

# Erasmus Course for the Estonian University of Life Sciences

## Introduction to Environmental Engineering

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The course of Introduction to Environmental Engineering is being offered for the Estonian University of Life Sciences at September of 2017 in Tartu - Estonia. Below are the topics, evaluations and objectives of the course.

### Summary

The following topics are listed in the discipline's agenda:

1. Introduction to numerical solution of PDEs and Introduction to Python
2. 1D linear convection, non-linear convection, Diffusion, Burgers
3. Finite-differences and Discretizing our model equation
4. Population Dynamics, Verhuslt and Lotka-Volterra models

### Evaluation system

The tests have a maximum score of 100 points.

The evaluation is composed by:

- 1 Test:  $T_1$
- 4 Homework's:  $HW_1, HW_2, HW_3, HW_4$

### General objective

The student will be able to identify basic concepts of the Environmental Engineering and how to understand some examples of processes in nature and to model simple population dynamics.

### Bibliography

- Vesilind, P. Aarne, Susan M. Morgan, and Lauren G. Heine. Introduction to Environmental Engineering-SI Version. Cengage Learning, 2010.