bio605 - Molecular Genetics and Cell Biology

Module label: Molecular Genetics and Cell Biology
Module code: bio605
Credit points: 12.0 KP
Workload: 360 h

Used in course of study:
- Master's Programme Biology > Background Modules
- Master's Programme Neuroscience > Background Modules

Contact person:
- Module responsibility: John Neidhardt
- Authorized examiners: John Neidhardt, Karl-Wilhelm Koch, Kathrin Thedieck
- Module counseling: Karl-Wilhelm Koch, Kathrin Thedieck

Entry requirements:
- ++ deepened biological expertise
- ++ deepened knowledge of biological working methods
- + data analysis skills
- ++ interdisciplinary thinking
- + critical and analytical thinking
- + independent searching and knowledge of scientific literature
- + data presentation and discussion in German and English (written and spoken)
- + teamwork
- + ethics and professional behaviour
- + project and time management

Addressing students with an emphasis on molecular biology, molecular genetics, cell biology, and neurobiology.

Module contents:
- Lecture: To improve knowledge in molecular genetics, molecular biology and cell biology in correlation with human diseases.
- Exercise: Learn to transfer the theoretical knowledge to experiments. Gaining methodological knowledge in molecular genetics, cell biology and therapeutic approaches. Initial training on how to perform research projects.
- Subjects of the lecture and seminar: Molecular bases of neurodegenerative diseases, structure and function of DNA/RNA/proteins/membranes, cytoskeleton, cell cycle, programmed cell death, cells in the social structure.
- Exercises: Learning current methods of molecular biology and human genetics; high throughput technologies, introduction to cell cultivation techniques.

Reader's advisory:
- Textbooks of Cell Biology
- Links: [http://www.uni-oldenburg.de/humangenetik/](http://www.uni-oldenburg.de/humangenetik/)

Language of instruction: English

Duration (semesters): 1 Semester

Module frequency: MM (Mastermodul / Master module)

Module capacity: 15

Reference text:
- associated with bio900

Lern-/Lehrform / Type of program:
- Wahlpfllicht / Elective

Vorkenntnisse / Previous knowledge:

Examination:
- Time of examination: Final exam of module
- Type of examination:
  - written examination (70 %), paper(s)
  - presentation 30 %;
  - not graded: signed lab protocols,
  - regular active participation is required for the module to be passed.

Course type:
- Lecture
- Comment: SWS
- SWS: 2.00
- Frequency: WiSe
- Workload attendance: 28 h
<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>
<td>WiSe</td>
<td>14 h</td>
</tr>
<tr>
<td>Exercises</td>
<td></td>
<td>5.00</td>
<td>WiSe</td>
<td>70 h</td>
</tr>
</tbody>
</table>

**Total time of attendance for the module**

112 h