

- 3 Carry out an experiment with nitrification in a continuous lab-scale bioreactor for ammonia removal
- 4 Describe suitable methods for characterizing the activity, function, diversity, and composition of microbial communities
- 5 Define basic concepts in microbial ecology, such as carrying capacity, succession, r- and K-selection, ecological niches
- 6 Outline the principles of methods for quantification of organic carbon in wastewater and calculate the theoretical oxygen demand (ThOD) for simple organic compounds
- 7 Explain the microbial processes and growth requirements underlying the activated sludge process, nitrification, denitrification, enhanced phosphorus removal, and anaerobic digestion
- 8 Evaluate alternative process schemes for combined biological nutrient removal (BNR)
- 9 Describe the most commonly applied disinfection methods, and the steps typically involved in drinking water treatment process train
- 10 Evaluate the potential for biodegradation of organic pollutants, taking microbial and physical/chemical environments, as well as the chemical structure of the compound itself, into consideration

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, practical

Learning materials and price

Course material is specified at the beginning of the course.

References

Publications and books/chapters made available

Course content-related study coaching

PhD students acts as practical course advisers, support from a permanently employed engineer, guiding upon request, student advice on agreement

Evaluation methods

continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Examination methods in case of periodic evaluation during the second examination period

Examination methods in case of permanent evaluation

Written assessment, oral assessment, assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

The exam may be oral or written, announced in advance.

Calculation of the examination mark

The course will have an assessment with standard NTNU grades A-F

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.