



# ENVIRONMENTAL MODELLING (3 ECTS)

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## Summary

This course belongs to the specialized knowledge block, providing students with in-depth knowledge about environmental modelling, application of modeling tools and computer models, forecasting of service pollution. for the assessment of environmental impacts and control, prevention of pollution and environmental protection. To apply knowledge of the model in the process of developing a decision support system in the management of environment and natural resources.

## Aims and objectives

The main course objective is to equip students with knowledge of:

- To apply the modelling in order to management of pollutant dispersion;
- To have skills in using modeling and applied modelling in environmental management and protection;
- To have teamwork and presentation skills;
- To have the professional attitude to study and work.

## Authentic Tasks:

## Desired learning outcomes:

By the end of the course, successful students will:

Knowledge	• This course will help students understand the knowledge of mathematical models, methods, correction, testing and analysis of mathematical models.
Comprehensive	• Help students grasp and apply the main steps in the study of mathematical models
Application	• Use and application of surface water quality models and air quality models.
Analysis	• Analyze the selection of use and verify the results of the water quality and air quality models applied in the field of technology and environmental management.
Synthesis	• Can identify and describe a number of important processes in a number of environmental and resource management related issues.

## Overview of sessions and teaching methods

The course will make most of interactive and self-reflective methods of teaching and learning and, where possible, avoid standing lectures and presentations.





## Learning methods

- Presentation method;
- Intuitive method
- Learning by case study and projects methods
- Group discussion method
- Literature review method
- And other skill methods.

## Literature

### Compulsory

[1]. Lecture of Modelling of environment.

### Recommended:

- [1] Ngo Ngoc Hung (2008), Principles and applications of mathematical models in biological, agricultural and environmental research. NXB Nông nghiệp. TP Hồ Chí Minh.
- [2] Beven, K.J. (2008). Rainfall – runoff modelling: The primer. John Wiley and Sons. Chichester, England. Mo
- [3] Massei, G., Rocchi, L., Paolotti, L., Greco, S., & Boggia, A. (2014). Decision Support Systems for environmental management: A case study on wastewater from agriculture. Journal of Environmental. 146, 491-504.
- [4] Modeling chemical transport in soils: Natural and applied contaminants