**mar550 - Profile Module Physiology of bacteria**

**Module label**
Profile Module Physiology of bacteria

**Module code**
mar550

**Credit points**
6.0 KP

**Workload**
180 h

**Used in course of study**
- Master's Programme Microbiology > Mastermodule

**Contact person**
Module responsibility
- Heribert Cypionka

**Entry requirements**
Lecture: Physiology and diversity of prokaryotes

**Skills to be acquired in this module**
- The students know how to
  - cultivate bacteria and generate pure cultures
  - determine the live count
  - prepare and use washed cell suspensions for experiments
  - measure bacterial activity (respiration, proton translocation, transport processes) and growth
  - use and understand the functioning electrodes (pH, O2) and photometers
  - use a microscope and take digital microphotographs
  - quantitatively rely growth, energy metabolism and fundamental physiological processes
  - understand the action of inhibitors
  - present and discuss scientific results
  - write a scientific protocol

**Module contents**
Physiology of bacteria: The course starts with an introductory seminar every morning. One enrichment and isolation experiment will be performed over 10 days. Four physiological experiments are done over two day’s round robin. The following processes are analyzed: Growth under oxic and anoxic conditions, respiration with complex and monomer substrates, respiration-driven proton translocation, transport of ions.

**Reader's advisory**

**Links**

**Language of instruction**
English

**Duration (semesters)**
1 Semester

**Module frequency**
jährlich

**Module capacity**
unlimited

**Reference text**
6 CP | SE; PR | 1. or 3. FS | Cypionka

**Modullevel**
MM (Mastermodul)

**Modulart**
Wahlpflicht

**Lern-/Lehrform / Type of program**
Seminar (2 CP, 1 SPPW ), practical course (4 CP, 4 SPPW)

**Vorkenntnisse / Previous knowledge**

**Examination**

**Time of examination**

**Type of examination**

One assessment of examination:
Portfolio (seminar presentation, written protocol)

Protocol (100 %), seminar presentation (no mark). Active participation (Active and documented participation in practical courses (labs, exercises, seminars, field trips) and courses. These include e.g. the delivery of exercises, writing a lab report or seminar presentations according to the advice of the course supervisor.)

**Course type**

**Comment**

**SWS**

**Frequency**

**Workload attendance**

- Seminar: 1.00 SWS, Frequency: 14 h, Workload: 14 h
- Practical: 4.00 SWS, Frequency: 56 h, Workload: 56 h

**Total time of attendance for the module**
70 h