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

<table>
<thead>
<tr>
<th>Module label</th>
<th>Profile Module Introduction to DNA-sequencing and sequence analysis</th>
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<tbody>
<tr>
<td>Module code</td>
<td>mar570</td>
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<tr>
<td>Credit points</td>
<td>6.0 KP</td>
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<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
<tr>
<td>Used in course of study</td>
<td>• Master's Programme Microbiology &gt; Mastermodule</td>
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<td>Contact person</td>
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Module responsibility
- Thorsten Henning Brinkhoff
- Liliana Cristina Moraru

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

Module level
MM (Mastermodul)

Modulart
Wahlpflicht

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

Vorkenntnisse / Previous knowledge

Examination
Type of examination
Final exam of module
One assessment of examination:
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>
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<tbody>
<tr>
<td>Seminar</td>
<td></td>
<td>1.00</td>
<td></td>
<td>14 h</td>
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<tr>
<td>Practical</td>
<td></td>
<td>4.00</td>
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<td>56 h</td>
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**Total time of attendance for the module**

70 h