

Application of Robots					AR-201
Rota	Duration	Semester	SWS	Credit Points	Workload
annually SS	1 Semester	2nd (Semester)	3 SWS	3	90 h
<b>1</b>	<b>Modul structure</b>				
	<b>Course (Abbreviation)</b>	<b>Type/ SWS</b>	<b>Presence</b>	<b>Self study</b>	<b>Credits</b>
	a) Application of Robots (AoR) (APPL)	Lecture/ 2 SWS	30 h	60 h	3
<b>2</b>	<b>Language</b> English				
<b>3</b>	<b>Content</b> The following topics are discussed in detail: <ul style="list-style-type: none"> <li>• Introduction to the term “robot system”</li> <li>• Components of industrial robot systems: robots, effectors, feeding systems, clamping devices, control and communication systems, safety systems and other peripheral devices</li> <li>• Interaction of the individual components</li> <li>• Robot applications in production and manufacturing systems</li> <li>• Robot applications for assembly tasks</li> </ul> <b>Literature:</b> <ul style="list-style-type: none"> <li>• William R. Tanner: Industrial Robots: Applications</li> <li>• Phillip John McKerrow: Introduction to Robotics</li> </ul>				
<b>4</b>	<b>Goals</b> This lecture treats applications of robotics in the industrial environment. The first part of the lecture focuses on robot systems. On the basis of practical examples the components of industrial robot systems and their interaction in a production process are systematically analyzed and described. Based on this theoretical background an overview of state of the art applications is given, in order to deepen the subjects and to establish the relationship between theory and practice. In addition, actual research work is presented.				
<b>5</b>	<b>Examination Requirements</b> All students are required to solve four assignment problems. The final exam will be an oral (30 minutes) or written (2 hour) exam, depending on the number of participants.				
<b>6</b>	<b>Formality of Examination</b> <input checked="" type="checkbox"/> Module Finals <span style="float: right;"><input type="checkbox"/> Accumulated Grade</span>				
<b>7</b>	<b>Module Requirements (Prerequisites)</b>				
<b>8</b>	<b>Allocation to Curriculum:</b> Program: Automation & Robotics, Field of study: <b>Robotics</b>				
<b>9</b>	<b>Responsibility/ Lecturer</b> <i>Prof. Dr. B. Kuhlenkötter/Dr. A. Hypki</i>				