

STARTING DATE AND DURATION

In 1998 the MSc degree course in Environmental Systems analysis and Monitoring (RLE-version) will start in the first week of September and will last 19 months. The first week is reserved for the introduction and the last week for presentations of final assignment results, clearance formalities and the degree ceremony.

Please note that the MSc degree course can also be accessed through the courses of the Department of Earth Resources Surveys of ITC (see separate brochures).

QUALIFICATION AWARDED

After completing the MSc degree course in environmental systems analysis and monitoring and passing the required examinations, participants are awarded an MSc degree accompanied by a course record.

ACCOMMODATION

Course participants are accommodated in the DISH Hotel. This is situated in the centre of Enschede, a 15 minutes' walk from the ITC building.

STUDY COSTS, SUBSISTENCE AND ACCOMMODATION EXPENSES

The course fees for the 19-month MSc degree course in Environmental Systems Analysis and Monitoring are NLG 24,500. Additional fixed costs for the **ESM.2+RLE** course are NLG 5,500. Subsistence, including accommodation is estimated at NLG 1,545 per person per month. Please note that international travel expenses are not included.

FELLOWSHIPS

For course applicants from selected developing countries, the Dutch government awards some fellowships under the Netherlands Fellowship Programme (NFP). In accordance with Dutch government policy, women especially are encouraged to apply. NFP fellowship applications should be submitted through the appropriate organisation in the candidate's home country and with the approval of the candidate's employer, to reach the Royal Netherlands Embassy no later than four months before the starting date of the course.

Since the number of NFP fellowships is rather limited, course applicants are advised to try to obtain funding from other donor agencies. Please note that ITC has no funds of its own, nor does ITC have any influence on those organizations that grant fellowships.

FURTHER INFORMATION

The International Institute for Aerospace Survey and Earth Sciences (ITC) is the largest institute for international higher education in the Netherlands. The main objectives of ITC are to assist developing countries in human resources development in aerospace surveys, remote sensing applications, the establishment of geographical information systems and the management of geographical information.

To this end ITC concentrates on three main activities: education/training, research and advisory services. In-house expertise covers an extensive range of disciplines in the fields of geoinformatics, land resource and urban sciences and earth resources surveys. More details on ITC, the courses it offers and their cost are available in ITC's Educational Information brochure. This brochure, application forms and other information can be obtained from:

ITC Student Registration Office
Attn. Mrs. A. Scheggetman
P.O. Box 6
7500 AA Enschede
The Netherlands

Phone: +31 (0)53 487 42 05
Fax : +31 (0)53 487 42 38
E-mail: education@itc.nl
WWW : <http://www.itc.nl>

All ITC courses are regularly revised and updated. The information here applies only to the 1998 course. This brochure will be updated each year and new copies can be obtained from the ITC Student Registration Office.



ESM.2+RLE

ITC

MSC DEGREE COURSE

ENVIRONMENTAL
SYSTEMS ANALYSIS
AND MONITORING
1998



The present concern about environmental issues results in an increasing need for environmental expertise. ITC's course in "environmental systems analysis and monitoring" is a response to this need.

The course offers in-depth training in the use of remote sensing and geographical information systems (GIS) for environmental monitoring, modelling and assessment.

INTERNATIONAL INSTITUTE FOR AEROSPACE
SURVEY AND EARTH SCIENCES

This interdepartmental course is organized and taught by staff of the department of land resource and urban sciences (LARUS) and the department of earth resources surveys (ERS) of ITC. The multidisciplinary character of environmental studies is addressed by using the expertise available in the various specialist divisions of the Institute.

The ESM.2 course may include modules from the postgraduate courses in Geology, Water Resources, Soils, or Rural Land Ecology. In this brochure the Rural Land Ecology course combination is described. The code of this MSc degree course is ESM.2+RLE.

OBJECTIVES

To increase understanding of the multidisciplinary nature of environmental issues and to provide the skills for the application of remote sensing and GIS for monitoring and analysis of environmental changes and impacts.

Upon completion of the course, you should be able to:

- define environmental systems and analyse their underlying biophysical, social and economic structures and interactions.
- apply aerospace survey techniques for monitoring and study the processes of environmental changes.
- use geographic information systems (GIS) and modelling tools for environmental data acquisition, analysis and management.
- apply quantitative decision support methods and techniques necessary for the implementation of environmental impact and risk assessments.

TARGET GROUPS

The course is designed for professionals who are pursuing initial training or a "topping-up" course in environmental sciences and who also require training in the applications of remote sensing, GIS and decision support techniques for environmental monitoring and assessment.

The course addresses primarily mid-career professionals working in:

- environmental agencies/councils.
- sectoral government departments (e.g., agriculture, public works, forestry, fisheries, town and country planning).
- projects, as officers responsible for environmental impact assessment.
- colleges and universities (e.g., the environmental sciences or applied ecology and engineering departments).
- non-governmental organizations involved in environmental issues.

ADMISSION REQUIREMENTS AND APPLICATIONS

- For admission to the first part of the course, applicants should hold a BSc degree from a recognized university in disciplines such as biology, geography, agricultural, nature conservation, physical sciences or engineering sciences with good marks. Preferably they should also have some years of work experience.
- Interpretation of aerial photographs and satellite images is an important part of the course curriculum. Candidates should therefore have good stereoscopic vision as well as normal colour vision. Proficiency in the English language (minimum requirement Test of English as a Foreign Language (TOEFL) 500, British Council test 6.0 or Michigan test 75) is also required.
- "Computer literacy" is an advantage.

COURSE STRUCTURE AND CONTENTS

The MSc degree course in environmental systems analysis and monitoring consists of two parts.

The first part consists of the following modules:

- Natural Resource Management
- Land ecology
- Maps and geographical databases
- Remote sensing
- Mapping land cover
- Survey statistics
- Mapping cover related aspects
- Spatial analysis and modelling
- Land evaluation
- Land use planning.

The second part consists of taught modules and an MSc research module:

- **Taught modules:** Environmental systems analysis; Environmental economics; Environmental profiles.
- **Electives (e.g.):** Decision support systems; Environmental impact assessment; Environmental modelling; Environmental risk analysis; Geostatistics.
- **MSc research module:** Fieldwork and MSc thesis.