

## 56<sup>th</sup> Short Course on Water Management and Climate Change Adaptation (SC56)

Water is a finite resource being particularly influenced by climate change. Water is essential to the viability of all the world's ecosystems. Their health in turn is crucial to both the quality & quantity of water supply. In spite of the considerable progress since 1990, one third of the global population lives under water stress conditions and - without change in the present trends - by the year 2025 two thirds will face serious water problems as demand still increases exponentially. Onto this the consequences of climate change with their tendency to extreme hydrological events are adding up.

In the seventh year of the UN Decade "Water for Life: 2005 – 2015", this course constitutes a contribution to environmental capacity building for the protection and sustainable use of the available water resources in the light of climate change. The course addresses both water quantity & quality issues within an integrated water management. Therefore the curriculum comprises lectures, seminars, site visits and excursions on aspects like: meteorology (*climate, water cycle*); hydrology (*water balance, basic hydraulics, catchment hydrology, hydrology of extremes*); groundwater (*groundwater flow, water extraction and safe yields, artificial groundwater recharge, salt water intrusion*); surface water (*irrigation, principles of reservoir design, sediment transport and erosion, flood protection, rehabilitation of rivers and lakes, ecology of inland waters, mechanisms of eutrophication*); urban water (*urban water infrastructure, water purification and distribution, waste water treatment*); and decision support systems to list some of them.

### Objectives:

Participants are expected to adapt new concepts for a sustainable water management. After the completion of this course they should be able to actively contribute to the conservation of water resources in their respective countries in general and to the protection of soils in particular.

### Target Groups:

This course is especially designed to meet the professional demand of experts working in environment protection with special focus on urban water management and climate change adaptation. A corresponding professional background (geology, geography, hydrology, hydro engineering) is a prerequisite.

### Award:

Participants successfully completing this course are awarded a Certificate of Proficiency in Water Management.

### Allowance:

EUR 450.-, sufficient to cover all basic living expenses during the course and additional allowances of Euro 50.- to settle in, as well as Euro 50.- to send home books, etc.

Duration: 4 September - 28 September 2012

## 57<sup>th</sup> Short Course on Urban Environmental Governance – Energy Management (SC57)

Good environmental governance at global, regional, national and local levels is essential for achieving the UN Millennium Development Goals (MDG).

By now one-half of the world's population is living in urban areas. Already today 70% of the world's urban population lives in Africa, Asia and Latin America. Around one third of the world's population has no access to energy supplies, and taking population and economic growth rates into consideration, world energy demand will rise. The ecological footprint of cities as an indicator of sustainability demands urgent rethinking of current urban development practices.

The course will focus on the interaction between all stakeholders in Local Agenda 21 processes, with a particular emphasis on renewable energy technologies; their implementation and impact on the environment. Engineering as well as social, economic and legal aspects will be covered. Role games and group work will be used to demonstrate the importance of public participation in urban environmental governance.

Besides the institutional framework of urban governance and energy, the course curriculum includes modules on technical infrastructure development for drinking water, waste water, transport and solid waste.

The lectures and workshops are mainly held by internationally renowned professors of Technische Universität Dresden as well as of the Leibniz-Institute of Ecological and Regional Development Dresden (IÖR).

Site visits and excursions to Berlin and other German cities are to demonstrate problems and successes of urban environmental governance.

### Objectives:

Participants are expected to acquire knowledge as well as environmental communication and mediation skills to be able to contribute to a sustainable development of urban communities and the energy management in their respective countries.

### Target Groups:

This course is designed mainly for managers and decision-makers with pertinent professional experience in urban land use management and energy infrastructure development.

### Award:

Participants successfully completing this course are awarded a Certificate of Proficiency in Urban Environmental Governance.

### Allowance:

EUR 450.-, sufficient to cover all basic living expenses during the course and additional allowances of Euro 50.- to settle in, as well as Euro 50.- to send home books, etc.

Duration: 10 October - 2 November 2012

## 58<sup>th</sup> Short Course on Remote Sensing and Land-use Change Management (SC58)

Land degradation is one of the main environmental threats worldwide. Desertification affects more than 30% of the global land surface and more than one billion people, half of whom live in Africa. Deforestation and agriculture not adapted to the local soil, water and climate conditions on the rural side, as well as rapidly growing urban centres, already accommodating more than 50% of global population, with e.g. uncontrolled industrial development all prove that land degradation is directly related to present land-use practices and show impact on water resources at catchment level. Transboundary questions further complicate issues.

As the first step good assessment is needed, for which nowadays multi-temporal spatial data on land use and land cover change are being used. As the second step negotiation and moderation skills are needed allowing the participation of all stakeholders as all are needed for the rethinking process already at the planning stage.

This course firstly covers the assessment and management of land use changes by means of remote sensing involving earth observation, environmental monitoring, land use planning and regional development. These skills are conveyed in lectures and deepened in extended sessions of practical seminars. Secondly, the course teaches the skills needed for planning processes and the interaction between the stakeholders by lectures, role games and group work. Excursions and field trips round off the curriculum.

The course is held by internationally renowned professors of Technische Universität Dresden, as well as of the Leibniz-Institute of Ecological and Regional Development Dresden (IÖR) and experts from other environmental institutions in Germany.

### Objectives:

Participants are expected to acquire knowledge in remote sensing application and land use management skills to be able to contribute to the sustainable development of their respective countries.

### Target Groups:

This course is designed mainly for managers and decision-makers with pertinent professional experience in remote sensing application and land use management.

### Award:

Participants successfully completing this course are awarded a Certificate of Proficiency in Remote Sensing and Land-use Change Management.

### Allowance:

EUR 450.-, sufficient to cover all basic living expenses during the course and additional allowances of Euro 50.- to settle in, as well as Euro 50.- to send home books, etc.

Duration: 14 November - 14 December 2012

## 36<sup>th</sup> International Postgraduate Course on Environmental Management for Developing and Emerging Countries (EM 36)

This 6-month course covers environmental management as an integrated interdisciplinary field. Therefore a broad range of topics is offered. The curriculum is organized in modules comprising issues of global sustainable development, environmental governance, environmental security, environmental economics and accounting, environmental awareness and public participation, applied ecology and ecosystem management, conservation of biodiversity, water management, recycling and waste management, energy for sustainable development, environmental assessment and environmental management systems, cleaner production and products and eco-efficiency, sustainable mobility, sustainable tourism as well as rural and urban land use planning. To provide survival knowledge of the German language a crash course is part of the programme. The lectures are held by professors of Technische Universität Dresden as well as experts from various national and international institutions.

A multitude of excursions to protected areas, industrial plants, public utilities for energy, water supply, waste water treatment, as well as waste recycling and disposal plants, environmental agencies and administrations etc. round off the course. They illustrate environmental problems and give ideas of successfully applied integrated environmental management practices. Participants are required to carry out a profound research on a specific environment related subject and present the results of this research in a symposium at the end of the course.

### Objectives:

Participants acquire the ability to develop interdisciplinary strategies for sustainable development and to take appropriate measures for an environmental protection that takes ecological, socio-economic and cultural aspects into account.

### Target Groups:

This course is particularly designed for decision-makers of public administration both at national and local level requiring an overall-competence in environmental matters. To gain the optimum from this training course, a first university degree (BA, BSc, e.g.) is absolutely indispensable.

### Award:

Participants having successfully completed this course are awarded a Diploma of Environmental Management.

### Allowance:

Euro 450.- per month, sufficient to cover all basic living expenses during the course and additional allowances of Euro 100.- in January to settle in, as well as Euro 150.- in July to send home books, etc.

Duration: 15 January - 12 July 2013

## General Aspects

All courses are jointly organized and sponsored by:

- United Nations Environment Programme (UNEP);
- United Nations Educational, Scientific and Cultural Organization (UNESCO);
- Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Germany;
- Federal Environmental Agency (UBA), Germany;
- Technische Universität Dresden (TU Dresden), Germany.

Candidates selected by the International Steering Committee are awarded a fellowship granted by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany.

Each fellowship includes:

- A non-re-routable, economy return air ticket from a major airport in the country of residence to Dresden;
- Accommodation in a single study bedroom with telephone and computer, private shower, kitchenette with cooking utensils and refrigerator;
- Registration and tuition fees for the course;
- Health and accident insurance;
- Allowance according to the duration of the course, but sufficient to cover all basic living expenses.

All courses will be held in English. Therefore, a good command of the English language is a prerequisite for attending the programme. The preferable age of participants is between 25 and 45 years. Participants must possess valid travel documents. Straight after being awarded a stipend they should contact the German Embassy to obtain the necessary visa. The visa application procedure may take up to 10 weeks.

**Applications for any of the above courses have to reach the course secretariat by 1<sup>st</sup> June 2012.**

For further information or application documents, please visit our homepage ([www.tu-dresden.de/cipsem](http://www.tu-dresden.de/cipsem)) or contact the Course Secretariat:

### **Mailing Address:**

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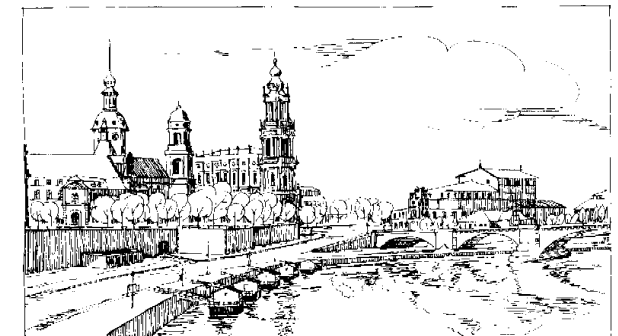
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## UNEP/UNESCO/BMU INTERNATIONAL POSTGRADUATE TRAINING PROGRAMME ON ENVIRONMENTAL MANAGEMENT FOR DEVELOPING AND EMERGING COUNTRIES

### COURSE PROGRAMME 2012/2013



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