



UNIVERSITY OF NIŠ

Course Unit Descriptor

Faculty

Faculty of Mechanical Engineering

GENERAL INFORMATION

| | | | |
|------------------------------|---|--|---|
| Study Program | Mechanical Engineering | | |
| Study Module (if applicable) | - | | |
| Course Title | Optical Elements in Mechatronics | | |
| Level of Study | <input checked="" type="checkbox"/> Bachelor | <input type="checkbox"/> Master's | <input type="checkbox"/> Doctoral |
| Type of Course | <input type="checkbox"/> Obligatory | <input checked="" type="checkbox"/> Elective | |
| Semester | <input checked="" type="checkbox"/> Autumn | <input type="checkbox"/> Spring | |
| Year of Study | III | | |
| Number of ECTS Allocated | 6 | | |
| Name of Lecturer/Lecturers | Nenad T. Pavlović | | |
| Teaching Mode | <input checked="" type="checkbox"/> Lectures | <input type="checkbox"/> Group tutorials | <input type="checkbox"/> Individual tutorials |
| | <input checked="" type="checkbox"/> Laboratory work | <input checked="" type="checkbox"/> Project work | <input checked="" type="checkbox"/> Seminar |
| | <input type="checkbox"/> Distance learning | <input type="checkbox"/> Blended learning | <input type="checkbox"/> Other |

Purpose and Overview (max. 5 sentences)

Complement of the basic knowledge in physics in the fields of geometric optics, wave optics and optical transformation. Gaining new knowledge in the field of lens, apertures, optical instruments and digital image processing. The ability to calculate and use the optical elements in order to realize corresponding functions in mechatronic devices. The ability to measure and calibrate by means of optical devices.

Syllabus (brief outline and summary of topics, max. 10 sentences)

Geometric optics. Wave optics. Optical transformations. Lens. Apertures. Optical instruments. Basics of digital image processing.

Language of Instruction

- Serbian (complete course) English (complete course) Other _____ (complete course)
- Serbian with English mentoring Serbian with German mentoring

Assessment Methods and Criteria

| Pre exam Duties | Points | Final Exam | Points |
|--------------------------|--------|---------------------|--------|
| Activity During Lectures | 10 | Written Examination | 30 |

| | | | |
|---------------------------|-----------|-------------------------|------------|
| Practical Teaching | 30 | Oral Examination | 30 |
| Teaching Colloquia | 0 | Overall Sum | 100 |

***Final examination mark is formed in accordance with the Institutional documents**