mar570 - Profile Module Introduction to DNA-sequencing and sequence analysis

Profile Module Introduction to DNA-sequencing and sequence analysis

Module label: Profile Module Introduction to DNA-sequencing and sequence analysis
Module code: mar570
Credit points: 6.0 KP
Workload: 180 h
Used in course of study:
- Master's Programme Microbiology > Mastermodule

Contact person:
- Module responsibility: Thorsten Henning Brinkhoff
- Authorized examiners:
  - Thorsten Henning Brinkhoff
  - Liliana Cristina Moraru
- Module counseling:
  - Liliana Cristina Moraru

Entry requirements:
Lecture during the course

Skills to be acquired in this module:
- sequence DNA by Sanger sequencing
- assemble DNA sequences
- use internet databases for sequence comparison
- use the various facilities of the NCBI database
- analyze bacterial genomes for presence of specific genes
- use ARB, databases and literature data to create phylogenetic trees
- design primers and probes
- present and discuss scientific results
- write a scientific protocol

Module contents:
Introduction into DNA-sequencing and sequence analysis: The course starts with a lecture on the first two days. During the following days the participants will give seminar talks about different scientific studies for which DNA sequencing was highly relevant. DNA sequencing will be taught in the lab of the working group. Sequence analysis, introduction into the use of various internet databases and the phylogeny program ARB will be demonstrated by individual use of laptops of the institute.

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 | Brinkhoff
Modulelevel: 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:
- Final exam of module
- Examination:
- Time of examination:
- Type of examination:
  - One assessment of examination:
    - Portfolio (seminar presentation, written protocol)
    - Protocol (75 %), seminar presentation (25 %).
    - 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.)
<table>
<thead>
<tr>
<th>Course type</th>
<th>Comment</th>
<th>SWS</th>
<th>Frequency</th>
<th>Workload attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar</td>
<td></td>
<td>1.00</td>
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<td>14 h</td>
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<tr>
<td>Practical</td>
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<td>4.00</td>
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**Total time of attendance for the module**

70 h