mar621 - Profile Module Techniques in light microscopy and electron microscopy

Profile Module Techniques in light microscopy and electron microscopy

Module code: mar621
Credit points: 6.0 KP
Workload: 180 h

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

Contact person:
- Erhard Rhiel

Module responsibility:
- Erhard Rhiel

Entry requirements:
- None

Skills to be acquired in this module:
- The students will learn
  - the basics/theory of scanning electron microscopy (SEM) and transmission electron microscopy (TEM)
  - different sample preparation methods for SEM
  - to operate our scanning electron microscope
  - to operate our critical point drying device
  - to perform sputter coating
  - to perform negative staining TEM
  - to operate our transmission electron microscope
  - to perform immuno-labelling for light microscopy

Module contents:
The profile module “Techniques in light microscopy and electron microscopy” runs over a period of 10 days, distributed over three weeks. On the first day, seminars will introduce into the theory, i.e. of SEM and TEM. The remaining 9 days are for practice. The main topics of the course are: basic principles and functioning of light and electron microscopes, sample preparation, fixation, low temperature SEM, low vacuum SEM, negative staining TEM, and immuno-labelling for light microscopy.

Reader’s advisory:
will be announced

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 | Rhiel
Modullevel: ---
Modulart: je nach Studiengang Pflicht oder Wahlpflicht
Lern-/Lehrform / Type of program:
- Lecture (1 CP), seminar (1 CP) & practical course (4 CP)
  - Seminar and laboratory work, at three days for three weeks

Vorkenntnisse / Previous knowledge:

Examination:

Final exam of module:
Time of examination: after delivery of the two course assessments
Type of examination:
- One assessment of examination: (seminar presentation, poster).
  - 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:
- Seminar: 1.00
- Practical: 4.00

Frequency:
- Seminar: 14 h
- Practical: 56 h

Workload attendance:
- Total time of attendance for the module: 70 h