



Università
per Stranieri
di Perugia

Academic Year 2017- 2018

EXAM PROGRAM

Master Degree: **International Relations and Development Cooperation (RICS)**

Lab: **Water resources management**

Major: **Conflitti e sicurezza, Cooperazione e Ambiente**

Year: **II**

Term: **I**

Professor: **Fernando Nardi**

CFU: **3**

Global workload: **75 hours**

Distribution of workload : **20 hours of lectures and 55 hours of study at home**

Teaching language: **English**

PREREQUIREMENTS

There are no specific requirements for this course. There is no need of advanced English language comprehension and writing. Basic understanding of English language as well as basic technologic skills (computer OS and office software packages) are mainly needed for the successful completion of the course program.

COURSE OBJECTIVES

The aim of this course is to provide students the required multidisciplinary knowledge regarding the implementation of sustainable Water Resource Management (WRM) for Urban Planning. More specifically students are guided to understand the different heterogeneous environmental, physical, socioeconomic and political components that impact the sustainable management of the water resources for efficient development of land and urban settings.

This course explains the general laws, policies and theoretical and practical principles on how to manage water demands and consumptions for land use plans and development projects. Contents of this course deal with the links between water resources and land use planning, with introduction on practical applications of efficient integrated water resources projects for sustainable economic, social and industrial growth from the international to the community scale, for developed and developing countries, also introducing the impact of the diverse climate and hydrologic conditions.

Students are guided in developing a practical application (Sample Project) of integrated WRM for understanding the importance of this topic in the professional world with specific regard to the urban planning and development, environmental and water risk management, renewable energies market sectors.

COURSE CONTENTS

The course is characterized by eight main sections including five theoretical lectures:

1. General introduction
2. History and definitions of Water Resource Management (WRM) and Urban Planning
3. Basics of the physical and socio-economic features and processes governing WRM
4. Water and urban/land management under extreme conditions: floods and droughts
5. Applications of WRM and UP for developed and developing countries

and three practical hands-on for developing a custom project (case study) to be developed by students for applying the theoretical framework and in particular:

1. Software, data and tools for developing a WRM project
2. Data analysis and representation for producing the dissemination material (report, layout, presentation)
3. Final project report preparation and discussion

TEACHING METHODOLOGY

For full time students

The course is mainly composed of class lectures with the lecturer that presents the theoretical and practical know how that students shall gather for learning basic WRM principles and applicative aspects.

In the last section of the course students are guided to develop their own Sample Project for applying the WRM skills in a practical application, also eventually using the computer lab facility and software. The case study (Project or Sample Project) is developed by students that are also eventually organized in working groups by means of tutorial and hands on material with step-by-step instructions.

For working (part time students) not participating to class

A 3 hours workshop is organized in the second half of the semester for working students. The workshop will guide students in the understanding of the theoretical material and in the development of the sample project towards the exam preparation.

Part time (working) students interested in this course are encouraged to contact the lecturer that is available to provide detailed info for taking the exam without need of full time attendance of the classes.

In addition working students have the availability of the lecturer for a custom meeting to be scheduled for providing more info on the training and lecturing material. This meeting shall be scheduled in an additional time slot as respect the standard weekly students meeting.

EXAMINATION METHODOLOGY

The examination is organized by means of n.2 pre-tests and the final exam as follows:

- pre-test n.1 for evaluating the theoretical knowledge by means of a written Q&A
- pre-test n.2 for evaluating the practical skills by means of a simplified case study to be prepared by students using custom specifications provided to single students (or working groups) by the lecturer
- Final test including n.2 oral questions about the theoretical lectures and the discussion with the Q&A session on the Sample Project presentation

REFERENCE BOOKS & TRAINING MATERIAL

For full time students

The lecturer will publish on the Webclass platform the training material used in the theoretical and practical lectures including specifically:

- Lecture material (slides and documents) of the theoretical lectures
- Lecture material (slides and documents) of the practical lectures
- Tutorial (hands on) used for the development of the case studies

- Digital data and other info/references including the links and further references (websites, journal publications, etc)

For working students:

- A selected reference book (or book chapter) will be provided for covering the theoretical information published in the lecturing material, possibly one main reference for lecture will be provided
- For practical lectures no additional material is needed since tutorials already include step-by-step self-explanatory instructions that don't require direct support by the lecturer

ADDITIONAL TRAINING AND RESEARCH MATERIAL

The lecturer will publish on the Webclass platform additional training and research material that shall be used by students for further investigating the theoretical and practical principles and knowledge.

OTHER INFORMATION & CONTACT

For full time students: The Lecturer strongly advise students to participate actively to the course for the value that is strictly related to the sample project development using the university computer lab. Prof. Nardi is always available to schedule meetings with students on request by means of an email request (fernando.nardi (at) unistrapg.it)

For working students: Custom pre-scheduled seminars will be organized by the lecturer, after pre-agreement with working students to cover the course material teaching and further supervision of students that cannot follow the course-