COURSE SCHEDULE 2013
DENMARK

CLIMATE CHANGE, URBAN WATER, COAST & MARINE, SURFACE & GROUNDWATER, FLOODING, AQUACULTURE AND AGRICULTURE, INDUSTRY, ENVIRONMENT AND ECOSYSTEMS

BUILDING EXPERTISE

THE **ACADEMY**
by **DHI**

COURSES

Every year **thousands of water professionals** all over the world attend the courses of THE ACADEMY by DHI. THE ACADEMY courses are available both as **standard as well as tailored courses** designed according to your specific requests and based upon your own data.

GLOBAL TRAINING ACTIVITIES

Our attendees include governmental agencies, regional and local water bodies, research institutions and universities, professional bodies and engineering companies, urban water utilities, coastal and harbour authorities.

THE ACADEMY offers a palette of training courses and capacity building packages of various duration ranging from a few days up to months. Our courses are designed to fit your needs and challenges - whether you are a water manager, a professional engineer or a technician.

Special training packages are arranged for universities and research institutions.

Some of our capacity building projects include large training components and training-on-the-job schemes.

MIKE by DHI courses focus on practical skills, hands-on exercises and on teaching you how to get the most out of your software. Our short courses are modular and allow you to build your expertise so as to match the requirements of your job.

Ideal for new and potential users of our MIKE products!

Thematic courses embrace a range of current topics such as climate change adaptation, integrated water resources management, water quality and environmental management, water safety plans, urban flooding, urban master planning, flood management and forecasting, shoreline management. These courses allow you to apply concepts, applications and decision support principles to the entire business process - right from source to solution.

MIKE CUSTOMISED by DHI courses enable you to understand the power of the MIKE CUSTOMISED tools for building decision support systems.

THE ACADEMY trainers are experienced professionals, many of whom are recognised international experts in their fields. The use of highly qualified trainers guarantees the quality of THE ACADEMY by DHI courses.

VENUE AND LOCATION

Our public enrolment courses are held at DHI headquarters in Hørsholm or at our subsidiary office in Aarhus, Denmark.

LANGUAGE

In general, our courses are held in English but a number of them can also be held in Danish or other languages. Please contact us concerning your preference of language. All training material is provided in English.

OUR STANDARD COURSE FEES

(per person)
- 1 day: € 530
- 2 days: € 1,050
- 3 days: € 1,330
- 4 days: € 1,500

(consecutive days only)
All prices are exclusive of 25% VAT.

COURSE FEES

Course fees include training material, training certificates, the latest MIKE by DHI software demo version, access to PC with all software required (only for courses that include hands-on exercises), lunch and refreshments.

DISCOUNTS
- 10% if valid Service Maintenance Agreement (SMA)
- 33% for 3rd and subsequent participants

DEADLINE FOR REGISTRATION

Three weeks before commencement of course. A minimum number of participants is required for courses to proceed. DHI reserves the right to reschedule training courses up to three weeks prior to the scheduled dates.

The Academy by DHI offers a wide range of public enrolment courses worldwide. Consult the "Global Course Calendar" and check when the next one is planned - in your region and in your language: **www.dhigroup.com/training**. If you do not find what you need, please contact us and we can arrange for future courses or a one-to-one course in your office.
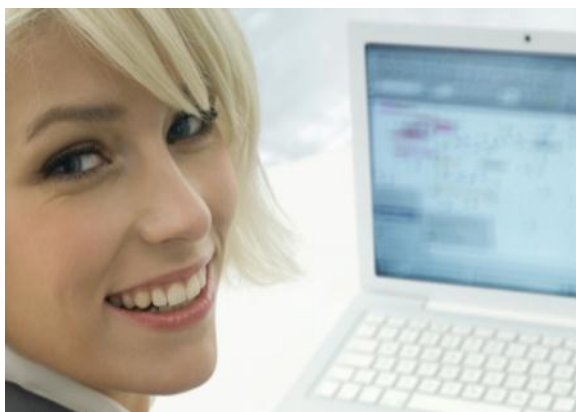
COURSE SCHEDULE 2013

FOCUS AREA	TITLE	DATES	LOCATION
FLOODING			
MIKE FLOOD *(River)*	Integrated 1D and 2D river flood modelling	09-10 April	DHI headquarters Hørsholm, DK
MIKE FLOOD *(Urban)*	Integrated 1D and 2D urban flood modelling	11-12 April	DHI headquarters Hørsholm, DK
URBAN WATER			
MIKE URBAN CS	Introduction to modelling of collection systems	15-16 April 11-12 November	DHI headquarters Hørsholm, DK
URBAN FLOODING ANALYSIS AND MANAGEMENT	Preparing for flooding and the impact of climate change on your city	17-19 April 13-15 November	DHI headquarters Hørsholm, DK
MIKE URBAN WD	Introduction to modelling of water distribution systems	08-09 October	DHI headquarters Hørsholm, DK
SURFACE & GROUNDWATER			
WATER RESOURCES AND CLIMATE CHANGE	Impact and adaptation studies	13-15 May 28-30 August	DHI headquarters Hørsholm, DK
MIKE 11	River and channel modelling	16-17 May	DHI headquarters Hørsholm, DK
INTEGRATED CATCHMENT MANAGEMENT	Hydrology, management and decision making in a catchment with competing uses	24-26 June	DHI headquarters Hørsholm, DK
MIKE SHE	Integrated catchment modelling	26-28 June	DHI headquarters Hørsholm, DK
COAST & MARINE			
PHYSICAL MODELLING OF MARINE STRUCTURES	When, why and how!	19-22 March 28-31 October	DHI headquarters Hørsholm, DK
MIKE 21 SW	Spectral wave modelling	02-03 May 04-05 November	DHI headquarters Hørsholm, DK
METOCEAN MODELLING FOR MARINE RENEWABLES	New trends in offshore metocean modelling and analysis	27-28 May 30 Sep-01 Oct	DHI headquarters Hørsholm, DK
MIKE 21 FLOW MODEL HD FM	2D hydrodynamic modelling using flexible mesh	29-30 May 02-03 October	DHI headquarters Hørsholm, DK
BATHING WATER QUALITY AND EARLY WARNING SYSTEMS	How to improve bathing water management with focus on human health	17-18 June 05-06 September	DHI headquarters Hørsholm, DK
MIKE 3 FLOW MODEL HD FM	3D hydrodynamic modelling using flexible mesh	12-13 September	DHI headquarters Hørsholm, DK
LITPACK PROCESSES 1D	Modelling long shore sediment transport and coastline evolution	25-26 September	DHI headquarters Hørsholm, DK
OIL & GAS			
OIL SPILL ANALYSIS: MODELLING APPROACH	How to model the fate and transport of oil in water environments	23-24 May 23-24 September	DHI headquarters Hørsholm, DK
ENVIRONMENT & ECOSYSTEMS			
MIKE 21 & MIKE 3 ECO Lab	2D and 3D water quality and ecological modelling	12-13 June 20-21 November	DHI headquarters Hørsholm, DK
ABM Lab	Agent based modelling	14 June 22 November	DHI headquarters Hørsholm, DK
ENVIRONMENTAL IMPACT ASSESSMENT (EIA)	EIAs and support tools	09-11 September	DHI headquarters Hørsholm, DK

COURSE FLASHES

	Course	Description	Topics
FLOODING	**MIKE FLOOD (River)** Integrated 1D and 2D river flood modelling	In this two-day, hands-on course you will learn how to model integrated river and flood plain dynamics using MIKE FLOOD. Focus will be on defining efficient coupled 1D (MIKE 11) and 2D (MIKE 21) models with emphasis on data requirements, optimal model schematisation and model stability.	• Building a bathymetry • Coupling MIKE 11 and MIKE 21 • Topographic data handling • Fine scale structures in coarse grids • Floodplain modelling and mapping • Results viewing and presentation
	MIKE FLOOD (Urban) Integrated 1D and 2D urban flood modelling	In this two-day, hands-on course you will learn how to develop a 2D overland flow model by coupling of the 1D urban drainage model (MIKE URBAN) and 2D overland flow model (MIKE 21) to simulate the fully integrated flow dynamics between sewage/storm water systems and surface areas.	• Building urban bathymetries • Coupling MIKE URBAN CS and MIKE 21 • Coupling 1D and 2D models with MIKE URBAN 2D Overland Flow feature • Using GIS for model preparation and results
URBAN WATER	**MIKE URBAN CS** Introduction to modelling of collection systems (using MOUSE)	This two-day, MIKE by DHI hands-on course provides a practical introduction to hydraulic modelling of wastewater and urban drainage networks. You will learn how to set up and run MIKE URBAN CS and turn model outputs into professional presentation material. The course aims at enabling you to perform the basic functions of MIKE URBAN CS.	• Project setup • Data organisation • Numerical and graphical editing and quality control • Dynamic simulation of rainfall/runoff and pipe flow • Result analysis and visualisation
	URBAN FLOODING ANALYSIS AND MANAGEMENT Preparing for flooding and the impact of climate change on your city	This three-day, thematic course focuses on assessment and management of climate change in urban areas, including flooding and provides water professionals with an enhanced ability to formulate, analyse and implement water policies, plans and modelling tools.	• Climate change assessments • EU and national legislation and directives • Modelling methods and tools • Enabling management instruments • Food emergency preparedness
	MIKE URBAN WD Introduction to modelling of water distribution systems	This two-day, hands-on course provides practical introduction to modelling of hydraulics and water quality in water distribution systems. You will learn how to set up and run MIKE URBAN WD and turn model outputs into professional presentation material. The course aims at enabling the participants to perform the basic functions of MIKE URBAN WD.	• Project setup • Data organisation, import/export of external data • Numerical and graphical editing and quality control • Simulation of hydraulics and water quality • Result analysis and visualisation
SURFACE & GROUNDWATER	**WATER RESOURCES & CLIMATE CHANGE** Impact and adaptation studies	This three-day, thematic course aims to enable water resource professionals to assess climate change and identify mitigation measures with particular emphasis on flood and drought related aspects. The course provides introductions to global and local climate change assessments, development of scenarios and indicators to monitor environmental, social, and economic impacts.	• Identification of global climate projection data • Computation of site specific climate delta factors • Scenario simulations and mitigation scenario
	MIKE 11 River and channel modelling	This two-day, hands-on, MIKE by DHI course gives an introduction to 1D river modelling with MIKE 11. The aim is to go through the basic features of MIKE 11 to enable you to set up and run simple river models and to evaluate their results. Upon request the course can be extended with an additional day to include more complex river, canal and reservoir systems including complex hydraulic structures and coupling to Rainfall Runoff models.	• MIKE 11 modular structure • MIKE 11 graphical user interface • Schematisation and application of simple river models • Modelling basic hydraulic structures • Model calibration • Applying static and operational structures • Coupling HD and RR models
	INTEGRATED CATCHMENT MANAGEMENT Hydrology, management and decision making in a catchment with competing uses	This three-day, thematic course covers the challenges of surface water and groundwater resources management at catchment scale reconciling competing uses and environmental impacts. Catchment hydrology and its implications on water management is discussed. Modelling and decision support tools are introduced as examples and project cases.	• Conceptual model approach • Integrated hydrological models • Customised water management services • Scenario and indicator definitions • Water management objectives • On-line and planning tools
	MIKE SHE Integrated catchment modelling	MIKE SHE is being used in real projects around the world to solve engineering problems across the full hydrologic spectrum - from detailed wetland studies to basin-wide water resource management studies to real-time flood forecasting. In this three-day, MIKE by DHI hands-on intensive course you will learn about the processes and linkages in integrated catchment modelling using MIKE SHE.	• Channel flow • Overland flow and infiltration • Unsaturated/saturated groundwater flow • Hydrological coupling • Calibration of integrated models • Integrated water budgets • Integrated water quality modelling
COAST & MARINE	**PHYSICAL MODELLING OF MARINE STRUCTURES** When, why and how!	This four-day, thematic course introduces you to the fundamental principles of scale modelling. Hands-on experience in designing and conducting experiments is provided. The course is centred around a specific coastal engineering application.	• Scaling principles and laws • Constructing a scale model • Wave generation and absorption • Choice and use of instrumentation • Considerations for data collection and analysis

COURSE FLASHES

COAST & MARINE

MIKE 21 SW
Spectral wave modelling

This two-day, MIKE by DHI hands-on course provides a practical introduction to wave modelling using the MIKE 21 Spectral Wave model. The course will help you to predict and analyse wave climates in offshore and coastal areas.

- Application of MIKE 21 SW
- How to set up models based on flexible mesh (unstructured grid)
- Decision of spectral formulation
- Calibration techniques and validation
- Interpretation of results

METOCEAN MODELLING FOR MARINE RENEWABLES
New trends in offshore metocean modelling and analysis

This two-day, thematic course is directed towards project engineers who need an introduction to offshore metocean modelling and analysis, or project managers with a need to understand the advantages and limitations of basic methods. Focus is on DHI's methods for coastal and offshore projects.

- Wave and flow modelling
- Metocean modelling - data sources and requirements
- Model calibration
- Hindcast and forecast simulations
- Analysis of metocean data

MIKE 21 FLOW MODEL HD FM
2D hydrodynamic modelling using flexible mesh

This two-day, hands-on course provides a practical introduction to the basics of flow modelling and how to get started with 2D models. The course aims at enabling you to set up and run flow simulations with MIKE 21 Flow Model FM using the advanced data preparation and editing facilities and presentation tools.

- Selection of geographical coordinate system and bathymetry digitisation (mesh)
- Data import, editing and quality control
- Setting up 2D hydrodynamic models
- Managing boundary conditions
- Calibration and validation

BATHING WATER QUALITY AND EARLY WARNING SYSTEMS
How to improve bathing water management with focus on human health

This two-day, thematic course provides an overview of the most important parts of the European Bathing Water Directive and gives an introduction to real life cases of different early warning methods. The European Bathing Water Directive sets the standard for bathing water management of rivers, lakes and coastal water with focus on people's health. The course focuses on the EU directive but can also include national legislation if requested. The course includes a field trip to relevant beaches / sites in DK.

- Bathing water quality
- Dynamic early warning systems
- Examples of implementation at Danish and Swedish beaches
- EU directives and national legislation
- Field trip

MIKE 3 FLOW MODEL HD FM
3D hydrodynamic modelling using flexible mesh

This two-day, hands-on course provides a practical introduction to the basics of flow modelling and how to get started with 3D models. The course aims at enabling you to set up and run flow simulations with MIKE 3 Flow Model FM using the advanced data preparation and editing facilities and presentation tools.

- Selection of geographical coordinate system and bathymetry digitisation (mesh)
- Data import, editing and quality control
- Setting up 3D hydrodynamic models
- Managing boundary conditions
- Calibration and validation

LITPACK PROCESSES 1D
Modelling longshore sediment transport and coastline evolution

This two-day, MIKE by DHI hands-on course provides a practical introduction to the use of 1D modelling of longshore sediment transport and coastline evolution along quasi-uniform coastlines. The course aims at enabling the you to set up and run simulations using LITDRIFT and LITLINE as well as Littoral Processes FM.

- Basic assumptions in the 1D modelling setup
- Concept of morphological baseline
- Setting up LITDRIFT, LITLINE and Littoral Processes FM models
- Interpretation of results and calibration

OIL SPILL ANALYSIS: MODELLING APPROACH
How to model the fate and transport of oil in water environments

This two-day, thematic course is directed towards ports operators, emergency response planners and environmental agencies. Methodologies for oil spill modelling in coastal areas and oceans will be addressed. Oil properties and mechanisms responsible for transport and weathering processes of the spilled oil are introduced.

- Main properties of oils
- The weathering processes
- The effects of currents, winds, waves and water properties
- Numerical modelling of oil dispersion
- Compliance with local legislation

ENVIRONMENT & ECOSYSTEMS

MIKE 21 & MIKE 3 ECO LAB
2D and 3D water quality and ecological modelling

This three-day, MIKE by DHI hands-on course provides a practical introduction to the fundamentals of ecological modelling. You will learn how to develop your own ecosystem models using the ECO Lab editor and integrate this into a MIKE 21/3 ECO Lab model to obtain accurate spatial predictions of aquatic ecosystem response.

- Fundamentals of ecological modelling
- Introduction to existing ECO Lab templates
- How to set up the MIKE 21/3 ECO Lab FM model
- Model calibration and validation
- Interpretation of results

ABM LAB
Agent based modelling

Agent/individual based models describe the autonomic behaviour and states of agents, objects or individuals. The methodology allows addressing questions that are out of the scope of traditional water quality models. This one-day, MIKE by DHI hands-on course gives a short introduction to the general theory and to how ECO Lab supports the formulation of agent/individual based models.

- Introduction to general features/ techniques for agent/individual based models
- Agent/Individual based modelling with ECO Lab
- Available functionality
- Setting up simple agent based models in ECO Lab and MIKE 21 FM

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)
EIAs and support tools

This three-day, thematic course provides water professionals with an overview of the EIA structure and how to carry out an EIA. This course is cross-cutting for all infrastructure and resources projects. RIAM software package (Rapid Impact Assessment Matrix) will be introduced as a support to for carrying out an EIA.

- Fundamentals of EIA
- EIAs and legislation
- Pitfalls
- Learning the steps of EIA
- Introduction to the RIAM package

EVENTS

Every year thousands of our existing, new and potential customers participate in THE ACADEMY events **around the globe**. The events include MIKE by DHI user group meetings, regional or national conferences, road shows, seminars, thematic workshops and expert round tables.

MIKE BY DHI USER GROUP MEETINGS

Every year we arrange MIKE by DHI user group meetings around the world. Our MIKE events offer you a unique opportunity to learn about real world applications and the latest software updates.

In addition, you get the opportunity to share knowledge and experiences with fellow users, colleagues and DHI modellers in an informal atmosphere.

DHI'S THEMATIC WORKSHOPS, SEMINARS, ROUND TABLES AND CONFERENCES

These events take up cross cutting views of how to combine decision support principles and concepts across current themes in our areas of expertise.

These events are typically arranged by collaborating academia and professionals.

A number of training sessions are typically offered in conjunction with our events.

OUR PARTICIPANTS SAY

"Thank you all for the very well organised event, wonderful hospitality and the opportunity to meet MIKE developers and users – looking forward to the next meeting."

Zeinab, University College of Dublin, Ireland

"Thanks for the nice and well prepared User Group Meeting. Nice to meet the DHI experts and users in a smaller group to have a direct interaction. On conferences there is normally no chance to have this direct interaction."

Thomas Hirschhäuser, the State Agency of Agriculture, Environment and Rural Areas of Schleswig-Holstein (LLUR), Germany.

"MIKE by DHI is the perfect package for our modelling work at Royal Haskoning Vietnam. The annual DHI User Group Meeting is a golden opportunity for us users to update with new developments of the software and to communicate and learn from each other. I find it very beneficial to attend this event."

Nguyen Thanh Hoan, PhD, Maritime & Waterways, Haskoning Vietnam.


The Academy by DHI offers a wide range of events worldwide. Consult the "Global Events Calendar" and check when the next one is planned - in your region and in your language:

www.dhigroup.com/events

ONLINE PRESENTATIONS
and newsletters

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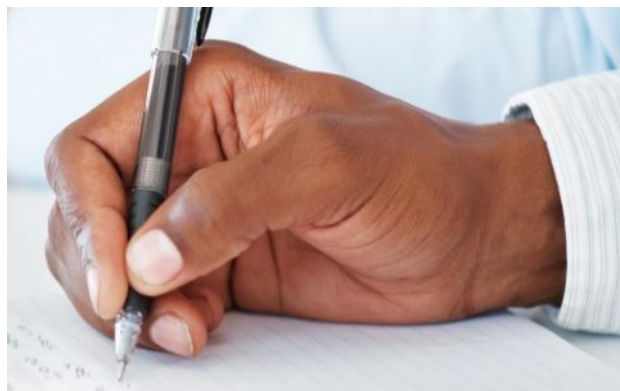
FREE ONLINE PRESENTATIONS OF OUR SOFTWARE

Join an online presentation and learn more about what MIKE by DHI software can do for you. Our online presentations are designed to help you identify what our MIKE by DHI software can do to match your requirements.

Furthermore, the presentations are highly flexible. If the times of the scheduled presentations do not suit you, it is possible to schedule presentations on an individual basis, tailored to your specific requirements.

Our online presentations provide you with a general introduction to our products. If you want to learn more, you can attend our software training courses, which are suitable for both potential, new and existing users.

STAY UP TO DATE WITH OUR NEWSLETTERS

DHI issues a number of online newsletters - free of charge

With our newsletters you can stay up to date with DHI's latest activities within water environments worldwide.

You are also welcome to contribute to the DHI Newsletters with your experiences as a MIKE by DHI user, with your projects and any themes you think may be of interest to the DHI community.

DHI group worldwide
Projects covering the realm of water, environmental and health aspects are presented. These typically illustrate how advancements in technology can be applied to solve problems and obtain better solutions.

The NetWork
The NetWork is our newsletter for MIKE by DHI users. It provides news about MIKE by DHI software and activities, tips and tricks on how to get the most out of the tools as well as the wide range of applications available with of our software.

News about environment and toxicology
This newsletter covers the implications of chemical substances and their effect on humans and the environment.

For further information and registration, please see: www.mikebydhi.com/JoinAPresentation.aspx

Sign up for your preferred newsletter at: www.dhigroup.com and get the latest news directly into your inbox

MAKE A DIFFERENCE –
enhance your knowledge and skills

THE ACADEMY by DHI **embraces all of DHI's global training and knowledge sharing activities.**
THE ACADEMY facilitates access to training, research results, expert fora, networks, partnerships and technology.

Skills development and capacity building are cornerstones in our goal to contribute to the further development of **sustainable water management strategies and global partnerships** – a better and more equitable world characterised by **social, economic and environmental sustainability.**

Each year, we arrange hundreds of courses, which thousands of professionals attend and learn from. The courses range from thematic and capacity building workshops to training in the use of specific software tools.

Our more than **200 trainers are experienced professionals**, many of whom are recognised international experts in their fields. The Academy by DHI helps you make **more informed decisions** and enhance your skills.

THE ACADEMY by DHI works closely with universities around the world and **contributes to the development of a new generation of water professionals.**

DHI WORLDWIDE

Australia	**Greece**	**Portugal**
Austria	**Hungary**	**Romania**
Brazil	**India**	**Singapore**
Bulgaria	**Italy**	**Slovak Republic**
Canada	**Japan**	**South Africa**
China	**Malaysia**	**Spain**
Czech Republic	**Middle East**	**Sweden**
Denmark	**New Zealand**	**Thailand**
Finland	**Norway**	**Turkey**
France	**Poland**	**United Kingdom**
Germany		**USA**
		Vietnam

For further details on courses and events, including detailed course descriptions, please contact:

MIKE by DHI Customer Care Unit: mikebydhi@dhigroup.com

or

The International Course Secretariat: courses@dhigroup.com

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