Laboratory Course on Drinking Water Treatment (CT4471)

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Sanitary Engineering Department

TU Delft
Delft University of Technology

Laboratory Course

- Objectives
- Practical information
- General Guidelines (Health & Safety)
- Experiments
- Reporting
- Summary

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Objectives of the Laboratory Course 1

- Illustration of several treatment methods on lab scale
- Acquaintance with the Laboratory of Sanitary Engineering
- Demonstration of research aspects
  - Pilot plants
  - Monitoring equipment
  - Chemical analyses

Objectives of the Laboratory Course 2

- Learning process on research experiments
  - Preparation
  - Doing the experiment
  - Data processing
  - Interpretation of results
  - Reporting
  - Modeling (Stimela)

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Objectives of the Laboratory Course 3

- Full scale design
- Linking of theoretical knowledge to practical applications by appropriate exercises
- Implementation of experimental results into practice
- Learning the lecture notes in a casual way

Check ‘Guidelines for writing reports’ on Blackboard for details.

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Practical information

- Location: Laboratory of Sanitary Engineering – Stevin III, first floor (1.15.3)

- Starting times: morning 8:30 – 12:30 h
  afternoon 13:30 – 17:30 h
  full day (Filtration) starts 8:30 h
- Laboratory staff: Tonny Schuit (015-2784946)
  Patrick Andeweg (015-2784947)

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General lab guideline

- Health and Risk
- No eating and drinking in the lab (use cantina: 0.12)
- No open-toed shoes
- Lab coat and safety glasses will be provided
- Clean chemical spill immediately
- Clean up after use

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Summary of experiments

A. Adsorption on activated carbon
B. Filtration of surface water (full day)
C. Nanofiltration
D. Softening (at Weesperkaspel, October 16)
E. Aeration / Degassing by Cascade
F. Coagulation: Jar Test
G. Hydraulics aspects of filtration
H. Flocculent settling

} 2 out of 4

Assessment of reports

- An individual mark for experimental performance
- Full report on every experiment
- One mark per group for each report
- Standardized judgment for reports
- Unsatisfactory reports have to be corrected/completed
- The final mark for corrected reports is the average before and after corrections

Assessment of final mark

- Final mark lab performance = average of individual marks of all experiments
- Final mark reports = average of group mark of all reports
- Final mark Experiments = 0.2*lab performance + 0.8*mark reports

- Final Mark CT4471: 4/7 Exam, 3/7 Experiments

Summary

- Be Prepared (Blackboard, lecture notes, literature)
- Do (working in the lab)
- Model (using web based Stimela)
- Report (submit within 1 week)

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