## Module title
Optics and Waves - Exercises

## Abbreviation
11-E-OA-152-m01

## Module coordinator
Managing Director of the Institute of Applied Physics

## Module offered by
Faculty of Physics and Astronomy

## ECTS
5

## Method of grading
Numerical grade

## Only after succ. compl. of module(s)
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## Duration
1 semester

## Module level
Undergraduate

## Other prerequisites
-

### Contents
Exercises in Optics according to the content of 11-E-OAV. Among others Basic concepts, Fermat's principle, optical path, light in matter, polarization, Geometrical Optics, Optical instruments, wave optics, interference, thin films, interferometers, Fraunhofer diffraction optical grating, Fresnel diffraction, holography, wave packets, wave equation and Schrödinger equation, quantum structure of nature, etc.

### Intended learning outcomes
The students understand the basic principles and contexts of radiation, wave and quantum optics. They are able to apply mathematical methods to the formulation of physical contexts and autonomously apply their knowledge to the solution of mathematical-physical tasks.

### Courses
- **Ü (2)**
  - Module taught in: Ü: German or English

### Method of assessment
- Written examination (approx. 120 minutes)
  - Language of assessment: German and/or English

### Allocation of places
-

### Additional information
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### Referred to in LPO I
- § 53 I Nr. 1 a)
- § 77 I Nr. 1 a)

### Module appears in
- Bachelor' degree (1 major) Physics (2015)
- Bachelor' degree (1 major) Nanostructure Technology (2015)
- First state examination for the teaching degree Grundschule Physics (2015)
- First state examination for the teaching degree Realschule Physics (2015)
- First state examination for the teaching degree Gymnasium Physics (2015)
- First state examination for the teaching degree Mittelschule Physics (2015)