According to the bilingual concept, Biology is taught in modules, some in English and some in German. Content printed in *italics* will be taught in English.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>1. <em>Cells</em></td>
</tr>
<tr>
<td></td>
<td>- <em>impact of the microscope</em></td>
</tr>
<tr>
<td></td>
<td>- <em>the cell as the basic unit of all life</em></td>
</tr>
<tr>
<td></td>
<td>2. <em>Cell structure and life cycle of bacteria</em></td>
</tr>
<tr>
<td></td>
<td>3. <em>From individual cells to multicellular organisms</em></td>
</tr>
<tr>
<td></td>
<td>- <em>cell structure and life forms of single cell organisms</em> (plant-like and animal-like)*</td>
</tr>
<tr>
<td></td>
<td>- <em>from single cell organisms to multicellular organisms, e.g. green algae</em></td>
</tr>
<tr>
<td></td>
<td>4. Invertebrates and their habitats</td>
</tr>
<tr>
<td></td>
<td>5. Movement – a property of life</td>
</tr>
</tbody>
</table>
| Grade 8         | 1. Metabolism in humans  
|                | - nutrition (and malnutrition) and digestion  
|                | - blood and the circulatory system (i.e. cardiovascular diseases)  
|                | - respiratory system (i.e. why is smoking dangerous to your health?)  
|                | 2. Senses, nerves and hormones  
|                | - sensory organs  
|                | - nervous system (i.e. the danger of addictive substances)  
|                | - Biological responses (i.e. stress response)  
|                | 3. Human reproduction and sexuality  

| Grade 9         | 1. Anatomy and physiology of plants  
|                | 2. Health and illness  
|                | - infectious diseases  

| Grade 10        | 1. Organisms in their environments  
|                | - ecosystem forest  
|                | 2. Cell biology  
|                | - structure and functions of cell organelles  
|                | 3. Genetics  
|                | - classical genetics (i.e. Mendel, genetic diseases)  
|                | - introduction to molecular genetics (i.e. cell cycle, mitosis, meiosis)  
|                | 4. Evolution  
|                | - introduction to the theory of evolution  
|                | - proof of evolution (i.e. fossils, age determination)  
|                | - human evolution  
|                | Optional: Formation of Earth  

| Grade 11        | 1. The cell as a structural and functional unit  
|                | - microscopes and microscopy  
|                | - cell components and their functions  

2
2. **Plasma membrane**  
   - **discovery of the plasma membrane**  
   - **transport mechanisms**

3. **The role of enzymes as the cell’s biological catalysts**  
   - **structure**, **function** and **mode of action of enzymes**  
   - **influencing factors** (i.e. enzyme inhibition)  
   - **enzyme regulation**

4. **Metabolic processes**  
   - **photosynthesis**  
   - **cellular respiration**

5. **Molecular genetics**  
   - **human genome** (i.e. analysis of karyograms)  
   - **mitosis and meiosis**  
   - **structure of DNA**  
   - **DNA replication**  
   - **protein synthesis**  
   - **genetic engineering**

6. **Ecology**  
   - **applied ecology**  
   - **population growth**  
   - **demographics**  
   - **biological interaction**

**Grade 12**  
3 hours/week

1. **Neurophysiology**  
   - **stimulus-response circuit**  
   - **structure**, **function** and **types of neurons** (structure-function relations)  
   - **stimulus conduction**: resting potential, action potential, types of AP conduction  
   - **structure and function of synapses**  
   - **effect of psychoactive substances and neurotoxins on neurons**  
   - **brain structures and function**  
   - **nervous systems of animals**
Evaluation of student performance:

We evaluate the individual student performance with regards to the acquired knowledge, methods expertise as well as self and social competence by means of appropriate tests and learning situations in individual and cooperative forms of learning.

This evaluation is done on the basis of written, oral and hands-on testing, such as:

- written and oral performance evaluation and class exams,
- experimental tasks and appropriate documentation (e.g. microscopic drawings, lab reports),
- class participation,
- presentations.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number of tests/exams</th>
<th>Test/exam performance</th>
<th>Remaining class performance</th>
<th>Weighting of performance in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/8</td>
<td>1 per semester</td>
<td>40</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1 class test if the subject is taught for only one semester out of the school year, or 1 written test per semester</td>
<td>40</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2 per semester</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>11 and 12/1</td>
<td>1 or 2 per semester¹</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>12/2</td>
<td>1 per semester</td>
<td>40</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

¹ As adopted by the Department Meeting as of the 2017/18 school year