### S163 Introduction to experimental plant ecology

**Coordinator:** Prof. Dr. W. Bilger  
**Teaching Staff:** Prof. Dr. W. Bilger  
**Section for SSE:** E - Open Studies  
**Section for EM:** B8 - Functional Ecology  
**Status for SSE:** Elective  
**Status for EM:** Elective

<table>
<thead>
<tr>
<th>Contact time overall:</th>
<th>69 hours</th>
<th>Credit points:</th>
<th>5 ECTS</th>
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<tbody>
<tr>
<td>Independent study:</td>
<td>81 hours</td>
<td>Prerequisites:</td>
<td>None</td>
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<tr>
<td>Overall workload:</td>
<td>150 hours</td>
<td>Language of tuition:</td>
<td>German / English</td>
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<td>Term (Semester):</td>
<td>3 Winter</td>
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<td>Class size:</td>
<td>6</td>
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**Competences the module has been designed to develop:**

- **Mastery of subject matter:** strong  
- **Mastery of methods:** strong  
- **Application of knowledge and understanding:** medium  
- **Problem solving competences:** medium  
- **Communication competences:** medium  
- **Learning competences:** minor
**Content:**
Relative growth rate, light and nutrient use efficiency of photosynthesis and plant growth, respiration, cost of secondary compound biosynthesis, effects of elevated CO2 on plants, biofuel

**Learning outcomes:**
Students are able to employ methods to assess relative growth rate, gas exchange, contents of secondary compounds. They are able to understand the economy of plant growth as a balance of energy saved by photosynthesis and lost by respiration in the whole plant. They are able to relate biosynthesis of secondary compounds to energy balance. They have an insight into light use efficiency of plant growth. They have an insight into the effects of nutrient limitation on the energy balance. The students can design experiments and analyze the results using simple statistical methods. They can communicate the results orally and in written form.

**References:**

**Recommended previous knowledge:**
Basic knowledge on plant (eco)physiology, photosynthesis

**Teaching media:**
PPT of lecture; original literature;

**Assessment:**
50% seminar, 50% report

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