The Earth Science educational programme at ITC will have a renewed curriculum beginning in September 2005, under a new name: "Applied Earth Sciences" (AES, replacing the EREG programme). Applications for this new programme can already be received, with deadline on 31st January 2005 for NFP applications through NUFFIC, and other applications preferably before 15th March 2005. The new Applied Earth Sciences curriculum will be offered in 4 streams:

Application of Geo-information Science and Earth Observation to:

- **Geo-Hazards**
  Participants of the G-H stream will learn to: Assess the distribution, frequency and intensity of geo-hazards (including instantaneous events as well as gradual land degradation processes) establish risk assessment methods, design hazard-warning systems and develop damage reduction scenario's.

- **Geo-Engineering**
  Participants of the G-E stream will be engaged in: Planning and site-selection for engineered infrastructure (e.g. dams, roads, waste disposal) and defining their potential impact on the environment (EIA).

- **Earth Resource Exploration**
  Participants of the ERE stream are expected to perform. These tasks "that employees in Earth Science organizations are engaged to carry out: Assess the distribution, frequency and intensity of geo-hazards (including instantaneous events as well as gradual land degradation processes) establish risk assessment methods, design hazard-warning systems and develop damage reduction scenario's.

- **Earth Science Data Provision**
  Participants of the ESP stream will contribute to rapid and efficient mapping of earth science foundation data (base line data) using modern geo-information concepts in order to enable the various earth science disciplines (geology, geomorphology, soil science) to deliver timely and up-to-date thematic information to users, based on reliable source data.

Course structure (see illustration):

- The entire 18 months AES curriculum will lead to an academic Master of Science (MSc) degree, accredited under Dutch law. The successful completion opens the possibility to pursue doctorate (PhD) studies at ITC and elsewhere.
- The 18 months are divided into 9 months of coursework and 9 months of research preparation, execution and reporting, leading to the defence of an MSc thesis before a Board of Examiners.
- The first 9 months can be completed with a Postgraduate Diploma (with option for NFP funding).
- The first part can also be completed as three short courses each of 3 months duration (with option for NFP funding).
- First three months (October-December): "Introduction to System Earth & Basic Geoinformation and Earth Observation for Applied Earth Sciences".
- Second three months (January-March): "Geoinformation and Earth Observation assignments in solving Applied Earth Science-related problems".
- Third three months (April-June) with two options:
  - Postgraduate Diploma final fieldwork project.
  - MSc research training and fieldwork methods instruction.
- The second 9 months can be taken separately as well (after successful completion of the PGD part or equivalent), however without option for NFP funding. A "sandwich" construction may be possible in certain cases, where a limited number of modules are taken at ITC. However, MSc research supervision is subject to ITC quality control, and this option can only be granted on an individual basis.
- A tutor whose expertise closely matches the interests of the student will be assigned to each participant early in the programme.
- The objective of this integrated approach is that earth science knowledge is exploited in synergy with geo-information and earth observation competence; getting most out of both.
- This will equip our graduates to critically analyse problems, assess data and information requirements, ensure quality and relevance while carrying out the process of analysis and modelling, and effectively communicate the outcome both to peers and other groups (local government, stakeholders, etc.).

For more information:

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Please consult our web page: http://www.itc.nl/education/programme_info/earthresources.asp which will be updated with more detailed information when available.

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Module Dates: Applied Earth Sciences 2005 – 2007 Master of Science Degree Course

**Module** | **Dates** | **Applied Earth Sciences 2005 – 2007 Master of Science Degree Course**
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Arrival, opening, remedial teaching | 19-09-05 |
Short course 1 | "Introduction to System Earth & Basic Geoinformation and Earth Observation for Applied Earth Science"
Christmas break | |
Short course 2 | "Geoinformation and Earth Observation assignments in solving Applied Earth Science-related problems"
Short course 3a: Postgraduate Diploma final fieldwork project | |
Short course 3b: MSc Research training | PGD graduation |
MSc Individual research phase | (incl. proposal, fieldwork, elective topic, capita selecta, mid-term presentation, thesis and MSc exam) | |
MSc graduation | |