**Degree:** M.Sc. in Physics (PO von 2014)

**Module:**  
**Specialization:** Advanced Experimental Physics  
**Module No.:** physics62a

**Course:** Photonic Devices  
**Course No.:** physics640

<table>
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<tr>
<th>Category</th>
<th>Type</th>
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<th>Teaching hours</th>
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<td>Elective</td>
<td>Lecture with exercises</td>
<td>English</td>
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**Requirements for Participation:**

**Preparation:**

**Form of Testing and Examination:**
Requirements for the examination (written or oral): successful work within the exercises

**Length of Course:**
1 semester

**Aims of the Course:**
To make the students understand physical and technological foundations of photonics and enable them to practically apply their knowledge in research and development.

**Contents of the Course:**
Optics: Rays, Beams, Waves; Fourieroptics;  
Light sources; Detectors; Imaging devices  
Waveguides, Fibers; Photonic Crystals; Metamaterials;  
Optical amplification; Acoustooptics, electrooptics;  
Photonic circuits, optical communication  
Applications

**Recommended Literature:**
A. Yariv; Photonics: Optical Electronics in Modern Communications (Oxford Univ. Press 6th edition 2006)  
C. Yeh; Applied Photonics (Academic Press, 1994)  
R. Menzel; Photonics (Springer, Berlin 2001)