mar621 - Profile Module Techniques in light microscopy and electron microscopy

Module label: 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

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 immune-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:
- MM (Mastermodul)
Modulart:
- 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:

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<tr>
<th>Examination</th>
<th>Time of examination</th>
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<tr>
<td>Final exam of module</td>
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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 | Comment | SWS | Frequency | Workload attendance |
------------|---------|-----|-----------|---------------------|
Seminar     |         | 1.00|          | 14 h                |
Practical   |         | 4.00|          | 56 h                |

Total time of attendance for the module: 70 h