



Marine Coastal and Delta Sustainability for Southeast Asia

610327-EPP-1-2019-1-DE-EPPKA2-CBHE-JP



COURSE PRESENTATION

HYDROLOGICAL MODELLING

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OVERVIEW



- This is for course **HYDROLOGICAL MODELLING**
- Site URL: <https://elearning.ctu.edu.vn/course/view.php?id=2449>
- Language: Vietnamese + English
- Modules:
 - The deterministic model
 - Random pattern
 - Random pattern
 - Statistical analysis in Hydrological calculation
- Practice
 - Lessons 1. HEC-HMS model
 - Lessons 2. Artificial intelligence network model ANN
 - Practice Lessons 3. Statistical analysis





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Main Page


Summary


Lecturer: Assoc. Prof. Tran Van Ty, Dr. Huynh Vuong Thu Minh

Email: tvty@ctu.edu.vn, hvtnh@ctu.edu.vn

 Summary

 Slide bài giảng

 Hydrological Modelling Syllabus

 Link khảo sát khi kết thúc khóa học

In this 3 ECTS course, students will be provided systematically about the basic concepts of modeling and the process of building and simulating applied mathematical modeling. Expertise in math modeling currently applied in the field of hydrology and problems related to water resource use in the Mekong Delta, Vietnam and around the world.

Topic 1: Hydrological model concept

Learning objectives

General and applied knowledge related to hydrographic model

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MAIN PAGE - Syllabus



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Topic 1: Hydrological model concept

Learning objectives	General and applied knowledge related to hydrographic model
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HYDROLOGICAL MODELLING (3 ECTS)

Fall semester, 2021-2022

Coordinator	College of Technology
Credits	3 ECTS
Lecturers	Trần Văn Ty, Huỳnh Vương Thu Minh
Level	Master
Host institution	Can Tho University
Course duration	30 hours

Summary

In this 3 ECTS course, students will be provided systematically about the basic concepts of modeling and the process of building and simulating applied mathematical modeling. Expertise in math modeling currently applied in the field of hydrology and problems related to water resource use in the Mekong Delta, Vietnam and around the world.

Target student audiences

Master in Hydraulics Engineering

Prerequisites

Required courses (or equivalents): NO

Aims and objectives

- Students grasp common mathematical modeling processes and concepts
- Knowledge of basic concepts and calculation methods of all kinds of hydrological problems.
- Applying mathematical model to hydrological problems related to exploitation use, water resource management such as calculation of flow characteristics, hydrological forecasting, balance calculation and water resource use planning, flood prevention planning, integrated management in the original country.

Authentic Tasks:

Desired learning outcomes:

By the end of the course, successful students will:

Knowledge	<ul style="list-style-type: none"> • Understand the concept and process of building general mathematical models • Applying the mathematical model to the hydrological problem related to the exploitation and management of water resources such as calculating the flow characteristics, hydrological forecasts, calculating balance and planning the use of water resources, flood prevention planning, integrated management in the whole country. • Apply random and statistical models to the analysis of hydrological data.
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MAIN PAGE – Chapter presentation



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Email: tvty@ctu.edu.vn, hvtnh@ctu.edu.vn

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Hydrological Modelling Syllabus

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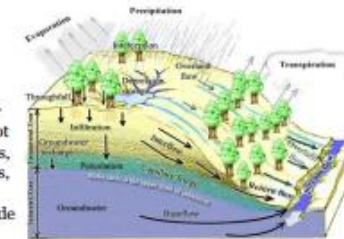
Topic 1: Hydrological model concept

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Hydrological Modelling (3 ECTS)

Lecturer: Dr. Tran Van Ty
Dr. Huynh Vuong Thu Minh



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Course's Description

The course is designed to provide learners with knowledge and skills in conceptual modeling, physical principles of the water cycle, hydrological systems, and the steps involved in developing hydrological modeling. The course also covers deterministic and stochastic hydrological models, as well as statistics model application.

Coordinator	College of Technology
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Hydrological Modelling Syllabus

Link khảo sát khi kết thúc khóa học



Topic 1: Hydrological model concept

Learning objectives	General and applied knowledge related to hydrographic model
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End of Course Survey(MARE Courses)

All information obtained from this form will be protected. Thank you for your responses.

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* **Biểu thị câu hỏi bắt buộc**

Email *

Email của bạn

Program *

- Bachelor of Engineering
- Master of Science
- Master of Engineering

Attended MARE Course

- Fundamentals of climate change and natural disaster

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LESSON PLAN



Course outline

Week	Topics
Week 1&2	Topic 1: The deterministic model
Week 3&4	Topic 2: Random pattern
Week 5&6	Topic 3: Random pattern
Week 7&8	Topic 4: Statistical analysis in Hydrological calculation
Week 9-11	Practice Lessons 1. HEC-HMS model
Week 12-13	Practice Lessons 2. Artificial intelligence network model ANN
Week 14-15	Practice Lessons 3. Statistical analysis





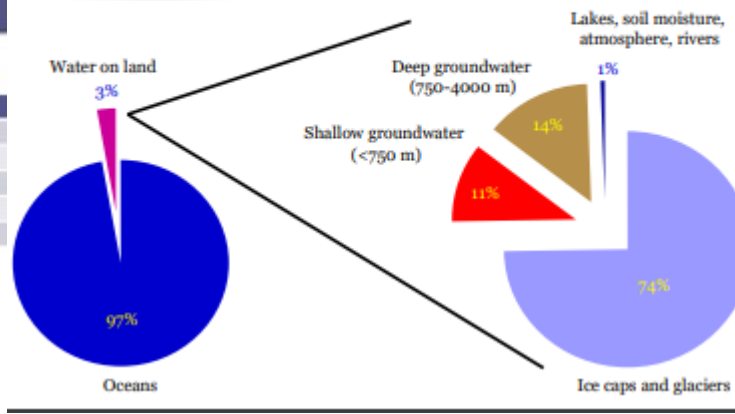
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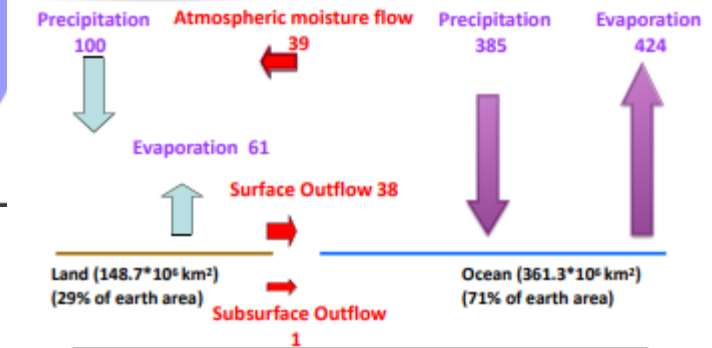
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1. Inventory of water on Earth



2. Global Water Balance (Volumetric)



Units are in volume per year relative to precipitation on land (119,000 km³/yr) which is 100 units



Survey

Result



End of Course Survey(MARE Courses)

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* **Biểu thị câu hỏi bắt buộc**

Email *

Email của bạn

Program *

- Bachelor of Engineering
- Master of Science
- Master of Engineering

<https://wrd.ctu.edu.vn/projects/mare-project/end-of-course-survey-mare-courses.html>

End of Course Survey(MARE Courses)

1. Program

Attended MARE Course	Program	COUNTA of Program
		0
Total		0
Environmental modeling	Bachelor of Engineering	1

Environmental modeling Total

Fundamentals of climate change and natural disaster

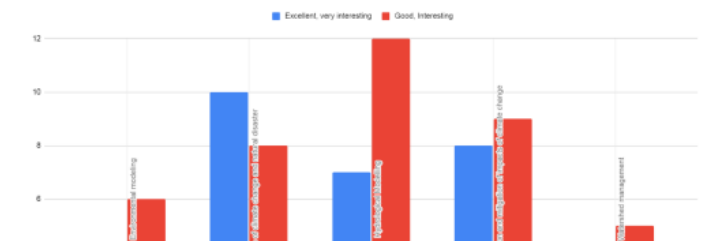
Fundamentals of climate change and natural disaster Total

Hydrological Modelling

3. Your overall assessment of the attended courses. Was the course was attractive and exciting to you?

Your overall assessment of the attended courses. Was the course was attractive and exciting to you?	Fundamentals of climate change and natural disaster					Grand Total	
	Environmental modeling	Fundamentals of climate change and natural disaster	Hydrological Modelling	Principles of adaptation and mitigation of impacts of climate change	Watershed management		
Excellent, very interesting	0	3	10	7	8	2	30
Good, Interesting	0	6	8	12	9	5	40
Grand Total	0	9	18	19	17	7	70

Your overall assessment of the attended courses. Was the course was attractive and exciting to you?



https://wrd.ctu.edu.vn/images/mare-project/feedback-survey/End_of_Course_Survey_final.pdf

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List participant of course



<input type="checkbox"/>	Tên đệm và tên / Họ	Tên đăng nhập	Địa chỉ thư điện tử	Mã số ID	Vai trò	Nhóm	Ngày cuối vào khóa học	Trạng thái
<input type="checkbox"/>	Tram Che Thi Bich	m2923004	tramM2923004@gstudent.ctu.edu.vn	M2923004	Sinh viên	Không phân nhóm	49 Các ngày 23 giờ	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Nhat Giap Minh	m2923003	nhatM2923003@gstudent.ctu.edu.vn	M2923003	Sinh viên	Không phân nhóm	49 Các ngày 21 giờ	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Quang Le Nhat	b2108508	quangB2108508@student.ctu.edu.vn	B2108508	Sinh viên	Không phân nhóm	15 Các ngày 6 giờ	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Linh Ngo My	m2923002	linhM2923002@gstudent.ctu.edu.vn	M2923002	Sinh viên	Không phân nhóm	50 Các ngày	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Tuyen Nguyen Thi Mong	m2923005	tuyenM2923005@gstudent.ctu.edu.vn	M2923005	Sinh viên	Không phân nhóm	48 Các ngày 20 giờ	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Văn Nhiều Phan	002473	pvnhiều@ctu.edu.vn	002473	Giảng viên, Giảng viên	Không phân nhóm	9 giây	Đang hoạt động ⓘ ⚙ ✕
<input type="checkbox"/>	Chau Truong Thi Ngoc	m2923001	chauM2923001@gstudent.ctu.edu.vn	M2923001	Sinh viên	Không phân nhóm	49 Các ngày 23 giờ	Đang hoạt động ⓘ ⚙ ✕

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