

DESCRIPTION OF THE COURSES

- Course code: **ARR3311**
- Course title: **COORDINATE MEASURING TECHNIQUE – MEASURING MACHINES AND ROBOTS**
- Language of the lecturer: polish

<i>Course form</i>	Lecture	Classes	Laboratory	Project	Seminar
<i>Number of hours/week*</i>	1				
<i>Number of hours/semester*</i>	15				
<i>Form of the course completion</i>	test				
ECTS credits					
Total Student's Workload					

- Level of the course (basic/advanced): basic
- Prerequisites: Introduction into metrology
- Name, first name and degree of the lecturer/supervisor: Wojciech Grotowski Ph.D.
- Names, first names and degrees of the team's members:
- Year: 4..... Semester: 8.....
- Type of the course (obligatory/optional): optional
- Aims of the course (effects of the course): Gaining knowledge of coordinate measuring technique, and designing measurement cycle.
- Form of the teaching (traditional/e-learning): traditional
- Course description: Coordinate measuring technique is characterized by a different than the classic metrology measuring strategy. It bases on a discreet form of measuring information converted by the computer. The course presents problems concerning: mathematical description of typical procedures applied in the coordinate technique; examples of the construction of coordinate machines and measuring robots; typical software; metrological analysis.
- Lecture:

<i>Particular lectures contents</i>	<i>Number of hours</i>
1. Introduction into coordinate measuring technique	1
2. Mathematical description of typical procedures	3
3. Determination of coordinates of geometrical elements and algorithms of substitution element determination	3
4. Coordinate measuring machine construction	1
5. Measuring systems and heads	2
6. Exemplary measuring systems	2
7. Preciseness of machines – analytical techniques – error determination	2
8. Methods of measuring machine attestation	1

- Classes – the contents:
- Seminars – the contents:
- Laboratory – the contents:
- Project – the contents:
- Basic literature: Ratajczyk E.: Współrzędnościowa technika pomiarowa, OWPW W-wa 1994
- Additional literature: Jakubiec W., Malinowski J.: Metrologia wielkości geometrycznych, WNT W-wa 1999
- Conditions of the course acceptance/creditation:

* - depending on a system of studies