**phy600 - Photonics**

<table>
<thead>
<tr>
<th>Module label</th>
<th>Photonics</th>
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<tbody>
<tr>
<td>Module code</td>
<td>phy600</td>
</tr>
<tr>
<td>Credit points</td>
<td>6.0 KP</td>
</tr>
<tr>
<td>Workload</td>
<td>180 h</td>
</tr>
<tr>
<td>(Attendance: 56 hrs, Self study: 124 hrs)</td>
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<tr>
<td>Used in course of study</td>
<td>- Master's Programme Engineering Physics &gt; Advanced Physics</td>
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<tr>
<td>Contact person</td>
<td>Module responsibility</td>
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<td>Bert Struve</td>
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**Entry requirements**

Basic knowledge on optics, electrodynamics and atomic physics

**Skills to be acquired in this module**

Starting from basics, the module yields advanced knowledge of the physics of lasers, of interaction of optical radiation with matter, optoelectronic principles and components as, e.g. laser beams, different laser types, light emitters, detectors, modulators. The students acquire skills in working with lasers and optoelectronic components.

**Module contents**

Fundamentals of lasers (optical gain, optical resonator, laser beams), laser types, laser safety; electronic bandstructures in matter, semiconductor junctions, radiation laws, light emitting diodes, photodetectors, solar cells

**Reader’s advisory**


**Links**

Languages of instruction: German, English

**Duration (semesters)**

1 Semester

**Module frequency**

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**Module capacity**

unlimited

**Modulart**

je nach Studiengang Pflicht oder Wahlpflicht

**Lern-/Lehrform / Type of program**

Lecture: 4 hrs/week, practical applications included in lecture

**Vorkenntnisse / Previous knowledge**

**Examination**

Time of examination

Type of examination

2 hr written examination or 30 min oral examination or experimental work or homework or presentation

**Course type**

Lecture

**SWS**

4.00

**Frequency**

SuSe or WiSe

**Workload attendance**

56 h