Hazards, Risk and Engineering

Block 3 - Research profile
Research Skills
Advanced Topic(s)
Advanced Topic(s)
Research Themes/ MSc Qualifier

Block 4 - MSc Research
MSc Research

MASTER ACADEMIC STUDY PROGRAMME
Spatial Planning and Disaster Risk Management

Basic data

Risk area: Disaster Risk & GIS
Since: No data
Duration of studies: 2 years f/t
Number of students: No data
Fee: Separate tuition fees, costs for residence permit, insurance cover and minimum living allowance apply for the programme conducted by UGM and ITC.
For the ITC part of the programme (4.5 months) the fees and costs are:

- Tuition fee: Euro 4,145
- Minimum living allowance: Euro 3,870
- Insurance cover: Euro 190
- Residence permit: Euro 310

For the fees and costs of the UGM part of the programme please visit the website of Gadjah Mada University.
Academic title: MSc in Spatial Planning and Disaster Risk Management
Scope of studies: 118 ECTS
Website: www.itc.nl

Description

This double degree MSc in Geo-information for Spatial Planning and Disaster Management is offered as a joint education programme by the Graduate School and the Faculty of Geography of the Gadjah Mada University (UGM), and the Faculty of Geo-information Science and Earth Observation (ITC) of the University of Twente. Double degree students follow part of the course at UGM in Indonesia and a part (4.5 months) at ITC in The Netherlands. The course programme is taught in English.

This two-year MSc (47 SKS / 118 ECTS) is for students in Indonesia who want to become experts in applying state-of-the-art remote sensing and GIS technology for assessment of natural hazards and

disaster risk, and in the application of geo-information for spatial planning and risk management. Join this course and enter a challenging study programme that also includes a period of several months in The Netherlands.

Admission

Applicants should have a BSc/undergraduate (S1) degree or equivalent from a recognised university in a discipline related to the course programme. Our students often have a background in earth science, geography, engineering, forestry or environmental science.

As this MSc is taught in English, proficiency in the English language is a prerequisite. The minimum entry requirement at the start of the course is a TOEFL score of 500. Students are expected to further improve their level in the first months of the course (English courses offered at UGM). For admission to the ITC part of the double degree course a TOEFL-BPT score of 550 (or equivalent) is required.

Content

The course has a modular structure; each course module is of 2 or 3 weeks duration. The course modules are organized in 3 blocks. Block 2 is a study period of 4.5 months (6 modules) at ITC in The Netherlands. The course modules are taught by lecturers from UGM (Block 1) and ITC (Block 2). Overall the MSc programme has a strong research orientation. MSc research supervision is jointly provided by scientific staff from UGM and ITC (distance supervison). Students are expected to display a pro-active and critical learning attitude throughout the course.

BLOCK 1 UGM, Indonesia (September-April)	Core & specialization modules: Geo-sciences and application | Remote Sensing (RS) | Geographical Information Systems (GIS) | Data inventory using RS&GIS for development purposes | Risk assessment and management | Principles of planning and spatial planning | Regional resource economics | Research methodology | Spatial planning evaluation based on risk analysis using RS&GIS Elective modules: Land use planning and watershed management | Modeling for disaster management | Policy and planning for disaster risk management | Disaster management information systems
BLOCK 2 ITC, Netherlands (April - August)	Research profile modules: Project assignment | Research skills | Advanced topics 1 & 2 | Research preparation 4D Earth | MSc proposal writing & qualifier
BLOCK 3 UGM, Indonesia (September - July)	Individual MSc research phase: Field work & research execution | Thesis writing | MSc exam | Preparation MSc publication* | MSc graduation

**Indonesian MSc requirements involve that students prepare and submit a publication manuscript (partially) based on the MSc research project.*

LEIDEN UNIVERSITY

The Hague, Netherlands

MASTER ACADEMIC STUDY PROGRAMME
Crisis and Security Management

Basic data

Risk area: Crisis/Security Management
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: EU/EEA, Dutch (including Netherlands Antilles), Swiss or Surinamese: around €1,984.
Other: around €16,400.
Academic title: MSc in Crisis and Security Management
Scope of studies: 60 ECTS
Website: www.en.mastersinleiden.nl

Description

During the one year multi-disciplinary master program students will become familiar with the political and social dimensions of the governance of (in)security and crises. By analyzing security discourses, security actors, security practices and security outcomes students will become acquainted with the 'wicked problem' of security and crises topics in a complex and globalizing world.

As security is no longer a public good solely provided by state actors or public actors but the combined outcome of public actors, private security actors, civil society and citizens as well, the master program will focus on the multiplicity of actors engaged in defining and practicing security.

Further, as a result of the globalized and interwoven world of today in which incidents, images and messages travel within seconds from one part of the world to another part of the world, students will study current security and crisis challenges from a 'glocal' perspective: both global and local levels and especially the nexus of those levels.

In the master's program students will be confronted with the insights of various academic disciplines and a combination of theory and practice and skills relevant for a professional career in public or private security and crisis organizations. Students will become familiar with the causes of different forms of crises and threats to security, with patterns of responses and governance of these phenomena, and policies and strategies to prevent threats, incidents or crises. The Master thesis project provides students the opportunity to specifically focus on one particular type of crisis or security issue and how certain actors deal with it.

Admission

- Bachelor's degree in Public Administration from a Dutch university, or
- Bachelor's degree in Public Administration obtained from an EAPAA-accredited university
- Candidates should include a statement of purpose (maximum of 2 A4 pages) in English, in which the candidate explains his/her motivation for applying to the programme.

Additional requirements for non-dutch students

- Bachelor's or Master's degree in Public Administration, Political Science, or an equivalent Bachelor's or Master's degree
- Candidates must have obtained pass grades in the following subjects:
  - Public Administration
  - Organisation and Policy theory
  - Research methods
  - Sociology

Candidates who lack these subjects are required to compensate by taking courses of the Pre-Master's programme.

- 2016-2017: Proof of sufficient proficiency in English: IELTS 7.0 / TOEFL IBT 100 / Cambridge CPE-C, evidenced by an appropriate test.
- 2017-2018: Proof of sufficient proficiency in English: IELTS overall 7.0 and band scores 6.5 or TOEFL IBT 100, band scores 22 (reading), 22 (listening), 22 (speaking) and 25 (writing) or Cambridge English: Proficiency (CPE);: I), evidenced by an appropriate test.

This requirement does not apply if you have:

- completed your education in Canada (except Quebec), USA, UK, Ireland, New Zealand or Australia, or
- an (English-taught) International Baccalaureate
- received or will receive a diploma from a Dutch institute for higher professional education (HBO) or from a Dutch university, accredited by the NVAO

Content

List of compulsory courses

Compulsory course
Introduction into Crisis and Security Management
Security in Historical Perspective
Crisis management
Research Design
Europeanization of Crisis and Security Management
Local Security Networks
Thesis preparation
Thesis

List of elective courses

Elective course
Block 1 (students choose one of the following electives)
Governance of cyber security
World of intelligence
Interpersonal Violence
Block 2 (students choose one of the following electives)
Dealing with terrorism and foreign fighters
Security and the rule of law
Governance of crime and social disorder
Privatization of CSM

Academic Staff

The courses are taught by staff members of the Institute of Public Administration, the Institute of Security and Global Affairs, visiting professors and guest lecturers.

- Prof. dr. Edwin Bakker
- Drs. Sergei Boeke
- Dr. Elke Devroe
- Mr. dr. Quirine Eijkman
- Dr. André Hoogstrate
- Anouk van Leeuwen MPhil
- Dr. Marieke Liem
- Dr. Joery Matthys
- Dr. Ruth Prins

ULTRECHT UNIVERSITY

Faculty of Geosciences
Ultrecht, Netherlands

MASTER ACADEMIC STUDY PROGRAMME
Earth Surface and Water

Basic data

Risk area: Natural Hazards

Since: No data
Duration of studies: 2 years f/t
Number of students: 24 enrolled in last cohort
Fee: EU/EEA: € 1.984,
Non EU/non-EEA : € 18.000
Academic title: MSc in Earth Surface and Water
Scope of studies: 120 ECTS
Website: www.uu.nl

Description

Earth Surface and Water involves the study of natural and human-induced physical and geochemical processes, patterns, and dynamics of the Earth's continental and coastal systems.

Physical Geographers and Hydrologists have an important role as identifiers of nature's action in our modern world because societal pressure on the natural environment increases more and more.

The themes represent decades of knowledge related to coastal and river sciences, hydrological processes, land degradation in mountainous regions and Quaternary geology. The programme is concerned with a wide range of societal problems, such as the increased vulnerability of our society to climate change, natural hazards such as flooding, storms and mass movements, and the adverse effects of human activities on our physical environment, including the impact on the hydrological cycle.

Earth Surface and Water has a strong international profile based on its pioneering work and international expertise in the field of Environmental Modelling and Geographical Information Systems (GIS) and the development and application of Geostatistics. Attention is further paid to water-related aspects, such as climate and environment, bioremediation and virus transport in subsurface water.

Admission

The programme Earth Surface and Water is open to students with a Bachelor's degree in a relevant subject (e.g. earth sciences, natural sciences, physics, physical geography, civil engineering, applied mathematics).

Content

The first year is devoted to course work, while the second year is primarily spent conducting independent research and/or a traineeship.

Independent research (Master's thesis)

During your independent research you work on an individual project. This includes reading relevant literature to formulate research questions and hypotheses, planning and performing the research, and presenting the work in an Master’s thesis and an oral presentation.

Teaching/Learning

Next to your independent research project, you will choose one of the following options:

- Traineeship: a traineeship offers on-site training at another research institute, an industry, consultancy firm or governmental organisation. As such, the traineeship prepares you for your career after graduation.
- Guided research: this can include various research and learning activities such as small research projects, as well as attending summer schools, seminars, workshops and complementary courses.

BELGIUM

VRIJE UNIVERSITY BRUSSEL

Faculty of Medicine and Pharmacy
Brussels, Belgium

MASTER ACADEMIC STUDY PROGRAMME
Disaster Medicine

Basic data

Risk area: Disaster Management
Since: No data
Duration of studies: 1 year f/t
Number of students: No data
Fee: 5.532 EUR p/year for both EU and non-EU
Academic title: MSc in Disaster Medicine
Scope of studies: 60 ECTS
Website: www.vub.ac.be

Description

The main aim of the Master in Disaster Medicine is to improve the competence in disaster medicine and the disaster medical competencies for health professionals in order to form high-level professionals qualified to work as academics, staff members or field workers for international, governmental, and non-governmental organizations.

The management of the medical effects of a disaster is one of the most difficult tasks to be performed by medical personnel. It requires specific knowledge, the ability to plan and organize a health system, adapted to the disaster situation and the professional skill to provide medical care of high quality in an austere environment. Many recurring difficulties or problems that plague the medical response in disasters are due to insufficient education and training of the involved personnel, poor understanding of the medical disaster plans, procedures and protocols and low levels of skill and experience.

Therefore, an appropriate education and training in all aspects of disaster medicine are essential for planners, key personnel and all actors involved in the disaster medical and health response. This will necessitate the educational involvement of academic authorities in association with qualified professionals in disaster medicine and disaster management.

Admission

The course is of interest to all those involved in the medical preparedness and response in disaster situations at local, national and international level. Applicants must hold an approved master degree in a subject of health care or health management. Practical experience in disaster preparedness or management is welcome.

Content

Didactic Concept

The master consists of different parts that you must complete successfully:

1. A structured, self-directed study under faculty guidance on competence-based didactic activities, integrated in an e-learning curriculum and provided on the EMDM website. The educational materials are reinforced by discussion forums and complemented by electronic simulation exercises
2. A two-week residential session, during which you meet the faculty and interact in debates and exercises, assessing your ability to apply an integrated knowledge base, meant for solving problems in disaster situations
3. A thesis related to a topic of disaster medicine or disaster medical management, under the supervision of a local tutor and a faculty member
4. A final online examination provided on the Internet, composed of an electronic simulation exercise and a multiple choice questionnaire

List of compulsory courses

Compulsory course
Introduction to Disaster Medicine
Research in Disaster Medicine
General Medical Disaster Management
Introduction to distance learning
Specific Medical Disaster Management
Disaster Mental Health
Education and Training in Disaster Medicine
Complex Humanitarian Emergencies
Legal, Ethical and Moral Aspects of Disasters
Master Thesis Disaster Medicine

Teaching/Learning

The learning outcomes of this master are:

- to assess the epidemiological and health risks in disaster situations

- to participate in the medical preparedness and planning for disasters
- to direct the medical response in disaster situations
- to master the medical managerial and care aspects of specific disasters
- to organize and manage the psychological support of disaster victims and rescuers
- to organize and manage evaluation and debriefing sessions
- to organize education and training in disaster medicine and disaster medical management
- to master the medical managerial aspects in complex humanitarian emergencies
- to understand the legal and ethical aspects in disaster management and
- to supervise, develop and conduct research on the medical aspects of disasters

Career opportunities

- As a graduate of the Master in Disaster Medicine you can be assigned to following positions:
- Advisor and/or manager of disaster medical management in local, regional and federal administrations
- Officer responsible for the hospital disaster management
- Advisor and/or manager of disaster medical management in international organizations (UN, WHO, OCHA....)
- Executive officer in non-governmental organizations responsible for disaster medical management
- Responsible staff member for education in disaster medicine in medical schools
- Researcher in the medical aspects of disasters in academic centres

ITALY

POLITECNICO DI MILANO

School of Civil, Environmental and Land Management Engineering
Milano, Italy

MASTER ACADEMIC STUDY PROGRAMME
Environmental Engineering for Sustainability

Basic data

Risk area: Natural Hazards/Environmental Hazards
Since: No data
Duration of studies: 2 tears f/t
Number of students: No data
Fee: EU students: €800 to €3,300 per year;
Non-EU students: €3,300 per year
Academic title: MSc in Environmental Engineering for Sustainability
Scope of studies: 120 ECTS
Website: www.polinternational.polimi.it

Description

The MSc in Environmental and Land Planning Engineering focuses on a broad range of interdisciplinary professional capabilities and expertise required to deal with all the issues related to a sustainable utilization of natural resources. We provide a full track in English, which offers a panoply of specialized courses and laboratories addressing all the environmental components (air, water, soil and the biota) and the impacts due either to natural hazards or to human activities, as well as their mitigation. We achieve the mission through advanced scientific and technological education.

Graduates are expected to be employed in land and environmental service enterprises, engineering firms for design and construction of plants for water and air emissions treatment, energy generation and waste disposal, companies for producing and managing environmental instrumentation, remote sensors and environmental monitoring systems and networks, public authorities and agencies for land planning and control.

Admission

Students holding a Bachelor's degree in Engineering or in a related field are eligible for application.

Content

List of available courses

Available course
Chemistry for sustainability
Soil remediation
Engineering and process technologies for water, air and solid wastes treatment
Hydrology and hydraulic engineering
Ecology
Energy systems technologies
Environmental impact assessment and quality evaluation
Environmental systems engineering and management
Geotechnical and seismic engineering
Water, land and soil resource management
Surface and subsurface water quality modelling and evaluation

MASTER ACADEMIC STUDY PROGRAMME
Civil Engineering for Risk Mitigation

Basic data

Risk area: Engineering Risk
Since: 2015-16
Duration of studies: 2 tears f/t
Number of students: No data
Fee: EU students: €800 to €3,300 per year;
Non-EU students: €3,300 per year
Academic title: MSc in Civil Engineering for Risk Mitigation
Scope of studies: 120 ECTS
Website: www.polinternational.polimi.it

Description

The programme links the fundamental disciplines of Civil Engineering (design and construction of civil and environmental structures and infrastructures) with a broad overview of the most advanced Risk Management tools, with particular attention to forecasting and prevention issues concerning structures and infrastructures and soil, on which they are built or embedded, due to natural and anthropic causes.

Admission

Students holding a Bachelor Degree in Engineering, Architecture or Land Use Planning are eligible for application

Content

The Master of Science programme is aimed at providing knowledge and expertise in the field of structural and non-structural measures for the mitigation of natural and anthropic hazards. It offers a synthesis of fundamental and advanced civil engineering tools for Risk Management, integrated by competences in different areas (land use planning, economics and finance, communication, law, psychology). The graduate in C.E.R.M. deals with the design of structures and infrastructures, planning, control and management of town and land systems, and he/she is able to evaluate the environmental impact of structures and infrastructures. He/she can find employment in construction, design and consultancy companies and may have access to contests for positions in the Public Administration.

The programme is taught in English.

In the **first year** the following topics are proposed:

- Numerical Methods for Partial Differential Equations
- Soil-Structure Interaction
- Tools for Risk Management
- Flood Risk
- Structural Analysis
- Fundamentals of Gis

In the **second year** students choose three thematic modules among the followings:

- Engineering Structures for the Environment
- Geo-Engineering Techniques for Unstable Slopes
- Emergency Plans for Hydro-Geological Risk
- Structure Retrofitting for Seismic and Exceptional Loads
- Transport management in emergency planning
- Hazards from Industrial Sites: Process Analysis and Risk Assessment

The final project is devoted to the solution of a field case.

Academic Staff

- Contact Prof Di Prisco, Marco marco.diprisco@polimi.it

UNIVERSITY OF CAMERINO

School of Science and Technology, Geology division
Camerino, Italy

MASTER ACADEMIC STUDY PROGRAMME
Geoenvironmental Resources and Risks

Basic data

Risk area: Natural Hazards/Environmental Hazards
Since: No data
Duration of studies: 2 tears f/t
Number of students: No data
Fee: No data
Academic title: MSc in Geoenvironmental Resources and Risks
Scope of studies: 120 ECTS
Website: www.international.unicam.it

Description

Studies are organized in international agreement with Ludwig Maximilians University, Munchen, Germany. The course provides knowledge and practical expertise in the field of Earth Sciences related to the natural resources and the environmental hazards, aiming to form a geologist able to operate in: a) the study, exploration, exploitation and sustainable use of georesources (water, hydrocarbons, geomaterials, geothermal energy, b) the study of geological hazards (monitoring, evaluation, mitigation management, prevention). During the study period,the combination of theory, practice, fieldwork and laboratory activities, as well as the knowledge acquisition of experimental analytical methods and data statistical processing and modeling, contributes to the cultural formation of the students.To specialize in the area of interest, 30 credits can be chosen to build up a personalized study plan, together with the thesis (30 credits) which requires a semester of independent experimental work. Time is dedicated to the acquisition of interdisciplinary knowledge, especially useful in addressing environmental issues (like groundwater pollution, disaster management or effects of climate change) and transversal competences (use of advanced software and programming codes). Practical workshops held by geologists working in specific fields help introducing the students to the professional world.

Admission

BSc degree confirming completion 1st Cycle Degree level in Geosciences, Geophysics, Environmental/natural sciences, Engineering with suitable geology background is required.The students must also have a background in chemistry, mathematics and physics at university level. The level of English language competence required is B2 (Independent user) of the CEFR. Entrance tests and interviews will take place in the first week of lessons. International students will be preliminary

selected by evaluation of the CV to be sent to the Course coordinator and must refer to the Italian Embassy's regulations in their residence country.

Content

The academic year comprises two semesters, divided in lessons periods (October-January and March-June) and exams periods (February and June-September). The participation to field and laboratory activities is obligatory. A personal computer is required. The course is certified under the AFAQ ISO 9001 quality system.

List of courses at 1st year

1st year
Course
Environmental chemistry
Groundwater resources and hydrological hazard
Advanced field geology
Geomaterials
Petroleum geology
Geostatistics
Elective activity

List of courses at 2nd year

2nd year
Course
Seismic hazard
Volcanic hazard
Geophysical prospection
Elective activities
Thesis

Specialization areas:

- Geodynamics and global tectonics
- Hydrogeological hazard and territory planning
- Experimental petrology and volcanology
- Geochemistry and geomaterials
- Water and energy resources Disaster management
- Geoarcheology and archeometry

The list of optional courses and activities available each year is notified at the end of September.

List of optional courses

Optional course
Structural geology
Geothermics
Coastal dynamics
Sedimentary petrology
Geofluids reservoirs
Plate tectonics
Seismology
Applied geophysics
Geochemistry and petrology
Clastic facies models
Sedimentology and stratigraphy
Field geology
Geomaterials laboratory
C-programming
Fortran-programming
Introduction to AutoCAD
Disaster management
GIS
Advanced GIS

Academic Staff

- Coordinator: Prof.ssa Eleonora Paris
  E-mail: eleonora.paris@unicam.it
- Tutoring: Prof. Claudio Di Celma
  E-mail: claudio.dicelma@unicam.it

FRANCE

UNIVERSITY OF MONTPELLIER

Department of Earth Sciences, Water and Environment
Montpellier, France

MASTER ACADEMIC STUDY PROGRAMME
Earth Dynamics and Natural Hazards

Basic data

Risk area: Natural Hazards
Since: 2010
Duration of studies: 2 tears f/t
Number of students: No data
Fee: No data
Academic title: MSc in Earth Dynamics and Natural Hazards
Scope of studies: 120 ECTS
Website: www.mention-geosciences.org

Description

This master offers a high quality and intellectually stimulating learning experience based on a large variety of methods and tools, including field-work, laboratory-and-experimental studies, and computer modelling. Its aims are to provide students with all skills necessary to critically appraise and analyse earth sciences data, as well as advanced practical skills needed in research and applied geosciences.

Admission

Bachelor or Licence in Earth Sciences (Geology, Geophysics, Environment), Physics, Chemistry, Mechanics.

CZECH REPUBLIC

TECHNICAL UNIVERSITY OF OSTRAVA

Faculty of Safety Engineering
Ostrava, Czech Republic

MASTER ACADEMIC STUDY PROGRAMME
Fire Protection Enineering and Industrial Safety

Basic data

Risk area: Safety study
Since: 1968
Duration of studies: 2 years (4 semesters)
Number of students: 180
Fee: No data
Academic title: MSc in Fire Protection Enineering and Industrial Safety
Scope of studies: 120 ECTS
Website: www.vsb.cz

Description

In the terms of the international classification of education ISCED-97 field is specified as 86-Security services and closely-defined fields 861-Protection of persons and property. The field of study has interdisciplinary character. It focuses on technical, theoretical and practical skills on master's level in field of prevention and repression in fire protection. There is obligatory option of profiling in field of Fire Protection Engineering or Industrial Safety.

Absolvents in area of fire repression is able to organize and to manage emergency services during crisis situations, to manage forces and means of The Integrated Recsue System, to make strategic decisions and to choice tactics of management intervention. Absolvents are also prepared on the basis of an analysis of the situation at the site of the emergency flexibly implement and manage fire-fighting work and rescue to use the current special equipment, organize the activities of telecommunication, mechanical and chemical services, to assess the firefighting equipment and technical means in terms of their operation, process documentation fire protection.

Cadets can complete the necessary experience to obtain a professional qualification by validation study program for professional competence in the field of fire protection designed for university studies.

Admission

Criteria for admission in the master programme:

- Fulfillment of conditions set by law (§48 and §50).
- Fulfillment of conditions set by law (§48 and §50).
- Candidates are required a Bachelor degree in study program Fire Protection Engineering and Industrial Safety or similar technical study program with same content as study program. If the Bachelor degree study program differs it is possible to fulfill required subjects in the form of lifelong learning provided or recognized by Faculty or can be moved to new study plan under specify conditions.
- There is a limitation of the number of accepted candidates (40 – daily studies, 20 part-time studies + 30 distant department in Prague). Candidates are sorted descending according to an arithmetical mean from previous studies and part participations on student scientific activities.

Content

List of compulsory courses from 2017 curriculum

Compulsory course
Ventilation in buildings
Physical chemistry and kinetics of explosions
Mathematics for Engineering
Fire Dynamics
Prevention of accidents and incidents
Physics in Engineering
Case sudies
Emergency events
Resistance of building structures

List of elective courses from 2017 curriculum

Elective course
Software for mathematical modeling of fire
Designing in Fire Protection
Blast effects on buildings
Modeling accidents - processes in the atmosphere and reactive flows
Security and Disaster Psychology
Numerical modeling of pollutants and fire
Engineering methods in Fire Protection
Detection and identification of pollutants

Protecting the population III.
Technical equipment of buildings
Systems of geoinformatics in Fire Protection
The reliability of safety systems
Dimensioning of building structures
Explosion prevention
Applied Fluid Mechanics

List of optional courses from 2017 curriculum

Optional course
Optional
Transport of hazardous substances and wastes
Emergency survival

HUNGARY

UNIVERSITY OF SZEGED

Institute of Geography and Geology
Department of Physical Geography and Geoinformatics
Szeged, Hungary

MASTER ACADEMIC STUDY PROGRAMME
Environmental Risk and Hazard (R&H) Management

Basic data

Risk area: Environmental Risk
Since: Accredited 2002
Duration of studies: 2 years (4 semesters)
Number of students: 110
Fee: 2000 EUR/semester
Academic title: Manager of Environmental Risk and Hazard
Scope of studies: 120 ECTS
Website: www.geo.u-szeged.hu

Description

Growing population, sprawling settlements and global environmental change have considerably increased the exposure of society to natural disasters, endangering human lives, properties and natural values. In both developing and developed countries experts are needed to predict, prevent, mitigate and manage these natural hazards and disasters. The aim of the **Environmental Risk and Hazard (R&H) Management Master Programme** is to provide a sound professional competence in:

- the theory and scientific methods of R&H management;
- data acquisition and processing, modelling in natural systems
- visualisation and communication of risks and hazards towards the society.

We offer an MSc Programme which has a unique structure focusing on in-depth understanding risks and hazards, and on different ways of their management. After the successful completion of the programme students will have a wide choice of challenging and rewarding carriers at industrial or insurance companies, environmental agencies, governmental organisations and at research institutions.

Admission

The R&H Management Master Programme is for students with a vivid interest in the field of environmental issues, management and planning. The MSc programme is open to BSc graduates in related disciplines (such as geography, environmental science, urban design, landscape design etc.).

The language of the programme is English. A prove of sufficient proficiency in English (IELTS 6.0 or TOEFL 85) is a precondition for all applicants admitted to the programme

Content

The programme trains experts who can measure and analyse the environment, map elements at risk, model natural processes, and manage hazards and risks (prevention, mitigation and remediation).

In the first semester the courses focus on introduction to environmental risks and hazards, data acquisition, and visualisation and communication of the results.

During the second and third semesters different types of hazards will be analysed in-depth: the theoretical background of a given hazard, laboratory and mapping surveys of its contributing factors, modelling the processes, and different ways of management will be studied. These units will be presented by an expert of the field, thus students will be provided by the best guidance.

In the fourth semester the student has to compile a thesis on a given hazard causing problems in the student's country.

List of courses in 1st semester

1st semester - Concepts and research strategies
Course
Introduction to natural hazards, vulnerabilities and capacities
Research methods and techniques (data acquisition)
Spatial analysis and GIS
Visualisation

List of courses in 2nd semester

2nd semester - Advanced studies in Risk and Hazard
Course
Flood hazard and flash floods
Slope instability and landslides
Storms, extreme heat and cold, droughts
Ground water lowering, inland excess water
Soil contamination and erosion

List of courses in 3rd semester

3rd semester - Planning during Risk and Hazard management
Course
Emergency and crisis planning
Urban and regional planning for hazard and risk

List of courses in 4th semester

4th semester
Master Thesis

Academic Staff

List of academic staff

Name and surname	Title	E-mail	Phone
Gábor Mezősi	Full Professor, PhD Head of Department	mezosi@geo.u-szeged.hu	+36-62-544-155
Tímea Kiss	Associate Professor, PhD	kisstimi@gmail.com	+36-62-544-545
Viktória Blanka-Végi	Research fellow, PhD	blankav@geo.u-szeged.hu	+36-62-343-236

NATIONAL UNIVERSITY OF PUBLIC SERVICE

Institute of Disaster Management
Budapest, Hungary

MASTER ACADEMIC STUDY PROGRAMME
Disaster Management

Basic data

Risk area: Disaster Management
Since: Accredited 2016
Duration of studies: 1.5 years (3 semesters)
Number of students: No data
Fee: 390.000,00 HUF/semester (~ 1,000 EUR)
Scope of studies: 90 ECTS
Website: www.en.uni-nke.hu

Description

The new Disaster Management MA is launched in the school year 2016/2017, replacing the Defence Administration MA. The new MA course integrates the three specializations of the BSc course, putting emphasis on the leadership skills. The course aims to equip graduates with knowledge on law, security policy, human resource policy and leadership and management methodology, all of

which are necessary to fulfil middle and high management positions in disaster management, public administration and in the private sector. Upon launching the MA course, the educational portfolio of the Institute of Disaster Management will embrace the whole cycle of higher education, starting from the bachelor's level, through the master's level to the doctoral level.

Admission

To ensure the training's standard of excellence, every applicant has to meet the same criteria:

- have a good command of English, as a minimum requirement
- possess an appropriate BA/BSc degree or verify the completion of at least 180 ECTS credits in the given fields

The applicants' language skills and competences will be tested during a personal or skype interview.

Content

No info.

Teaching/Learning

MOODLE E-Learning.

Academic Staff

List of academic staff

Name and surname	Title	E-mail	Phone
Gyula Vass	PhD, Professor, Head of Institute	vass.gyula@uni-nke.hu	+36 (1) 432-9000/29056
István Endrődi	PhD, Associate Professor, Head of Department of Management Operations	endrodi.istvan@uni-nke.hu	+36 (1) 432-9000/29057
Ágoston Restás	PhD, Associate Professor, Head of Department of Fire Protection and Rescue Management	Restas.Agoston@uni-nke.hu	+36 (1) 432-9000/29-595
Lajos Kátai-Urbán	Associate Professor, Head of Department of Industrial Safety	Katai.Lajos@uni-nke.hu	+36 (1) 432-9000/29-653

CENTRAL EUROPEAN UNIVERSITY

Department of Environmental Sciences and Policy
Budapest, Hungary

MASTER ACADEMIC STUDY PROGRAMME
Environmental Sciences, Policy and Management (MESPOM)

Basic data

Risk area: Environmental Sciences, Policy and Management
Since: 2015
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: Unified tuition fee independent of the track the student is taking.

- For non-EU students: 16,000 EUR/year
- For EU students: 8,000 EUR/year

Academic title: Master of Science in Environmental Sciences, Policy And Management
Scope of studies: 120 ECTS
Website: www.envsci.ceu.edu

Description

MESPOM program is an Erasmus Mundus Masters course in Environmental Sciences, Policy and Management operated by four leading European and two North American Universities. The students study in at least three out of six consortium universities: the International Institute for Industrial Environmental Economics at Lund University (Sweden), the University of Manchester (UK), Central European University (Budapest), the University of the Aegean (Lesvos, Greece), the Middlebury Institute of International Studies at Monterey (MIIS) (USA) Middlebury College, and the University of Saskatchewan (UoS) (Canada).

The two-year program is delivered in English and includes three terms of taught courses followed by a fourth research semester. The first two semesters, taught at CEU, comprise mandatory and elective courses focused on scientific and technological as well as legal, economic, and political aspects of key environmental challenges and the society-environment interaction. During the third semester students choose between specialized tracks in either preventive environmental strategies in the public and private sector (at Lund University) or environmental sciences and pollution control (at the University of Manchester). Both tracks emphasize hands-on research and practical experience in industries and laboratories. During the fourth semester, the students conduct their individual research projects and write Masters theses at any three of the four Consortium partners. This is normally combined with internships at inter-governmental organizations, government, industry or NGOs in Europe or students' home countries.

Admission

Applicants must have a first degree from a recognized university or institution of higher education, or provide documentation indicating that they will earn such a first degree before enrolment in a CEU master's program.

Students enrolled in a master's program at CEU must not be simultaneously enrolled in another higher education institution, unless they provide official documentation about having obtained a leave of absence from the other institution for the entire duration of their studies at CEU. Admitted students are required, if applicable, to indicate enrolment at another institution in the matriculation form at the beginning of their studies at CEU.

Content

Overview of Study Programme

The first year - Semesters 1 (Fall) and 2a (Winter) is hosted by the CEU with contributions from Lund University and the University of Manchester. Under the overarching theme '**environmental transitions and social change**', this period includes mandatory and elective units focusing on scientific, technological, economic and political aspects of environmental challenges and the society-environment interaction.

Semester 2b (Spring), Land, Water, Ecosystems is hosted by the **University of the Aegean** on the Island of Lesvos. It includes courses on biodiversity, water, waste and land management including GIS and modelling tools.

During **Semester 3** (the first half of the second year) students choose between specialised tracks in either environmental strategies in the public and private sector (at IIIEE, Lund University) or environmental sciences and pollution control (at the SEAES, University of Manchester). Both tracks emphasize hands-on research and practical experience in industries, organizations and laboratories.

In Semester 4 (the second half of the second year), students undertake individual thesis research. They can choose to be hosted at any of the MESPOM Consortium partners. The topics of student research are closely linked to areas of research excellence of MESPOM Universities. Often, students combine their research projects with academic or professional internships. The research results in a Master's thesis which is jointly examined by the MESPOM Consortium partners.

At the end of the fourth Semester, the students come back to Budapest for a one-week Capstone meeting. During this week they take part in the thesis presentations.

List of courses in 1st semester

Course	ECTS
Academic Writing	2
Air Pollution and Climate Change	2
Approaches to Social Research	1
Biodiversity & Conservation	3

Energy Infrastructure: Management and Policy	3
Environment and Security	2
Environmental Assessment and Planning	2
Environmental Modelling	3
Environmental Monitoring	3
Environmental Philosophy	2
Environmental Policy and Governance: Advanced Topics	4
Environmental Politics: Environmental Activism and Communication	4
Environmental Practicum	3
Global Food, Agriculture, and Development	4
Humans & the Biosphere	2
Information and Communication Technologies for Environmental Professionals	2
Interpretive Research Methods	1
Introduction to Disaster Management	2
Introduction to Environmental Management: Environmental Assessment and Management	2
Introduction to Environmental Management: Environmental Assessment of Products and Services	3
Introduction to Environmental Management: Introduction to Solid Waste Management	1
Introduction to Environmental Thought, Instructor: Alan Watt, Credits: 1.0	1
Introduction to International Environmental Law	1.5
Introduction to International Environmental Policy	1.5
Introduction to Quantitative Research Methods	1
Marine Ecosystems	1
Nature, Culture, Politics, and Justice	2
Oil and Metal Pollution	2
Organic Gardening and Local Food Systems	2
Policies for Sustainable Transport	2
Spatial Analysis with ArcGIS	4
Sustainable Development and Global Transition: From Theory to Practice	3
Sustainable Energy Transitions	2
The Non-Human Biosphere	2
Visual Cultures of the Anthropocene	2
Water: Our sustainable use and provision of drinking water and sanitation	2

Academic Staff

List of academic staff

Name and surname	Title	E-mail	Phone
Ruben Mnatsakanian	Professor, Head of Department	mnatsaka@ceu.hu	+36 (1) 327-3071
Alexios Antypas	PhD Program Director, Associate Professor	antypasa@ceu.edu	+36 (1) 327-3091
Aleh Cherp	Professor, Director, MESPOM Consortium Coordinator	coordinator@mespom.eu	+36 (1) 327-3089

ROMANIA

UNIVERSITY OF TIMISOARA – POLITEHNICA

Faculty of Civil Engineering
Timisoara, Romania

MASTER ACADEMIC STUDY PROGRAMME
Advanced Design of Steel and Composite Structures

Basic data

Risk area: Fire safety
Since: Accredited 2012
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: 2430 EUR/academic year
Scope of studies: 120 ECTS
Website: www.ct.upt.ro

Description

The focus of Advanced design of steel and composite structures Master Course is to provide attendees the engineering ability and know-how to design and construct safe steel and composite steel and concrete structures including environmental aspects, enhancing the sustainability and competitiveness of the industry. The ADS Master Course represents an educational program that trains high-level specialists with the orientation towards the domain of steel and composite steel and concrete structures. The master program corresponds to the requirements of an international labour market, for which the master graduates can integrate activities specific to their grounding for finding the most favourable opportunities. The program assures the continuation and completion of the bachelor degree studies through advanced analysis and design methods applied to steel and composite steel and composite structures. Robustness of structures, fire safety use of new structural materials and other topics related to safety of structures are addressed to students. The program allows the initiation of the trainees in the research activities.

Transmitting knowledge to new generations and perpetual professional training based on a three cycles study system – bachelor, master, and doctoral (PhD) studies programs – as well as postgraduate perpetual education and research programs. On each and every level, the university aims at stimulating critical thinking and creativity in order to offer our graduates a competitive chance on the labour market. At the same time, the institution is open to all members of society, in order to extend lifelong learning in line with worldwide science and technology developments.

Admission

Advanced design of steel and composite structures Master Course is designed for:

- bachelor graduates in civil engineering who wish to enrich their knowledges with new perspectives related to the design of structures;
- bachelor graduates in related domains (technical domains with background in theoretical mechanics and strength of materials) who wish the specialization in civil engineering.

Master courses may be accessed by the graduated Bachelor Engineering Civil Engineering, studies in Romanian or English he main criterion for the admission MA is evaluated with relation:

$$MA = 0,5\ ML + 0,5\ MT,$$

where

ML - represents the graduation average grade (from bachelor's degree);

MT - the grade obtained at the interview.

The citizen of EU, EEA country and the Swiss Confederation apply for admission under the same conditions, including in terms of tuition fees, as the Romanian citizens.

International students from countries outside the European Union, the EEA and the Swiss Confederation should apply directly to Polytechnic University Timisoara.

For those who wish to enrol in an English-taught programme – English language certificate. The citizens of countries having English as an official language and those who prove that they studied beforehand in English do not need to provide this certificate.

Content

List of courses in 1st semester

1st semester	
Course	**ECTS**
Theory of Elasticity and Plasticity	8
Advanced Finite Element Analysis	7
Research and Design Assisted by Testing	7
Life Cycle Analysis for Building Structures	8
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Robustness of structures under extreme actions	7
Performance Based Seismic Design	8
Advanced Design of Composite Steel-Concrete Structures	8
Introduction to Fire Design	7
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Elective Course 1	8
Elective Course 2	8
Elective Course 3	7
Advanced Fire Design	7
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Research Activity	15
Development and Defence of Master Thesis	15
Total ECTS	**30**

List of elective courses

Elective Course	ECTS
Elective Course 1	
Cold-formed Steel Structures	8
Steel and Composite Steel-Concrete Bridges	8
Elective Course 2	
High-Rise Steel Buildings	8
Structures for Buildings with Large Spans	8
Elective Course 3	
Aluminium Structures	7
Metallic Shell Structures	7

Academic Staff

- Prof.univ.dr.ing.Viorel-Aurel Şerban, Rector
- Prof.dr.ing. Gheorghe Lucaci, Decan
- Prof. R. Zaharia
- Professor Daniel Grecea

"BABEŞ-BOLYAI" UNIVERSITY

Faculty of Environmental Science and Engineering
Cluj, Romania

MASTER ACADEMIC STUDY PROGRAMME
Occupational Safety Engineering & Environmental Engineering

	Domain	Specialisation	Line of study
Master Level	Environmental science	Environemental management and protection	Romanian
		Environmental security and risk assessment	Romanian
		Environmental quality and energetic sources	Romanian
	Environmental Engineering	Waste valorification engineering	Romanian
		Sustainable development and environmental management	English
		Disaster management*[1]	Romanian

Sustainable Development and Environmental Management

Basic data

Risk area: Risk and Safety in Engineering (Technical and technological sciences)
Since: Accredited 2008
Duration of studies: 2 years (4 semesters)
Number of students: 30
Fee: 2.500,00 lei
Academic title: MSc in Sustainable Development and Environmental Management
Scope of studies: 120 ECTS
Website: www.enviro.ubbcluj.ro

Description

The MSc in Sustainable Development and Environmental Management (SDEM) is a 2 year full-time program taught in English, with a total of 120 ECTS credits. This Master's programme aims to train

[1] No data was found.

future changemakers and leaders who are able to understand the integrated nature of the environmental subjects and to put into practice a number of methods and techniques for environmental management, in order to develop a sustainable human society.

The program provides, in particular, the opportunity for students to learn and apply:

- knowledge and techniques needed to develop and implement environmental policies in order to achieve sustainable development;
- analytical thinking that leads to environmental decisions;
- interactions between science, politics, society, economy and environment;
- specific case studies for Romania and Central and Eastern Europe.

As a graduate of this joint programme you will have a wide field of employment options in the private, public and semi-public sector or you may choose an academic career by continuing with PhD-studies in a relevant field.

Abilities:

- adoption of specific terminology in environmental management and sustainable development;
- understanding the details related to sustainable development and environmental management;
- superior capacity for analysis and synthesis, based on the use of rigorous scientific methods;
- graduates will be able to initiate, plan and conduct complex analysis and environmental assessment studies;
- use of specific environmental risk assessment software, licensed and approved internationally;
- interpersonal skills: ability to work in teams – environmental audit (integrated environmental management systems), HAZOP team etc.
- systemic competences, mainly the ability to work independently (external expert / consultant);
- ability to design projects, to run them and to obtain the desired results;
- knowledge of specific measures to reduce natural and technological risks;
- ability to integrate environmental data with other socio-economic parameters to get a broader perspective of sustainable development;
- understanding the rules for the preparation of regulatory documents issued by environmental authorities;
- ability to use appropriate evaluation criteria and methods of sustainable industrial systems

Admission

Candidates for the admission to master studies must be graduates of higher education institutions with bachelor's degree or equivalent. For master programs at English candidates must obtain a certificate proficiency in a foreign language.

Admission criteria include:

- interview 50% (for all the specialisations in Romanian the interview will be held in Romanian, for the English specialisation the interview will be held in English)
- license scores average 50% (general average in undergraduate studies).

Content

List of courses in 1st semester

1st semester
Course
Principles of sustainable development
Eco – responsible entrepreneurship
Principles of academic writing and eco- innovation
Evaluation and analysis procedures in environmental management
Risk evaluation of hazardous chemical substances

List of courses in 2nd semester

2nd semester
Course
Integrated environmental management systems
Global climate changes
Sustainable energy production and use
Integrated management of water resources and procedures for wastewater treatment
Elective Course 1

List of courses in 3rd semester

3rd semester
Course
Waste management, treatment and recovery
Ecologic restoration of contaminated sites
Integrated management of natural and tehnological risks
Elective Course 2
Elective Course 3
Research activity 2

List of courses in 4th semester

4th semester
Research activity 3 Dissertation thesis

List of elective courses

Elective Course	ECTS
Elective Course 1	
Data acquisition and remote sensing	
GIS analysis for environmental studies Research activity no. 1	
Elective Course 2	
Environmental radioactivity and nuclear dating	
Modeling and simulation of ecological processes	
Elective Course 3	
Materials and ecological technologies	
Sustainability of industrial systems	

Academic Staff

- Prof. PhD Alexandru Ozunu, Dean
  E-mail: alexandru.ozunu@ubbcluj.ro
- Associate Prof. PhD Liviu Muntean, Head of department
  E-mail: liviu.muntean@ubbcluj.ro

Environmental Management and Protection

Description

The MSc in Environmental Management and Protection - EMP (in the field of Environmental Science) is a 2-year full time programme taught in Romanian. This Master's program aims to train experts in environmental management and protection for various socio-economic domains (e.g., mining, industry, water management, and infrastructure). The main topic of this specialization focuses on acquiring knowledge about various types of pressures and impacts generated by human activities on environment, society, and economy.

The program offers, in particular, the opportunity for students to learn and apply various scientific methods and techniques as tools for: identifying the different types of pressures and impacts on environmental factors; implementing measures/actions/plans in order to mitigate the negative and long-term consequences on the society, economy and environment; operating and implementing the principles and procedures of environmental management systems; implementing environmental planning and decision making at organizational, local and regional level.

Content

List of courses in 1st semester

1st semester
Course
Environmental Impact Assessment Methods and Techniques
Energy and Environmental Resources
Water Resources Administration
Global Climate Change
Management of Risks and Disasters

List of courses in 2nd semester

2nd semester
Course
Human Health Risk Factors
Degraded Lands Rehabilitation
Environmental Pollution Prevention in Industry
Legal Instruments of Environmental Protection at International Level
Applied Geospatial Analysis
Fieldwork

List of courses in 3rd semester

3rd semester
Course
Meteorological and Hydrological Hazards
Strategies in Biodiversity Conservation
Environmental Management Systems
Impact of Valuing of Mineral Resources on the Environment
Ecological Restoration - Optional Course

List of courses in 4th semester

4th semester
Quality Assessment and Soil Protection
Regional Planning and Local Development
Elaboration of dissertation paper
Waste Management Methods and Techniques - Optional Course

Risk Assessment and Environmental Security

Description

The master programme of Risk Assessment and Environmental Security - RAES is a 2 year full-time programme (taught in Romanian) in the field of Environmental Science. This MSc allows students to acquire knowledge on several types of threats and risks in the environment, during normal activities and emergency situations. The program offers the possibility for students to learn and to apply risk analysis as a tool for: identification of risks and possible intervention actions; implementation of risk reduction methods through prevention actions or mitigation of negative consequences on the population and the environment; elaboration and use of management systems within the field of safety, health and environment.

Content

List of courses in 1st semester

1st semester
Course
Risk and technologic disasters management
Risk assessment and management of hazardous chemical substances
Natural disasters and risks management
Risk assessment: water and soil
Environmental projects management

List of courses in 2nd semester

2nd semester
Course
Emergency situations management
Information technology in risk assessment
Human health risk factors
Environmental pollution prevention in industry
Toxic and dangerous waste management
Professional practice

List of courses in 3rd semester

3rd semester
Course
Contaminated sites management
Methods and techniques for environmental impact assessment
Environmental risk communication
Principles of industrial hygiene and safety
Fire and explosion risk assessment
Elective course 1

List of courses in 4th semester

4th semester
Emergency medicine
Dangerous goods transport risks
Legal instruments of environmental protection at international level
Elaboration of dissertation paper
Elective course 2

List of elective courses

Elective Course	**ECTS**
Elective Course 1	
Communication techniques and principles of academic writing	
Environmental impact of mineral resources exploitation	
Elective Course 2	
Applied remote sensing	
Acquisition and interpretation of environmental data	

THE UNIVERSITY OF BUCHAREST

Faculty of Geography
Busharest, Romania

MASTER ACADEMIC STUDY PROGRAMME
Disaster Management

Basic data

Risk area: Risk and Safety in Engineering (Technical and technological sciences)
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: 50
Website: www.geo.unibuc.ro

Description

The Disaster Management Masters is the first program of its kind in Romania.

- Provides understanding of theory and practice in local contexts, national and international.
- Designed to teach students the skills and knowledge necessary for disaster interventions in Romania and other parts of the globe.
- The emphasis is on academic content and application of academic theory and principles
- Use case studies to ensure complementarity between theoretical knowledge and practical skills
- According to professionals who want to evolve in their careers in areas such as disaster management, risk assessment, community development, humanitarian assistance and development of societal and organizational capabilities
- The lecturers have expertise in a wide range of practical and research skills and form a cohesive multidisciplinary team, with a strong commitment to the evolution of research and practice in the Disaster Management field.

Admission

Those admitted must generally hold a at least a 7 at undergraduate level in a relevant field program (geography, administration, management, business studies, psychology, sociology, defense).

Applicants with lower average and / or those with specializations in other areas will be taken into account individually and generally will be interviewed before being offered a place on the course.

It is important that students from the master be aware of the current problems encountered in disaster management worldwide. For this reason the master's program entrance exam will be written and will have two topics.

The first topic will be the choice of the theme of the last World Disaster Report - International Federation of Red Cross and Red Crescent Societies.

For the exam, students will be able to choose some of the topics listed below, each corresponding to a specific chapter in the report.

The three themes are:

- The importance of local actors.
- Patterns and trends in funding.
- Digital Empowerment of local actors.

At the exam the student will receive a subject from the topic that she has chosen.

The second topic will be the assessment of one definition from risk terminology, based on the bibliography developed by the United Nations Office for Disaster Risk Reduction, available here.

The first subject contributes 70% of the grade and the second 20%; notation starts from 1 to a maximum of 10.

Content

The Master covers a wide range of topics, such as: disaster theory and practice, risk assessment, emergency planning, natural disasters and environmental management, Business continuity management, GIS, science and services, humanitarian intervention in disasters, disaster psychology and perception, development and disaster risk reduction, framework and research methods, and dissertation topic.

Assessments on all courses are, for the most part, based on delivered projects. Besides meeting the standards for academic research work, the dissertation offers students the opportunity to focus their learning on their professional needs.

In general, students conduct research and write their dissertation in the 2nd year of studies (30 ETCS).

List of courses in 1st semester

1st semester	
Disaster cycle and disaster risk reduction	7
Community involvement and resilience	7
Natural and environmental disaster management	7
Practice	3
Elective course 1	6
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Disasters and humanitarian intervention	7
Emergency situation planning	7
Communication and warning in emergency situations	7
Practice	3
Elective course 2	6
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Risk, safety, and governance	7
Risk spatial analysis methods	7
Integrated emergency management	7
Research methods	3
Elective course 3	6
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Modelling and simulation of building fire security	4
Decisional analysis	4
Professional practice	14
Dissertation practice	4
Elective course 4	4
Total ECTS	**30**

List of elective courses

Elective Course	**ECTS**
Elective Course 1	
Behavioural changes in human environment interactions	6
Disaster psychology	6
Elective Course 2	
Risk perception	6
Emergency management legislation around the world and in Romania	6
Elective Course 3	
Spatial methods for natural hazard analysis	6
Spatial methods for natural hazards susceptibility analysis	6
Elective Course 4	

Business continuity management	4
Business risk management	4

List of courses necessary for students with a bachelor in other domains outside geography

Course	ECTS per semester			
	I	II	III	IV
Geographical Information Systems (GIS)	4			
Teledetection–notions and principles		4		
Applied activities (can be cumulated)	2	2		
General geomorphology			4	
Cartography				4
Applicative activities			2	2
Total ECTS	**24**			

Academic Staff

- Uni. Prof. Dr. Mircea Dumitru, Rector
- Uni. Prof. Dr. Laura Comănescu, Dean

BULGARIA

THE ACADEMY OF THE MINISTRY OF INTERIOR

Faculty of Fire Safety and Protection of the Population
Sofia, Bulgaria

MASTER ACADEMIC STUDY PROGRAMME
Fire and Emergency Safety

Basic data

Risk area: Fire and emergency safety
Since: 2011
Duration of studies: 1.5 years (part-time)
Number of students: 15
Fee: No data
Scope of studies: 90 ECTS
Website: www.academy.mvr.bg

Description

Cadets receive a scholarship (40-60% of the minimum wage for the position of the police officer), and the amount depends on the success achieved in the semester exams.

Apart from the topics regarding the study area, extensive learning of a foreign language, intensive physical training and driving lessons are included.

Cadets pass a one-month practical training in the divisions of the Ministry of Interior, which allows them to apply their knowledge in practice.

Admission

Criteria for admission in the master programme:

- Candidates are required a Bachelor degree in the same specialty with an average mark not less than good (4), and at least one year of professional experience.
- The entrance exam is a written test.

Content

List of compulsory courses from 2011 curriculum

Compulsory course
Course
Emergency and rescue actions in complex and specific operations
Interaction of firefighting authorities with other authorities and organizations and public relations

Fire resistance and fire protection of building structures – Part 2
Reliability and operation of firefighting and emergency rescue equipment
Crisis management
Complex systems of automated fire and emergency protection
Logistics
Modelling of fire thermodynamics
Modelling of accidents with dangerous substances
Management of an engineering project on fire safety
Psychology of Management
EU legislation
Investigation of fires and accidents
Designing of firefighting systems
National security management
Human resources management
Physical *and* sports-*specific preparedness*

List of electoral courses from 2011 curriculum

Electoral course
Information systems
Mechanics of destruction
Experiment planning. Processing and analysis of results

List of optional courses from 2011 curriculum

Optional course
Quality management
Mathematical modelling of complex systems

CROATIA

KARLOVAC UNIVERSITY OF APPLIED SCIENCES

Karlovac, Croatia

SPECIALIST GRADUATE PROFESSIONAL STUDY PROGRAMME
Safety and Protection

Basic data

Risk area: Safety at work, Fire safety
Since: 2000
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: No data
Academic title: Specialist in Safety and Protection
Scope of studies: 120 ECTS
Website: www.vuka.hr

Description

The fact is that the development of techniques and technology on the one hand means better quality of life, while the other carries the risk of major damage and sometimes disastrous consequences for society. Among other things, the development so far has not been sufficiently paid attention to research, organization, development and implementation of security and safety measures in the workplace.

It is therefore necessary to continuously educate and educate every citizen, organization and society, and affect the quality preventive safety.

Admission

Specialist graduate professional study may enroll persons who have completed appropriate undergraduate vocational or undergraduate or graduate university study, thereby gaining at least 180 ECTS credits.

The Academic Council shall determine the conditions for admission to the graduate professional study.

Specialist graduate professional study may enroll foreign nationals provided knowledge of the Croatian language and script. Before enrolling, foreign citizens must make process of academic recognition of higher education qualifications and periods studies for the purpose of continuing education, in accordance with the Regulations on Academic Recognition foreign higher education qualifications and periods of study.

Content

Knowledge of students is tested and evaluated during the academic year through tests term papers and other means of assessment, which are generally organized and spend time in the timetable for teaching the subject in question. Teacher determines the minimum success that the student needs to achieve to be accessed passing exams. The prescribed minimum success that is required on individual check knowledge and success in all tests of knowledge synthesis can free students partial or total of the examination. Seminar may also free student of the written examination.

The student can take the examination if he fulfilled all the obligations prescribed by the study programme, the teacher verifies the signature in the index. Exams may be theoretical and practical, and are taken orally, in writing or in writing and orally or performance and defense of specified work.

Directions:

- Safety at work
- Fire safety

Safety at work

List of courses in 1st semester

1st semester	
Course	**ECTS**
Quality control	6
Economics protection	5
Standardization and certification	6
Organization of production	6
Planning and Programming Safety at Work	7
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Planning and Programming Safety at Work	7
Electromagnetic pollution	6
Maintenance of machines and tools	6
Physical protection	5
Civil protection	6
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Management of safety at work using computers	7
Alarm systems	6
Passed and elevators	6
Radiation protection	5
Vehicles	6
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Professional practice	12
Thesis	18
Total ECTS	**30**

Fire safety

List of courses in 1st semester

1st semester	
Course	**ECTS**
Quality control	6
Economics protection	5
Standardization and certification	6
Planning and Programming Fire safety	7
Vehicles	6
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Planning and Programming Fire safety	6
Protection for technological processes	6

Management of fire safety using computers	6
Research methods of fire	7
Physical protection	5
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Basics of safety and protection of explosives substance	7
A fire alarm system and fighting	6
Expertise and fire explosion	6
Physical and technical protection	6
Protection and rescue	5
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Professional practice	12
Thesis	18
Total ECTS	**30**

Academic Staff

- Štedul Ivan
- Matić Snježana
- dr.sc. Jovan Vučinić
- Lulić Slaven
- Horvatić Miroslav
- Kralj Damir
- Jurac Zlatko,
- Mustapić Nenad
- Kirin Snježana
- Tudić Vladimir
- Mijović Budimir
- Dražen Škrtić
- Tihomir Mihalić

- Tomas Zlatibor
- Ožura Marko
- Wasserbauer Branko
- Trbojević Nikola
- Ožanić Boris
- Prahović Marko
- Kulišić Damir
- Klasić Ksenija,
- Dubravka Krivačić

RIJEKA UNIVERSITY

Rijeka, Croatia

SPECIALIST GRADUATE PROFESSIONAL STUDY PROGRAMME

Occupational Safety

Basic data

Risk area: Safety in the industry, fire protection, safety in construction and forestry, general safety
Since: 1998
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: No data
Academic title: Safety and Security Specialist
Scope of studies: 120 ECTS
Website: www.veleri.hr

Description

The study is conducted over two years with classes during the three semesters, and in the fourth semester students do they specialist professional practice and specialist final work. Students in the second year of study choose direction and, thus adapt studies to personal preferences and needs of future employment.

Admission

The right of entry to the specialist professional graduate study has student who ended appropriate undergraduate professional study or undergraduate university study.

Admission to the graduate professional study shall be determined by the study program.

Content

Guest student is full-time or part-time student from another institution of higher education in the country or abroad who entered the study program, the courses which are organized and performed

at the Polytechnic, on the basis of a special contract with another institution of higher education on recognition of credits. The status of the visiting student lasts longer than one academic year.
Right visiting student, the manner of providing the costs of study and related issues for his status shall be determined by a separate agreement. All issues related to the mobility of students are regulated by the Ordinance on mobility students, teaching and non-teaching staff of the Polytechnic in Rijeka under the program ERASMUS.

Extremely study program can be established to acquire the ECTS points of a particular subject and without examination. The examination can be taken by students who met all the requirements prescribed by the study program. Exam is written and exceptionally written and oral or making practical work where necessary. Written examinations are conducted under the code through test questions which are prepared based on predicted outcomes (knowledge, skills and general competence). Examination of each individual item shall be determined by the study program or curriculum.

Directions:

- Safety in the industry
- Fire protection
- Safety in construction and forestry
- General safety

List of courses in 1st semester

1st semester	
Course	**ECTS**
Administrative procedure	6
Alarm systems in the function of the safety	6
Marketing in security	6
Technologies to protect people and property	6
Assessment of the work environment	6
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Risk assessment and care planning	6
Waste management	6
Security management	6
International law, security and protection	6

Integrated quality management system	6
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Management in security	5
Assessment in the management of fire protection	5
Safety in industry	
Information system security	5
Safety in the planning of production systems	5
Industrial ecology	5
Elective course 1a	5
Fire protection	
Fire protection in traffic	5
Risk management in the industry of hazardous substances	5
Command and management interventions	5
Elective course 1b	5
Safety in construction and forestry	
Safety management in the construction of facilities	5
Security management in wood processing	5
Protection of the environment and natural resources	5
Elective course 1c	5
General security	
Information system security	5
Ecology of marine and coastal	5
Protection against terrorism	5
Elective course 1d	5
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Specialized professional practice	15
Specialist finishing work	15
Total ECTS	**30**

List of elective courses

Elective Course	ECTS
Elective Course 1a	
Adult education	5
Quality control	5
Elective Course 1b	
Adult education	5
Fire prevention in the industry	5
Elective Course 1c	
Adult education	5
Security management in forestry	5
Elective Course 1d	
Adult education	5
Risk assessment and safety organizations in tourism	5

THE COLLEGE OF OCCUPATIONAL SAFETY AND HEALTH

Zagreb, Croatia

SPECIALIST GRADUATE PROFESSIONAL STUDY PROGRAMME

Safety

Basic data

Risk area: Fire safety
Since: 2001
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: € 2.600

Academic title: Safety Specialist
Scope of studies: 120 ECTS
Website: www.vss.hr

Description

The mission of the College of Occupational Safety and Health and the purpose of its existence is to:

- continue the tradition of education of safety engineers, which began in Zagreb 50 years ago, when this study was one of the rare studies of its kind in ex-Yugoslavia and Europe. to achieve and maintain excellence in every field of education, from its core business at the level of professional scientific and specialist study to external institutional and non-institutional forms of life long education for the protection of persons, property and environment.
- enable the professionals of integral safety to continue education and acquire the highest professional and academic titles in the country and abroad.
- enable employers and their authorised representatives, as well as commissioners of workers in safety at work to acquire knowledge about the protection of life and workers' health at work.
- educate commanding fire fighting personnel for the implementation of occupational safety principles and the protection fire fighters' health.
- educate employers' authorised representatives at companies dealing with environment-polluting activities to take preventive measures of environment protection.
- ensure that managing and commanding personnel in security services and private protection acquire knowledge and new awareness about technical-technological aspects of protection of persons and property.

Admission

The right to enroll into the specialist graduate professional study extends to persons who have graduated from either a three-year vocational study or an undergraduate university study and who has thereby acquired 180 ECTS points minimum.
The right to partial enrollment into the specialist graduate professional study is also granted to the graduates-to-be of the University College of Occupational Safety and Health who have fulfilled all their obligations and acquired all the professor's signatures required at the end of their last semester, and who have filed a request on the appropriate form for the approval of the subject of their final paper within the professional study of safety, under the condition of sitting all the remaining exams before the subject of their specialist paper has been approved.
The student enrollment quota for each academic year is determined by the decision regarding the enrollment, taking into consideration the capacities of the University College. The enrollment into the study is performed on the bases of a public tender for applications, and of conducted enrollment procedures for the first years of the professional and specialist graduate professional studies respectively.
The College Council announces the tender for student applications based on the decision regarding the enrollment. The tender for applications is announced in the daily press no later than six months

prior to the beginning of class. The provisions of the tender for applications are determined by the College Council in accordance with the law, the Statute and the study Book of regulations.

Content

List of courses in 1st semester

1st semester	
Course	**ECTS**
International and European Safety Law	9
Society and risks	8
Information Systems Security	8
Administrative procedure	5
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Transport of hazardous substances	9
Insurance and reinsurance	8
Leadership in the protection of disaster	8
Alarm systems	5
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Assessment of fire danger	9
Methods of fire-fighting	8
Fire-Fighting Resources	8
Elective courses 1	5
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Professional work experience	10
Specialist thesis	15
Elective courses (2)	5
Total ECTS	**30**

List of elective courses

Elective Course	ECTS
Adult education	5
Normization, accreditation and certification	5
Sustainable development and environmental protection	5
Nuclear safety	5

Semester I, II and IV are common program. Semester III is for course of fire protection.

Having finished the specialist graduate professional study, the student gains the appropriate specialist title and other rights determined by law. The final exam is a comprehensive exam whereby the final paper is graded as well as the student's knowledge required for performing the work and work related tasks from the area of Safety that the final paper's subject is from. The diploma is issued upon the completion of the specialist study. Along with the certificate and diploma, the students are also issued an additional document - a supplement in both the Croatian and English language.
The committee for the approval of final and specialist papers' subjects is named by the Dean. The committee is made up of three members and three deputies. Based on the student's suggestion, the committee appoints the mentor of the final or specialist paper and approves the subject of the paper.
The Dean appoints the committee for the grading and presentation of specialist papers at the specialist graduate professional study. The committee is made up of three members. The president of the committee and one member thereof are appointed from within the University College faculty.

Academic Staff

- Svjetlana Šokčević
  E-mail: svjetlana.sokcevic@vss.hr
- Liljana Dolšak
  E-mail: liljana.dolsak@vss.hr
- Davorin Kacian
  E-mail: davorin.kacian@vss.hr
- Slobodan Kocijan
  E-mail: slobodan.kocijan@zg.t-com.hr

- Ksenija Klasić
  E-mail: ksenija.klasic@vss.hr
- Ivan Toth
  E-mail: ivan.toth@vvg.hr
- Branko Šimara
  E-mail: upvh@zg.t-com.hr
- Neven Szabo
  E-mail: neven-szabo@net.hr
- Marko Toth
  E-mail: mtoth@vss.hr
- Miroslav Matasović
  E-mail: miroslav.matasovic1@zg.t-com.hr
- Tamara Tarnik
  E-mail: ttarnik@vss.hr
- Slavko Sever
  E-mail: slavko.sever@vss.hr
- Vladimir Lokner
  E-mail: lokner.vladimir@gmail.com

Note: After 30.09.2019. The College of Occupational Safety and Health will stop working.

UNIVERSITY OF ZAGREB

Zabreb, Croatia

Postgraduate University Specialist Study Programme
Safety and Protection

Basic data

Risk area: Fire safety
Since: 2006
Duration of studies: 1 years (2 semesters)
Number of students: Min 20
Fee: 30.000,00 kn
Academic title: University Specialist in Civil Engineering (univ.spec.aedif.)
Scope of studies: 60 ECTS
Website: www.grad.unizg.hr

Description

After graduation, the student is qualified for jobs in the field of civil engineering, prescribed by the Law on spatial planning and construction (NN 90/11, 55/11, 76/07 i 100/04) and Low on fire protection (NN 92/10):

- urban planning and architectural design under the terms of fire protection
- preparation and revision of Study of fire protection
- control of the main projects in the event of fire, regarding the mechanical resistance and stability
- design and adaptation and reuse of old buildings that do not meet the basic requirements of fire protection
- creation of fire risk assessments of buildings
- design, production and installation of equipment and devices for fire protection in buildings
- testing of fire characteristics of materials and structures
- manufacturing, testing and installation of the material for fire protection in buildings

The main goal of the Postgraduate Specialist Studies Fire Engineering is the development of scientific methods that would lead to more objective assessments of fire influence on people and buildings in a specific situation, and thus increase the safety of people and buildings. In this case, determination of so-called acceptable and realistic risk is essential, as well as cost-effectiveness of applied measures. This is especially evident when the fire protection measures prescribed by current legislation compare with the fire protection measures determined with fire engineering methods.

Fire engineering methods are consistent because they are based on scientific principles and offer the best security solutions, economically acceptable for investors.

Admission

Admission requirements: university degree from the group of Faculties of Technical Sciences

The study may enroll students who have completed graduate studies, or of undergraduate studies (according to the previous regulations) and that achieved at least 60 ECTS during the studies from the subjects of Civil Engineering, ie 60 credits in the subject of technical sciences.

Content

List of compulsory courses

Compulsory course	ECTS
Basics of Loadbearing Structures	2
Fire Performance of Construction Materials	5
Fire Safety of Structures	5
Thermodynamics of Fires	6

List of elective courses

Elective course	ECTS
Architectural and Civil Engineering Measures of Fire Protection	6
Research Methodology	4

Fire Modelling	4
Human Behavior in Fires	4
Building Code Requirements for Fire Protection	6
Active Fire Protection Systems	6
Fire Risk Management	4

Academic Staff

- Doc. dr.sc. Miodrag Drakulić
- Prof.dr.sc. Dubravka Bjegović
- Dr.sc. Ivica Kušević
- Dr.sc. Marija Jelčić Rukavin
- Prof.dr.sc. Tomislav Kišiček
- Prof.dr.sc. Bernardin Peroš
- Doc.dr. sc. Ivica Boko
- Doc.dr.sc. Dražen Vouk
- Mr.sc. Mladen Lozica
- Prof. Mladen Jošić
- Prof.dr.sc. Bernardin Peroš
- Prof.dr.sc. Ivica Boko
- Doc.dr.sc. Neno Torić
- Doc.dr.sc. Miljenko Antić
- Prof.dr.sc. Mladen Radujković
- Prof.dr.sc. Anita Cerić
- Prof.dr.sc. Ivana Banjad Pečur

VELIKA GORICA UNIVERSITY

Velika Gorica, Croatia

SPECIALIST GRADUATE PROFESSIONAL STUDY PROGRAMME

Crisis Management

Basic data

Risk area: Crisis Management
Since: No data
Duration of studies: 2 years (4 semesters)
Number of students: 60
Fee: HRK 7,490.00
Academic title: MSc in Crisis Management
Scope of studies: 120 ECTS
Website: www.vvg.hr

Description

By completing the study programe “Specialist graduate professional study of crisis management” the students acquire specialist knowledge and competences for independent solving of the problems regarding crisis management, conducting processes and systems of managing protection and security in public and private sector, and especially in the industry at national and international level, and adjustment of the action with the system of managing the functional activity of the organization.

The graduate students will be qualified to solve the problems of managing crises as well as managing public and corporate security and humanitarian and security operations in compliance with the valid national, EU and international relevant directives and norms.

By successfully completing the specialist graduate professional study of crisis management the students will acquire new 120 ECTS credits so that they will obtain the diploma of a professional specialist engineer of crisis management with a total of 300 ECTS which enables them to continue studying in Croatia or abroad, in compliance with the law.

Admission

Specialist professional graduate study Crisis management can enroll applicants who have completed at least undergraduate professional study or undergraduate university study and acquire 180 credits.

The right of entry into the first year of the specialist graduate study Crisis management without the obligation to pass differential exams normally given to candidates who have completed undergraduate professional study at the Polytechnic Velika Gorica and applicants who have completed a related undergraduate professional or university studies in Croatia or abroad

On the basis of inspection of the submitted documentation and curricula completed undergraduate professional studies the candidate, the Board for admission to the graduate professional study Crisis management can decide on the appropriate differential exams.

Content

List of courses in 1st semester

1st semester	
Course	**ECTS**
Modern threats and security	6
Crisis and disaster management in EU	6
Corporate risks and security	7
Crisis management of administration	5
Design of exercises for crisis situation	7
Total ECTS	**31**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Elective course A1	
Elective course A2	
Elective course B1	
Disaster assessment	6
Critical infrastructure management	7
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Course	**ECTS**
Psychological aspects of crisis management	6
Contemporary challenges of crisis management	7
Elective course A-3	
Elective course A-4	
Elective course B-2	
Total ECTS	**30**

List of courses in 4th semester

4th semester	
Course	**ECTS**
Methods of crisis research and management	9
Elective B-3	5
Diploma thesis	16
Total ECTS	**30**

Elective courses of type A are selected by the student in agreement with the mentor
Elective courses of type B are selected by the student of their own personal interest

Teaching/Learning

The study is intended primarily for persons who are involved in protection and security aspects of crises in the activities of legal entities, industry, bodies of local and regional administration units, and bodies of government administration

Academic Staff

- Head of Study: Branko Mihaljević, Ph.D.,senior lecturer
  E-mail: branko.mihaljevic@vvg.hr

GREECE

NATIONAL UNIVERSITY OF ATHENS

Faculty of Geology and Geoenvironment
Athens, Greece

MASTER ACADEMIC STUDY PROGRAMME
Natural Hazards Prevention & Management

Basic data

Risk area: Disaster Risk Management
Since: 2004
Duration of studies: 2 years (4 semesters)
Number of students: No data
Fee: No data
Scope of studies: 120 ECTS
Website: www.metphyskat.geol.uoa.gr

Description

Objects of the Postgraduate Program "Prevention and Natural Disaster" Management (MSc-PDFK) are:

- the study of natural catastrophic phenomena, including causes, their development, their impact, preventive and protective measures, and their management
- the detailed analysis of the problems that emerge from the event of natural and man-made disasters and harmonization of modern research and technological knowledge to implement effective measures to reduce the risk of natural disasters.
- the specialized high-level scientists and staff to meet the requirements listed above, both in private and public sectors in order to minimize the possible existing risk mainly from natural disasters.

It is a common belief that knowledge, awareness and preparation of citizens and state machine to catastrophic events, is essential to reduce the consequences, if there is appropriate scientific staff specializing in the study of prevention and response to natural disasters.

Admission

Criteria for admission in the master program:

- Students should be graduates of the Faculty of Sciences of the National University of Athens or other greek universities and Geomatics and Surveying Department of Technology

educational Institute of Serres or other domestic technological education institutions with similar scope and graduates of recognized institutions abroad,

- Graduates of other departments AEI or TEI domestic or congener recognized institutions from relevant discipline abroad wirh technological directions and for whom the acquisition of the SFC or the ICJ does not imply the acquisition of the basic patent of University Departments participating in the program.

Content

Special graduate courses

1. Geology information (o)
2. Geodynamics of Greece (o)
3. Geoinformatics and data analysis (o)

List of courses in 1st semester

1st semester
Course
Environment - natural and technological disasters (y)
Extreme weather and floods (Y)
Seismic and volcanic risks (y)
Travel gravity - landslides (y)
Application of GIS in prevention - natural disaster management (y)

List of courses in 2nd semester

2nd semester
Course
Long-term changes - desertification phenomena and changes in coastal areas (y)
Fires (y)
Research methods and monitoring environmental parameters - application space technology (y)
Planning land use - natural disaster prevention (y)
Management of natural disasters (y)

List of courses in 3rd and 4th semester

3rd and 4th semester
Course
Seminars (y)
Thesis (y)

** Courses with Y code are mandatory and courses with code E are optional*

The Department of Structural Engineering
Athens, Greece

MASTER ACADEMIC STUDY PROGRAMME
Analysis and Design of Earthquake Resistant Structures

Basic data

Risk area: Earthquake risk
Since: 1998-1999
Duration of studies: full time basis with three (3) semesters duration, or on a part time basis with two (2) year duration
Number of students: No data
Fee: No data
Academic title: MSc in Analysis and Design of Earthquake Resistant Structures
Website: www.postgrad.structural.civil.ntua.gr

Description

Earthquake Engineering is a relatively new multidisciplinary and constantly evolving science encompassing structural analysis and design, computational methods and material science, both in a deterministic and stochastic context. This evolution of theoretical models, design procedures and construction technologies has evolved through and thanks to, the knowledge gained by observed structural performance in past devastating earthquakes worldwide. Recent events in developing countries, as well as in modern cities of developed countries, have shown the large life and economic lossesthat can occur after a strong earthquake, as a consequence of insufficient design and construction. High quality training and education of professionals and researchers,in the field of analysis and design of earthquake resistant structures, is of paramount importance in reducing the seismic risk in earthquake vulnerable regions.

The Programme offers courses and research opportunities in the areas of earthquake engineering such as: structural dynamics, structural analysis and design, computational mechanics, geomechanics, reliability and risk analysis. ADERS is designed, with its variety of topics in earthquake engineering to prepare students for carriers as consulting engineers, in private or government organizations, researchers, or members of the academic community. Students will have the opportunity to balance practical engineering concepts with advanced computational methods in order to meet the challenges of earthquake engineering.

Admission

Potential applicants must possess a degree in Civil Engineering and be graduates of a 4-year or a 5-year curriculum offered by an accredited Engineering School.

Non-native speakers of the English language must provide a certified proficiency in the English Language.

Content

The program is dealing with earthquake risk but its content is mostly composed of engineering subjects. No specific subject related to risk management or assessment.

TECHNICAL UNIVERSITY OF CRETE

Department of Environmental Engineering
Crete, Greece

MASTER ACADEMIC STUDY PROGRAMME
Environmental Engineering

Basic data

Risk area: Climate change risk
Since: No data
Duration of studies: 1.5 years (3 semesters)
Number of students: 30
Fee: No data
Academic title: Master of Science (M.Sc.) (Postgraduate Specialization Diploma in Greek) in the following areas:

- Environmental Engineering – Water Resources and Climate Change
- Environmental Engineering – Water and Waste Treatment
- Environmental Engineering – Environmental Management, Sustainable Energy and Climate

Scope of studies: 90 ECTS
Website: www.enveng.tuc.gr

Description

The Department of Environmental Engineering was established at the Technical University of Crete (Presidential Decree no 232/1995, Official Gazette no 134/22-6-1995 volume A). Its mission is to provide education and conduct research in the field of environmental science and engineering and to train engineers who will have the skills to contribute to the measurement, observation, evaluation and solution of problems that are created by human intervention to the environment.

The study programme encompasses subjects at both undergraduate and postgraduate levels; as a result, a unique undergraduate and postgraduate scientific centre has been established in Greece in the field of environmental engineering, which is in constant cooperation with respective university centres and research institutes in North America and the European Union. The taught subjects cover the following scientific areas: design, construction and operation of effluent polishing units, gaseous emissions, urban waste, waste from agricultural industries and food industries, toxic and hazardous waste, atmospheric pollution management, surface and underground water, systems for the measurement of air, water and soil pollution, soil sanitization and underground water rehabilitation,

environmental impact and risk studies, noise and radiation control, studies of environmentally friendly thermodynamic cycles.

The ultimate goal of the Postgraduate Studies Program (PSP) is to develop cutting-edge technology and expertise in Environmental Engineering

Admission

- Candidates eligible for the PSP M.Sc. Degree are:
- Graduates of all Engineering Schools/Departments of Greek Universities or of equivalent accredited educational institutions abroad,
- Graduates of Physics, Chemistry, Agriculture, Mathematics, Environmental Science, Informatics, Medical and Biology Departments of Greek Universities or of equivalent accredited educational institutions abroad, as well as
- Graduates of Greek Technological Education Institutes.

Content

The PSP offers science and engineering graduates the opportunity to specialize in one of the following areas:

- Water Resources and Climate Change
- Water and Waste Treatment
- Environmental Management, Sustainable Energy and Climate Change

Water Resources and Climate Change

List of courses in 1st semester

1st semester	
Course	**ECTS**
Environmental Geochemistry	9
Groundwater Flow and Optimization	9
Research Lectures	3
Elective Course 1	9
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Hydrometeorology and Climate change	9
Fate and transport of contaminants in the subsurface	9
Research Lectures	3

Elective Course 2	9
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Required work	**ECTS**
Postgraduate Diploma thesis	30
Total ECTS	**30**

List of elective courses

Elective Course	**ECTS**
Elective Course 1	
Advanced GIS applications in Environmental Engineering	9
Environmental Impact Assessment	9
Elective Course 2	
Coastal Engineering and Climate change	9
Environmental Law and Sustainable Development	9
Stochastic behaviour and Time Series analysis	9

Environmental Management, Sustainable Energy and Climate Change

List of courses in 1st semester

1st semester	
Course	**ECTS**
Climate change and GHG Emissions	9
Design of Sustainable Energy systems	9
Research Lectures	3
Elective Course 1	9
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**

Advanced Catalytic and Electrocatalytic Energy processes	9
Advanced studies on Energy Efficiency and Environmental quality in the Built Environment	9
Research Lectures	3
Elective Course 2	9
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Required work	**ECTS**
Postgraduate Diploma thesis	30
Total ECTS	**30**

List of elective courses

Elective Course	**ECTS**
Elective Course 1	
Special Topics of Catalytic surfaces and Catalytic Processes for Environmental Applications	9
Environmental Impact Assessment	9
Elective Course 2	
Environmental Economics and Policy	9
Environmental Law and Sustainable Development	9
Computational Dynamics with emphasis on seismic mechanics	9

Academic staff

- Head of Department Professor Georgios Karatzas
- Deputy Head of Department Professor Nikolaos Nikolaidis

UNIVERSITY OF THESSALY

Department of Civil Engineering
Thessaly, Greece

MASTER ACADEMIC STUDY PROGRAMME
Management of Hydrometeorological Hazards – Hydrohasards

Basic data

Risk area: Hydrohasards
Since: No data
Duration of studies: 1.5 years (3 semesters)
Number of students: 30
Fee: free
Academic title: MSc in Management of Hydrometeorological Hazards
Scope of studies: 90 ECTS
Website: www.civ.uth.gr

Description

The main objective of the common Greek-French Postgraduate Program of Studies "Management of Hydrometeorological Hazards" is the training of engineers and scientists in the comprehension of the meteorological and hydrological hazards and their education in the scientific principles and the methodological tools that will render them capable to practically solve problems of hydrometeorological hazards management and civil protection. Emphasis is given on dealing with corresponding issues in Europe and particularly in the Mediterranean, in the framework of climate change.

At the same time, students will benefit from the experience and knowledge of internationally recognized researchers, specialized in management of hydrometeorological hazards and civil protection, who will teach in this postgraduate study program. The knowledge and skills acquired are particularly useful in the countries of the European Union and the Mediterranean as well as in the developing countries of our planet. Consequently, the offered specialization in this postgraduate program can constitute not only a successful extension of basic undergraduate studies of Greek and French graduates who have a first degree in the Environmental Science and Engineering, but also of students coming from the Balkans and the Mediterranean.

In the scientific field of Environmental Engineering and Science, interest is growing on what causes climate change as well as its consequences. Thus, a large part of modern research focuses on achieving the objectives of forecast, specialisation, and education of executives on issues of management of meteorological and hydrologic hazards. The corresponding program aims at studying the methodologies of analysis, forecast and management of meteorological and hydrologic phenomena, which are intensified by the effect of climate change.

The new Postgraduate Program of the University Thessaly (UTH) offers a specialization that allows students from Greece, France and other countries (more specifically Balkan and Mediterranean countries, adjacent the European Union countries, as well as the developing countries) to benefit from the accumulated research experience and know-how of two pedagogic teams (in management of hydrologic hazards and political protection in UTH, in management of meteorological hazards in the University Joseph Fourier - Grenoble I).

The Postgraduate Program "HYDROHASARDS" aims to train specialized personnel in decision-making and management of hydrometeorological hazards. The Master offers career opportunities in:

- National, regional and local civil protection structures
- Local authorities (municipalities, inter-municipal cooperation, associations and federations, departments, regions ...)
- Applied research centers
- Public administration (central and / or relocating), responsible for planning, environment ...
- Companies and consulting offices involved in these sectors
- Interbranch organizations
- European and international organizations (European Committee, European Parliament, United Nations)

Admission

Teaching and examinations are held in English and basic bibliography is in English. Very good knowledge of English is, therefore, a prerequisite for the enrollment in this Program.

The program accepts Greek and foreign students who are graduates of four or five years study undergraduate programs of Greek and Foreign Universities, as well as Technological Educational Institutions in accordance with article 5 paragraph 12c L. 2916/2001. Candidates should send a full application file in time (by registered mail) until June 30, 2011, to the Secretariat of HYDROHASARDS.

Students who need a pre-registration certificate for the fellowship in institutions or agencies in Greece or abroad, can send their application files earlier. In this case their application would be examined immediately and, if pre-selected, they will receive a certificate of pre-registration. Students who have not yet obtained their degree are eligible, but their final inclusion, in case they are selected, will be made only if they submit a degree acquisition certificate before the start of the course.

Content

It includes two semesters of courses. During the third semester, the students pursue practicum and the preparation of their thesis. The courses of the second semester are held in Volos, while those of the first semester in the University Joseph Fourier-Grenoble I (Travel and accommodation in France is partly covered by ERASMUS grants). The third semester (practicum and thesis preparation) can be done in the two partner institutions or companies or organizations or collaborating research laboratories in Europe and other countries.

TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE

Department of Natural Resources and Environment
Crete, Greece

MASTER ACADEMIC STUDY PROGRAMME
GeoEnviromental Risks and Resources

Basic data

Risk area: GeoEnviromental Risks and natural disasters
Since: No data
Duration of studies: 1.5 years (3 semesters)
Number of students: No data
Fee: No data
Academic title: Master of Science in Geoenvironmental Resources & Risks
Scope of studies: 90 ECTS
Website: www.georr.chania.teicrete.gr

Description

The identification, availability, management and protection of georesources is a primary goal for human advancement and a major topic of interest for environmental planning and protection. The sustainable use of georesources and the relief of problems associated with their use, such as the effect of pollution, are issues of fundamental importance for global Earth's environment. The study and monitoring of geoenvironmental hazards is of fundamental importance for the society both for the effects on the population and the damage caused on the infrastructures. The geoenvironmental evaluation of localization of high risk industrial sites, of major public works, and the georisk's safe selection of waste disposal sites, will be everyday a more important issue to save human lives and protect properties.

The purpose of the course is the education and training of high level graduates in the field of geoenvironmental natural resources and natural disasters. Through the M.Sc. Course, students acquire modern interdisciplinary background and expertise in Geoenvironmental Sciences, powerful skills for academic and professional expanding their activities abroad.

Admission

A minimum requirement of a Bachelor's degree in a relevant discipline from a Greek University or Technological Educational Institute or an overseas qualification of an equivalent level. For non-European students, information on how to enroll is provided by Greek Embassy/Consulate in their Country. European students can apply for admission either directly at the Registrar’s Office of the M.Sc. programme or through the internet.

Content

The duration for the award of the M.Sc. is three semesters (full time), of which the fourth is for the preparation of the thesis in collaboration with National and European research laboratories.

The M.Sc. Course consists of one and a half years of study (90 credits). The curriculum focus on the study of natural resources and geoenvironmental hazards. The course is entirely taught in English stimulating the students to open to the professional world outside Greece and, on the other hand allowing foreign students to study in Greece. This international atmosphere creates a constructive exchange of experiences and cultures, making the students ready for international market. This curriculum allows also the presence of incoming ERASMUS students.

List of courses in 1st semester

1st semester	
Course	**ECTS**
Environmental chemistry & Contamination	7.5
Applied geology & Geoenergy Resources	7.5
GIS & Remote Sensing	7.5
Geophysical prospecting –Methods & Environmental applications	7.5
Total ECTS	**30**

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Water Resources & Hydrogeological hazards	6
Advanced Geophysics and Seismology	6
Advanced Geochemistry	6
Environmental Physics & Geomaterials	6
Elective course	6
Total ECTS	**30**

List of courses in 3rd semester

3rd semester	
Required work	**ECTS**
Dissertation - Thesis	30
Total ECTS	**30**

List of elective courses

Elective Course	ECTS
Numerical modeling of environmental problems and structures	6
Coastal systems	6
Remote Sensing in Georesources & Natural Hazardas	6
Advanced Topics in Georesources & Natural Hazardas	6

ARISTOTLE UNIVERSITY OF THESSALONIKI

Department of Civil Engineering
Thessaloniki, Greece

MASTER ACADEMIC STUDY PROGRAMME
Antiseismic Design of Structures

Basic data

Risk area: Earthquake risk
Since: 1998-1999
Duration of studies: 1 year (2 semesters)
Number of students: 20
Fee: No data
Scope of studies: 60 ECTS
Website: www.aste.civil.auth.gr

Description

The academic program consists of two semesters (Fall and Spring) of study from September to May plus a masters-level dissertation that has to be completed during the summer term (June through August). The study program requires successful completion of the nine post-graduate level courses which are listed below. Specifically, these courses include lectures, laboratory exercises and computations, the completion of a small project, plus the usual end-of-term examinations.

Admission

According to Greek law, applications are accepted from all qualified holders of civil engineering degrees from Greek as well as foreign Universities. Also, applications are accepted from holders of engineering degrees in other, related fields.

Content

List of courses

Course
Engineering Seismology and Soil Dynamics
Computational Mechanics for Earthquake-Resistant Structures
Design, Modeling and Analysis of Earthquake-Resistant Buildings
Earthquake-Resistant Design of R/C structures
Earthquake-Resistant Design of Foundations, Retaining Walls and Earth Structures
Seismic damage - Repairs - Strengthening - Seismic risk assessment
Experimental Earthquake Engineering
Earthquake-Resistant Design of Masonry Structures
Earthquake-Resistant Design of R/C Bridges
Earthquake-Resistant Design of Steel Structures

MASTER ACADEMIC STUDY PROGRAMME
Environmental Protection and Sustainable Management

Basic data

Risk area: Environmental Risk
Since: 1998-1999
Duration of studies: 1 year (2 semesters)
Number of students: 30
Fee: No data
Academic title: MSc. in Environmental Protection and Sustainable Management
Scope of studies: 60 ECTS
Website: **www.**ppva.civil.auth.gr

Description

The Postgraduate Programme "**Environmental Protection and Sustainable Management** " consists of two terms of course studies and a thesis. The course studies concern the attendance of and the successful examination in postgraduate courses. Each individual course lasts a semester. Instruction in the courses includes lectures, laboratory work, elaboration and presentation of projects and seminars. The preparation of a thesis, which concerns a specialised study, takes place in the summer period, following the spring semester.

Admission

Acceptance of applications for entry in the postgraduate programme of specialization "**Environmental Protection and Sustainable Development"** is subject to the greek national legislation. Priority is given to Civil Engineering graduates and next to graduates from other engineering, natural sciences and related-subject disciplines.

Content

Manly concerned with environmental risk, and environmental management. One subject dedicated to Disaster Management - **Management of Natural Hazards**.

HELLENIC OPEN UNIVERSITY

School Of Science And Technology
Patra, Greece

MASTER ACADEMIC STUDY PROGRAMME
Earthquake Engineering and Seismic Design of Structures

Basic data

Risk area: Earthquake risk
Since: No data
Duration of studies: 2 year (4 semesters)
Number of students: No data
Fee: No data
Scope of studies: 120 ECTS
Website: www.eap.gr

Description

The scope of the programme is to provide specialized studies and knowledge to Civil Engineers in the area of Earthquake Engineering and Seismic-Resistant Structures, which will contribute to the elevation of the technical potential of the country educationally and professionally. The course provides the necessary theoretical background in seismology and soil and structural dynamics and emphasizes seismic design and repair and strengthening of building structures made of reinforced concrete, steel or other materials.

Admission

Applicants to the Earthquake Engineering and Seismic-Resistant Structures course must possess an undergraduate degree in a related field from a Greek Public University, a Technical Educational Institute or an equivalent degree.

Content

List of courses

Course
Dynamic Analysis of Structures
Technical Seismology and Soil Dynamics
Design of Seismic - Resistant Structures
Seismic Damages, Repairs and Reinforcements
DISSERTATION (40 ECTS)

UNIVERSITY OF PATRAS

Polytechnic School
Department of Environmental Management and Natural Resources
Patra, Greece

MASTER ACADEMIC STUDY PROGRAMME
Applications Protection and Environmental Management

Basic data

Risk area: Green technologies, ecosystems and environmental risks
Since: 2015
Duration of studies: No data
Number of students: No data
Fee: No data
Website: www.sites.google.com

Description

The objectives of the PSP are:

- Deepening to multidisciplinary knowledge and practical applications of science, protection and Environmental Management.
- The creation of specialized scientific staff in the disciplines of the PSP.
- The promotion of scientific research on the subject of the PSP in accordance with international standards.

Admission

The criteria for selection of candidates and the respective weights of these are:

1. Grade (40%)
2. knowledge base Relevance (15%)

3. Foreign languages (10%)
4. Letters of recommendation (10%)
5. Interview (25%)

Content

Total Credits (AM or ECTS) required for obtaining the M.Sc. is 60 ECTS . To obtain the M.Sc. Students are required to attend and pass five (5) courses during the first semester, 3 (three) of which are compulsory and the remaining two (2) are optional and to successfully develop the Master Thesis in the second semester.

The courses are credited with a total workload of 30 ECTS and a Master Thesis with a total workload of 30 ECTS .

List of compulsory courses

Compulsory course
Analysis of Environmental Data and Process Simulation
Green Environmental Technologies
Ecosystems and Environmental Hazards

List of elective courses

Elective course
Laboratory Technical Environment
Special Topics in Environmental Technologies (Advanced Environmental Technologies)
Management and communication of environmental projects
Technical Research Field (Environmental Field Survey Techniques)

OTHER

UNESCO-IHE INSTITUTE FOR WATER EDUCATION

MASTER ACADEMIC STUDY PROGRAMME
Joint Erasmus Mundus Programme in Flood Risk Management

Basic data

Risk area: Natural Hazards
Since: No data
Duration of studies: 2 tears f/t
Number of students: No data
Fee: €5000 per year
Academic title: MSc in Flood Risk Management
Scope of studies: 120 ECTS
Website: www.floodriskmaster.org

Description

The new Joint Erasmus Mundus programme in Flood Risk Management integrates the complementary topics of global changes and monitoring natural processes, modelling their behavior and interaction, formulating the decisions based on interrogation of these integrated models and implementing these decisions in the context of socio-economic and institutional framework.

The subjects covered include hydrology, meteorology, monitoring, hydroinformatics, modelling, various types of flooding (fluvial, urban and coastal), risk management, spatial planning and socio-economic and institutional framework.

The Erasmus Mundus Programme in Flood Risk Management is offered by a consortium consisting of:

- UNESCO-IHE Institute for Water Education (the Netherlands)
- Technical University of Dresden (Germany)
- Technical University of Catalonia (Spain)
- University of Ljubljana (Slovenia)

Admission

B.Sc. degree preferably in civil or environmental engineering or in one of the following subjects: geosciences, environmental sciences, limnology, oceanography, geography, geology, natural resources, or any other similar subject.

Content

Semester 1 - TU Dresden, Germany

The programme starts with the first semester at TUD, where students take either non-engineering or engineering subjects to complement their background and build a solid foundation for everyone. A fieldtrip to flood-prone areas is organised.

List of courses in 1st semester

1st semester	
Course	**ECTS**
Fieldtrip	-
GIS and statistics (preparatory course)	-
Flood Risk Management I	5
Flood Risk Management II	5
Meteorology and Hydrology	5
Geodesy	5
Ecology (E) / Hydraulic Engineering (NE)	5
Hydrochemistry (E) / Hydromechanics (NE)	5
Total ECTS	**30**

Note: Students take different courses depending on whether they have an engineering (E) or non-engineering (NE) background.

Semester 2 - UNESCO-IHE, Netherlands

At UNESCO-IHE the students join IHE's Hydroinformatics programme, focussing on different types of modelling. On real case studies students learn how to apply and integrate various types of modelling and decision support systems. An international fieldtrip is offered as well.

List of courses in 2nd semester

2nd semester	
Course	**ECTS**
Data-driven modelling and real-time control	5
River basin modelling	5
River flood modelling	5
International fieldtrip to Florida Everglades	5
Flood Risk Management III	5
Hydroinformatics for decision support	5
Total ECTS	**30**

Semester 3 - UPC, Spain and University of Ljubljana, Slovenia

During the third semester the students take more specialised modules, such as Debris Flow and Coastal Flooding (including fieldtrips). The last part of the third semester is conducted at University of Ljubljana where the students study spatial planning and socio-economic and institutional frameworks for flood risk management.

Semester 3a – Spain (September-November)

List of courses in 3rd semester – part a

3rd semester – part a	
Course	**ECTS**
Drought management	3
Fluvial geomorphology	1
Coastal flood management	7
Radar systems	3
Debris flow and flash flood management	6
Total ECTS	**20**

Semester 3b Ljubljana (December-February)

List of courses in 3rd semester – part b

3rd semester – part b	
Course	**ECTS**
Spatial planning for flood risk management	5
Socio-economic and institutional framework for flood risk management	5
Total ECTS	**10**

Semester 4 - Research thesis

During the thesis phase the students, while remaining associated with one partner, may occasionally carry out the research together with an industrial partner (which may be an Associated Member or not).

List of topics in 4th semester

4th semester	
Topic	Partner
Designing a flood-resilient city to deal with extreme rainfall	UNESCO-IHE and Municipality of Dordrecht
ANN Models in the Predictive Control of Reservoir Systems	UNESCO-IHE and Deltares

Analyses of trends and changing patterns of global precipitation based on chosen public domain data sets	TU Dresden
Flood risk assessment and modelling uncertainty relations using data-driven models	TU of Catalonia and TNC Colombia
Flood impacts on property values and proposal of measures to enhance flood safety	University of Ljubljana
From vision to reality: making cities flood resilient by implementing green infrastructure strategies (the case of the City of Hoboken, New Jersey)	UNESCO-IHE and Royal Haskoning DHV
Total ECTS	**60**

Note: Students undertake a research project in association with one of the four universities and possibly external partners

Academic Staff

- Dr. Biswa Bhattacharya, Senior Lecturer in Hydroinformatics Systems , UNESCO-IHE
- Prof. Dr. Christian Bernhofer, Director of Institute and Professor and Head of Meteorology, TU Dresden
- Mitja Brilly, PH.D., C.E., Professor of Hydrology and Water Management, University of Ljubljana
- Allen Bateman Pinzon, Professor in hydraulics
- Prof. Dimitri Solomatine, Professor of Hydroinformatics, UNESCO-IHE
- Dr Gerald Corzo Perez, Lecturer in Hydroinformatics, UNESCO-IHE
- Dr. Andreja Jonoski, Associate Professor of Hydroinformatics , UNESCO-IHE
- Dr. Ioana Popescu, Associate Professor of Hydroinformatics , UNESCO-IHE
- Dr. Leonardo Alfonso Aegura, Senior Lecturer in Hydroinformatics, UNESCO-IHE

ANALYSIS OF RESULTS

SUMMARY OF THE RESULTS BY DATA CATEGORY

Country

The purpose of the research was to identify MPs in Disaster Risk Management and Fire Safety in Europe only. The present document includes MPs in Western, Eastern and Central European countries, Scandinavian countries and the Western Balkan countries.

In the present document, 77 MPs were identified. The category 'Other' includes a joint ERASMUS program in Flood Risk Management.

Analysis included MPs offered in English and/or in language of the host country. Analysis showed that the majority of MPs are offered in English.

The figure below summarizes the number of MPs by their host country. In figure are also included MPs that include courses dealing with disaster risks or fire safety in the study programme. For example, there is no established master program fully focused on DRM&FSE in FRYOM. However, there exist some specific courses as part of curricula of second cycle programs in some universities that are relevant to the topic of DRM & FSE.

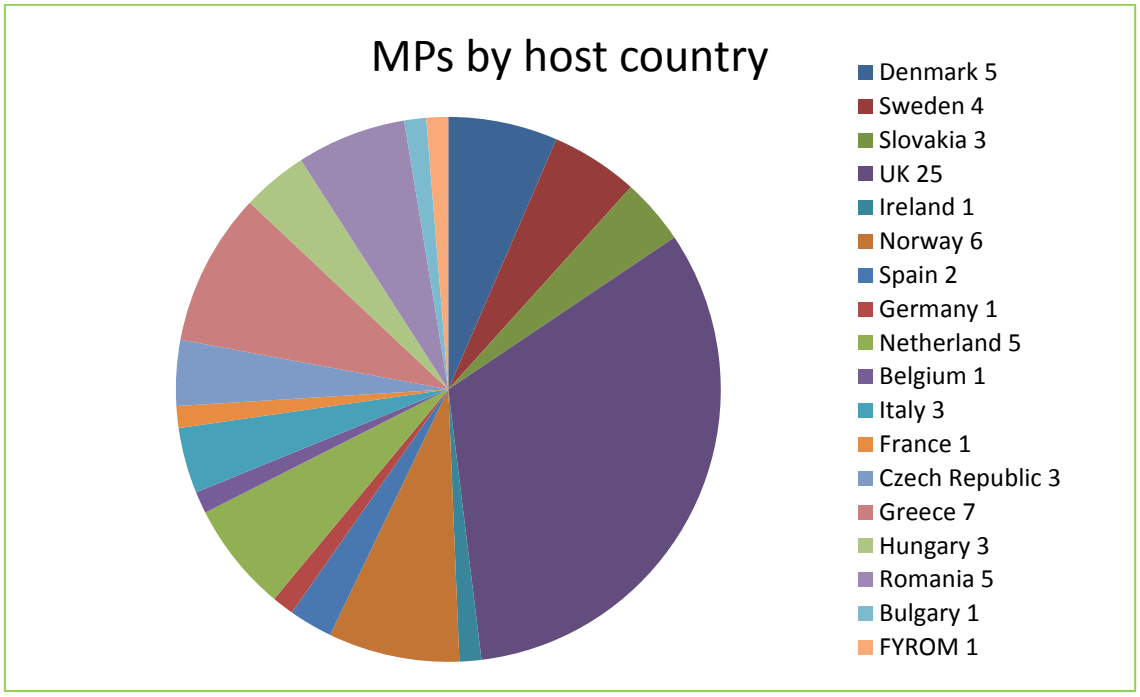

Fig. 1 MPs by host country

Study programs in Croatia were also analyzed. However, Croatia is not included in figure above, as there only Specialist Graduate Professional Study Programs were found.

Academic Title

By far the largest number of MPs is offered as Master of Science (MSc) programs. Several are unspecified Master. A small number is offered as Master of Arts (MA).

Host Department/Faculty

The majority of MPs are quite evenly distributed among three main faculties: Civil Engineering, Earth/Geosciences and Social Sciences. Other relevant faculties include Business & Economics and Health Sciences.

Risk Area/Risk Type

In the context of Disaster Risk Management and Fire Safety, the following risk areas/types were identified as relevant: Natural hazards, Reliability and Safety engineering, Disaster and Emergency management, as well as Fire risk. In Western Balkan countries, Environmental Protection, Sustainable development and Climate Change, Environmental Engineering and other related fields have been listed.

It must be noted that no program was identified which combined disaster risk management and fire risk. The few programs dedicated explicitly to fire risk are offered through civil engineering departments.

A significant number of programs falling under the category 'Disaster and Emergency Management' include programs exclusively dedicated to health issues (physical and psychological) in the aftermath of disasters.

Since

Very few websites have information on when a program was established. However, many state that this is a "new" program. It appears that the majority of programs have been running for less than 5 years. An exception to this are traditional MSc programs rooted in civil/geotechnical/environmental engineering, which clearly have a long history of operation.

Number of students

Very few websites mention the number of students. Of those that do, the typical number is 12-15. Several programs mention a limit to 25-30 students.

Duration

Programs duration is between 1-2 years full time, 2-4 years part time, and in the case of e-learning or individual modules open to professionals, the time can vary from individual semester modules to multiple semesters.

The majority of programs on disaster/emergency risk management are 1 year full time. Many of them include a field trip (typically 1-2 weeks in between semesters) or a promise of some NGO or

international organization internship. Almost all the e-learning programs are programs in the area of disaster/emergency management.

The majority of programs offered in the context of reliability engineering and physical hazard modeling are 2 years full time and are typically offered as traditional classroom-based programs.

Fee

Home students and EU students usually pay no tuition fee in EU countries and Norway. The Master of Disaster Management at Copenhagen University is an exception. It charges the same tuition for Danish/EU students and overseas students. In general, for non-EU overseas students the cost varies between EUR 10,000 – 20,000 per year.

In the UK, the average yearly tuition for UK/EU students is +/- £ 10,000; for overseas students - £ 20,000.

In many cases, non-EU students are only allowed to pursue full time studies. In Norway, while tuition is free for all students regardless of origin, non-EU students must provide legal proof of being able to support themselves in Norway, amounting to a minimum annual income/support around NKK 100,000.

Distance/e-learning programs tend to be the same price for all students (with a few exceptions) and the tuition fees are much lower.

In the case where professionals are allowed to take individual modules, there are individual prices per module. The price goes up depending on the number of credits the student gets for the course.

Admission

It is difficult to estimate how competitive the admission to a program is since most institutions describe themselves as competitive and follow a more or less standard admission's criteria of an above average Grade Point Average (GPA) from a bachelor degree and a completely standard English test requirement. Almost all institutions state that they will consider candidates with other qualifications or experience on an individual basis.

Those programs embedded in more traditional engineering departments, require an engineering degree.

Programs, which focus on disaster risk or where risk management instead of risk assessment is typically taught, admit just about everyone: Natural Sciences, Social Sciences, Health and Life sciences, and Business and Economics. No one explicitly mentions students with a Humanities qualification, however, it is uncertain to what extent a distinction is being made between Social Sciences and Humanities.

A handful of programs require university level calculus or advanced calculus with above average GPA as a prerequisite. None of the programs have a prerequisite for non-social science students, i.e. for engineers, in basic theory or methodology in social science.

The standard English requirements are: IELTS 6.5; TOEFL (paper) 560, (digital) 88; Cambridge CAE, CPE (passing grades).

Description

The description of the programs typically identify the program's aims, target group, specific risk specialization (or emphasis on multidisciplinary, all inclusive approach) and typical skills the student will possess at the end of program.

Content/Organization

The typical organization of a full time 2 year program is as follows:

- Semester 1 – Introductory and theoretical basis courses obligatory for all students (typically 4 modules per semester)
- Semester 2 – Methodological courses and some electives
- Semester 3 – Advanced methodological courses and some electives. In many cases, also a group project.
- Semester 4 – Master thesis

There is a clear distinction between programs that focus on the modeling of natural hazards and reliability in the context of Civil Engineering on one hand, and between programs focusing on disaster and emergency management on the other hand. The main distinction is that while the former primarily utilize quantitative methodologies and stem from the traditional disciplines of natural sciences (e.g. physical geography) and applied engineering sciences, the latter are typically qualitative or semi-quantitative and stem from the social sciences (e.g. sociology, public governance, international relations, development studies, health, etc.). A large number of the programs specializing in disaster/emergency management appear less academic, but rather more oriented towards training professionals for field work. Such programs are typically tied to national civil protection departments or international organizations and NGOs.

The Natural Hazards specialization largely concerns geotechnical and hydrological hazards. The main focus of such programs is on the physical processes and the physical exposure modelling of the hazards and much less, if at all, on risk assessment. Most programs include a crash GIS course. Consequence modelling, including any economic models for optimization and decision support are almost entirely absent in the curricula. Occasionally, a few courses are offered in the form of electives related to risk management or risk/science communication, or governance.

The Reliability Engineering specialization focuses on risks in the extraction (energy, raw material, etc.), process and transport industries. As such, it is not always fully relevant for the context of disaster risk management. Most of these programs have a strong emphasis on quantitative risk assessment based on applied statistics and probability. Surprisingly, almost none of the programs in the Reliability Engineering category have a module on Consequence Modelling. Similarly, principles of decision theory and optimization are almost entirely lacking.

No programs in either the natural hazards or the reliability specializations even remotely approach the topic of sustainability in the context of quantitative sustainability assessment. Only NTNU in Norway offers an elective module on Life Cycle Assessment.

Programs focusing on fire risk are offered through civil engineering departments in the context of reliability and safety engineering.

Table 1 outlines typical curricula for the specializations natural hazards and reliability engineering.

Table 1 Typical curricula for natural hazards and reliability specializations

Specialization Natural Hazards	**Specialization Reliability Engineering**
Physical Hazards Processes	Introduction to Risk (theory, processes, analysis)
Physical Hazards Modelling (heavy emphasis)	Risk Assessment (processes and methodologies)
Risk Assessment/Risk Analysis (less emphasis)	Risk Management (mostly maintenance, project management)
Usually an introductory GIS/Remote sensing course	Applied Statistics/Probability Theory
Very rarely anything related to Risk Management, Impacts or Consequences (in the form of an elective)	2-3 modules related to specialization (e.g. off-shore structures, subsea production systems, transport systems, etc.) – typically offered as electives
Very rarely anything related to Communication/Governance (in the form of an elective)	Risk Communication/Governance – typically offered as electives
	Safety courses typically offered as electives, e.g. Human Error/Behavior, HAZOP, Safety in Nuclear Operations, Process Safety in Oil and Gas, Process Safety in Pharmaceutical, Food and Consumer Products

A triad of related specializations in the context of disaster risk management include Disaster/Crisis Management, Health in the context of disasters and Security risk. These programs apply largely qualitative methods and typically focus on processes and procedures in the domain of risk management rather than risk assessment. Qualitative descriptive methods and descriptive statistics are used to refer to risk assessment conclusions. Table 2 outlines typical curricula for this triad.

Table 2 Typical curricula for specializations: Disaster/Crisis Management, Health (in Disasters) and Security risk

Disaster/Crisis Management	Security Risk	Health (in disasters)
Disaster Risk – Theory to Practice	Security Studies & Strategy	Risk, Vulnerability & Resilience
Preparedness and Response	Political Risk Analysis	Health Systems & Markets
Disaster Recovery, Planning & Development	Security Risk Management	Community Approaches to Health
Vulnerability & Risk Management Methods	Intelligence	Ethics, Human Rights & Health
Health in Emergencies	Knowledge Production & Evaluation	Disaster and Crisis Management
Water Supply and Sanitation in Emergencies	Organizational Management & Leadership	Management & Leadership in Health
Shelter & Settlements in Emergencies		Disease and Trauma in Developing Countries
Ethics & Religion in Disasters		Global Burden of Disease
GIS for Disaster Management		Research Methods in Global Health

Teaching/Learning

The information in this category refers to any particular teaching, learning and assessment methods applied in the program. While few programs mention explicitly the Problem Based Learning (PBL) method, many in fact seem to practice it to smaller or bigger extent. In almost all programs some combination of traditional lectures, individual research and project group work is described. Many programs promise the students direct access to industry or government/international organizations in the form of internships, or project/thesis work supported by partner institutions or companies. Most programs in the natural hazards domain (both quantitative and qualitative) offer field trips to hazard areas or areas struck by disasters as a complementary practical experience (cost for such trips is additional to the tuition).

Assessment is typically in the form of written assignments, oral presentations of individual and project work, and a final master thesis. Formal examinations seem rare. In a small number of programs, assessment for individual modules is carried out by academic staff external to the program.

Academic Staff

The information in this category were intended either for collecting further details from program organizers or establishing relations with academics and experts in particular areas of risk. Few programs provide information about their academic staff on their websites.

CONCLUSION

Report 1.1 – part 2 gives an overview on Master programs related to the area there are being offered in K-FORCE project's Programme countries – Denmark, Sweden, Slovakia and FYR of Macedonia. A list of all master programs which related to the area was compiled, even though their title was not specifically "Disaster Risk Management and/or Fire Safety Engineering". Therefore, MPs in the field of Civil Engineering, Environmental Protection, Sustainable development and Climate Change, Environmental Engineering and other related fields have been listed. Besides this, an overview on master programs related to the area there are being offered in other EU countries (UK, Ireland, Norway, Spain, Germany, Netherland, Belgium, Italy, France, Czech Republic, Croatia, Greece, Hungary, Romania, Bulgaria) was provided within this report.

The purpose of this activity was to map the external environment in which the K-FORCE future MPs in DRM&FSE will be operating, as well as to gather ideas about the possible structure and curriculum of the envisaged program.

The conclusions drawn as a result of the environmental scanning of the operational education environment for MPs in disaster risk management and fire safety are:

- There has been a boom in educational programs on risk over the past 5 years – not many of them academically strong.
- Many programs are offered at newer and/or less established universities (in the case of the UK – former polytechnics) or professional colleges, with the exception of programs rooted in older civil engineering departments.
- Programs where risk is explicit in the title are typically in English and have a strong international student component; traditional disciplines where risk is implicit in the title or course of study tend to be geared toward domestic students and are taught in the country's mother tongue.
- Notions such as 'risk', 'disaster', 'resilience' are highly fashionable and attract a wide range of students. There appear to be many universities taking advantage of this fashion and offering a range of questionable quality programs at exorbitant fees for international, but in some cases, also local students.
- Reputation of academic institution does not equate with quality of program (e.g. UCL in the UK).
- Many of the programs with specialization in disaster/emergency management are geared toward working professionals and/or mature students.
- Many of the programs with specialization in disaster/emergency management are offered through distance learning or a combination of classroom and distance learning.
- Many of the programs, and especially those offered in the UK, are overpriced.
- In the case of programs specializing in disaster/emergency management, the orientation and focus are almost never on the country hosting the program but on developing countries in an international context.
- Division between qualitative and quantitative programs is clear in the division between programs offered through the natural sciences and engineering departments and those

offered through social science departments. There seems to be no attempt made in any of the programs to harmonize these differences through a better balanced curriculum.

- Division between risk assessment and risk management remains strong in perception, in practice and in education. It is the same division as that between the utilized quantitative vs. qualitative methodologies.
- The humanities are entirely absent from the risk research and education domain.
- Many programs lack a “red thread” or cohesion in their purpose and delivery.
- The majority of programs lack a decision support component – critical for programs offered in the applied sciences.
- Risk perception courses are almost never offered.
- Socio-economic methods for risk acceptance criteria are almost never part of curriculum.
- No program links risk assessment with quantitative sustainability assessment.
- Consequence modelling is almost entirely absent from the curricula.

APPENDIX

List of Master programmes related to Disaster Risk Management and Fire Safety Engineering (DRM&FSE) field in Denmark

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
CRISIS MANAGEMENT	AALBORG UNIVERSITY Department of Civil Engineering	Aalborg	Crisis Management
FIRE SAFETY	TECHNICAL UNIVERSITY OF DENMARK Department of Civil Engineering	Kgs. Lyngby	Fire risk
DISASTER MANAGEMENT	COPENHAGEN UNIVERSITY Faculty of Health Sciences The Department of Public Health	Copenhagen	Disaster Management
SECURITY RISK MANAGEMENT	COPENHAGEN UNIVERSITY Faculty of Social Sciences Department of Political Science	Copenhagen	Security (Risk)
ENVIRONMENTAL RISK	ROSKILDE UNIVERSITY Department of Science and Environment	Roskilde	Environmental Risk

List of Master programmes related to DRM&FSE field in Sweden

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
DISASTER RISK MANAGEMENT AND CLIMATE CHANGE ADAPTATION	LUND UNIVERSITY The Faculty of Engineering	Lund	Disaster Risk/Climate change
FIRE SAFETY ENGINEERING			Fire risk
RISK MANAGEMENT AND SAFETY ENGINEERING			Risk Management, Safety
CRISIS MANAGEMENT AND PEACEBUILDING	UNIVERSITY OF UMEA Faculty of Social Science Department of Political Science	Umea	Disaster Management

List of Master programmes related to DRM&FSE field in Slovakia

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
CRISIS MANAGEMENT	UNIVERSITY OF ŽILINA Faculty of Security Engineering Department of Crisis Management	Žilina	Interdisciplinary, man-made disasters, safety, security, environmental disasters, crisis management cycle
RESCUE SERVICES			Interdisciplinary, Rescue Services, Fire Engineering
FIRE PROTECTION AND SECURITY	TECHNICAL UNIVERSITY IN ZVOLEN Faculty of Wood Sciences and Technology Department of Fire Protection	Zvolen	Rescue services

List of Master programmes related to DRM&FSE field in United Kingdom

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
GEOLOGICAL AND ENVIRONMENTAL HAZARDS	UNIVERSITY OF PORTSMOUTH School of Earth and Environmental Sciences	Portsmouth	Natural hazards, environmental hazards
CRISIS AND DISASTER MANAGEMENT			Disaster Risk
RISK, CRISIS AND RESILIENCE MANAGEMENT	UNIVERSITY OF PORTSMOUTH Portsmouth Business School		Enterprise Risk Management with some Project Risk
HAZARDS AND DISASTER MANAGEMENT	KINGSTON UNIVERSITY Faculty of Science, Engineering and Computing	Kingston	Natural Hazards
GEOPHYSICAL HAZARDS	UNIVERSITY COLLEGE OF LONDON Faculty of Mathematical and Physical Sciences Department of Earth Sciences	London	
RISK AND DISASTER REDUCTION			
RISK AND DISASTER SCIENCE			
SPACE RISK AND DISASTER REDUCTION	UNIVERSITY COLLEGE OF LONDON Department of Space and Climate Physics		
EARTHQUAKE ENGINEERING WITH DISASTER MANAGEMENT	UNIVERSITY COLLEGE OF LONDON Faculty of Engineering Sciences Department of Civil, Environmental and Geomatic Engineering		
DISASTERS, ADAPTATION AND DEVELOPMENT	KING'S COLLEGE LONDON School of Social Science and Public Policy		
INTERNATIONAL HUMANITARIAN AFFAIRS	UNIVERSITY OF YORK Department of Health Sciences	York	
WATER HAZARDS, RISK & RESLIENCE	UNIVERSITY OF DUNDEE School of Social Sciences	Dundee	

GEOGRAPHY (RISK)	DURHAM UNIVERSITY Department of Geography & Institute of Hazard, Risk and Resilience	Durham	Natural Hazards in social perspective
CRISIS AND EMERGENCY RESILIENCE	LOUGHBOROUGH UNIVERSITY School of Business and Economics	Loughborough	Natural Hazards
RISK AND UNCERTAINTY	UNIVERSITY OF LIVERPOOL Department of Engineering	Liverpool	Risk Assessment in Engineering
FLOOD RISK MANAGEMENT	NEWCASTLE UNIVERSITY School of Engineering and Geosciences	Newcastle	Natural Hazards
RISK DISASTER AND ENVIRONMENTAL MANAGEMENT	UNIVERSITY OF HUDDERSFIELD School of Business	Huddersfield	Crisis Management/Preparedness
GLOBAL CRISIS CONFLICT AND DISASTER MANAGEMENT	UNIVERSITY OF READING School of Law	Reading	Disaster Risk
GLOBAL CRISIS CONFLICT AND DISASTER MANAGEMENT DISASTER MANAGEMENT FOR ENVIRONMENTAL HAZARDS	UNIVERSITY OF SOUTH WALES The School of Applied Sciences	Pontypridd	Disaster Risk – Environmental perspective
DISASTER HEALTHCARE	UNIVERSITY OF SOUTH WALES Department of Care Sciences		Disaster Management
DISASTER MANAGEMENT	COVENTRY UNIVERSITY Faculty of Business and Law	Coventry	Disaster Risk
FIRE AND RESCUE SERVICE MANAGEMENT	UNIVERSITY OF CENTRAL LANCASHIRE School of Forensics and Investigative sciences	Preston	Fire safety
DEVELOPMENT AND EMERGENCY	OXFORD BROOKES UNIVERSITY	Oxford	Disaster risk

PRACTICE	School of Architecture		
RISK, CRISIS AND DISASTER MANAGEMENT	UNIVERSITY OF LEICESTER School of Business	Leicester	Disaster Management
DISASTER MANAGEMENT AND SUSTAINABLE DEVELOPMENT	NORTHUMBRIA UNIVERSITY Faculty of Health and Life Sciences	Newcastle	Disaster Risk

List of Master programmes related to DRM&FSE field in Ireland

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
EMERGENCY MANAGEMENT	DUBLIN CITY UNIVERSITY Business School	Dublin	Emergency/Disaster risk

List of Master programmes related to DRM&FSE field in Norway

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
RELIABILITY, AVAILABILITY, MAINTAINABILITY AND SAFETY	NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY Faculty of Engineering Department of Mechanical and Industrial Engineering	Trondheim	Reliability and Safety in Engineering
GEOTECHNICS AND GEOHAZARDS	NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY Department of Civil and Transport Engineering		Natural hazards
TECHNOLOGY AND SOCIETAL SAFETY	UNIVERSITY OF STAVANGER	Stavanger	Societal Safety
SOCIETAL SAFETY			Societal Safety
RISK MANAGEMENT			Risk Management
RISK AND SAFETY MANAGEMENT			Risk and Safety Management

List of Master programmes related to DRM&FSE field in Spain

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
SECURITY, CRISIS AND EMERGENCY MANAGEMENT	KING JUAN CARLOS UNIVERSITY Research Institute José Ortega y Gasset	Madrid	Disaster/Emergency Management
PSYCHOLOGICAL INTERVENTION IN CRISES, EMERGENCIES AND DISASTERS	UNIVERSIDAD AUTONOMA DE MADRID		Disaster Management

List of Master programmes related to DRM&FSE field in Germany

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
NATURAL HAZARDS AND RISKS IN STRUCTURAL ENGINEERING	BAUHAUS UNIVERSITY WEINMAR Faculty of Civil Engineering	Weimar	Natural Hazards

List of Master programmes related to DRM&FSE field in Netherlands

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
GEOGRAPHICAL INFORMATION MANAGEMENT AND APPLICATIONS	WAGENINGEN UNIVERSITY	Wageningen	Risk tools - GIS/Surveyllance
APPLIED EARTH SCIENCES WITH SPECIALIZATION IN NATURAL HAZARDS, RISK AND ENGINEERING	UNIVERSITY OF TWENTE	Twente	Natural Hazards
SPATIAL PLANNING AND DISASTER RISK MANAGEMENT			Disaster Risk & GIS
CRISIS AND SECURITY MANAGEMENT	LEIDEN UNIVERSITY	The Hague	Crisis/Security Management
EARTH SURFACE AND WATER	ULTRECHT UNIVERSITY Faculty of Geosciences	Ultrecht	Natural Hazards

List of Master programmes related to DRM&FSE field in Belgium

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
DISASTER MEDICINE	VRIJE UNIVERSITY BRUSSEL Faculty of Medicine and Pharmacy	Brussels	Disaster Management

List of Master programmes related to DRM&FSE field in Italy

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
ENVIRONMENTAL ENGINEERING FOR SUSTAINABILITY	POLITECNICO DI MILANO School of Civil, Environmental and Land Management Engineering	Milano	Natural Hazards/Environmental Hazards
CIVIL ENGINEERING FOR RISK MITIGATION			Engineering Risk
GEOENVIRONMENTAL RESOURCES AND RISKS	UNIVERSITY OF CAMERINO School of Science and Technology, Geology division	Camerino	Natural Hazards/Environmental Hazards

List of Master programmes related to DRM&FSE field in France

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
EARTH DYNAMICS AND NATURAL HAZARDS	UNIVERSITY OF MONTPELLIER Department of Earth Sciences, Water and Environment	Montpellier	Natural Hazards

List of Master programmes related to DRM&FSE field in Czech Republic

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
FIRE PROTECTION ENINEERING AND INDUSTRIAL SAFETY	TECHNICAL UNIVERSITY OF OSTRAVA Faculty of Safety Engineering	Ostrava	Safety study

List of Master programmes related to DRM&FSE field in Hungary

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
ENVIRONMENTAL RISK AND HAZARD (R&H) MANAGEMENT	UNIVERSITY OF SZEGED Institute of Geography and Geology Department of Physical Geography and Geoinformatics	Szeged	Environmental Risk
DISASTER MANAGEMENT	NATIONAL UNIVERSITY OF PUBLIC SERVICE Institute of Disaster Management	Budapest	Disaster Management
ENVIRONMENTAL SCIENCES, POLICY AND MANAGEMENT (MESPOM)	CENTRAL EUROPEAN UNIVERSITY Department of Environmental Sciences and Policy	Budapest	Environmental Sciences, Policy and Management

List of Master programmes related to DRM&FSE field in Romania

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
ADVANCED DESIGN OF STEEL AND COMPOSITE STRUCTURES	UNIVERSITY OF TIMISOARA – POLITEHNICA Faculty of Civil Engineering	Timisoara	Fire safety
SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT	“BABEŞ-BOLYAI” UNIVERSITY Faculty of Environmental Science and Engineering	Cluj	Environmental Sciences
ENVIRONMENTAL MANAGEMENT AND PROTECTION			Environmental Sciences, Protection studies
RISK ASSESSMENT AND ENVIRONMENTAL SECURITY			Risk, Environmental Sciences
DISASTER MANAGEMENT	THE UNIVERSITY OF BUCHAREST Faculty of Geography	Busharest	Risk and Safety in Engineering (Technical and technological sciences)

List of Master programmes related to DRM&FSE field in Greece

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
NATURAL HAZARDS PREVENTION & MANAGEMENT	NATIONAL UNIVERSITY OF ATHENS Faculty of Geology and Geoenvironment	Athens	Disaster Risk Management
ANALYSIS AND DESIGN OF EARTHQUAKE RESISTANT STRUCTURES	NATIONAL UNIVERSITY OF ATHENS The Department of Structural Engineering		Earthquake risk
ENVIRONMENTAL ENGINEERING	TECHNICAL UNIVERSITY OF CRETE Department of Environmental Engineering	Crete	Climate change risk
GEOENVIROMENTAL RISKS AND RESOURCES	TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE Department of Natural Resources and Environment		GeoEnviromental Risks and natural disasters
MANAGEMENT OF HYDROMETEOROLOGICAL HAZARDS – HYDROHASARDS	UNIVERSITY OF THESSALY Department of Civil Engineering	Thessaly	Hydrohasards
EARTHQUAKE ENGINEERING AND SEISMIC DESIGN OF STRUCTURES	HELLENIC OPEN UNIVERSITY School Of Science And Technology	Patra	Earthquake risk
APPLICATIONS PROTECTION AND ENVIRONMENTAL MANAGEMENT	UNIVERSITY OF PATRAS Polytechnic School Department of Environmental Management and Natural Resources		Green technologies, ecosystems and environmental risks

List of Master programmes related to DRM&FSE field in Bulgaria

STUDY PROGRAMME	HEIGHER EDUCATION INSTITUTION	CITY	RISK AREA
FIRE AND EMERGENCY SAFETY	THE ACADEMY OF THE MINISTRY OF INTERIOR Faculty of Fire Safety and Protection of the Population	Sofia	Fire and emergency safety