

LSPM

Question-Based Lecture

Week 1: Introduction to land surface process modelling

- eLecture
- Articles / chapters

Questions?

Week 2: Local Models (and numerical solution of differential equations)

Study materials

- eLectures
- Chapter from a book

Preparation for QB Lecture:

- Solve the exercises (in the eLecture) yourself
 - (Online) pocket calculator
 - Spreadsheet
 - Python

Euler method or Euler-Cauchy method

The solution of the initial value problem

$$\frac{dy}{dt} = f(y, t), \quad y(t_0) = c$$

Is (Euler or Euler-Cauchy method):

$$y(t + \Delta t) = y(t) + \Delta t \cdot f(y(t), t)$$

with:

Δt time step length

Exercise:

$$\frac{dy}{dt} = ky, \quad y(t_0) = y_i$$

$y(t_0) = 0.02$
 $k = -0.002$
Calculate $y(t + 60)$
Use a time step of 60

Week 1 – Labs & Groups

- Finish Python lab by Tuesday next week
- Subscribe to groups in Blackboard
 - Labs
 - Short paper assignment
 - Working group

Questions?

Conda environments

- Environment with particular set of software packages installed
- Multiple environments on one computer is possible
- Activate / deactivate environments
- Environments can be easily created and deleted (no worries)
- Steps to create an environment:
 - Create an environment
 - Activate it
 - Install software

Google e.g. 'conda cheatsheet' for commands

Other

Reader: two chapters are as PDF in Blackboard as they could not be included in the reader (copyright restrictions):

Course Content -> Syllabus and book -> Missing sections

Slides Question-Based Lectures are accessible from the online study guide, section 1.10 (as soon as they are available)