

Course title	<i>Student Projects to implement Augmented Reality App</i>
Course code	<i>AR</i>
Module coordinator	<i>Miriam Heinrich</i>
Lecturer	<i>Prof. Dr.-Ing. Fahmi Bellalouna</i>
Level of course	<i>Bachelor / Master</i>
Recommended prerequisites	<ul style="list-style-type: none"> • <i>Programming skills (e.g. C#, C++).</i> • <i>Interest in interdisciplinary topics (gaming, Augmented Reality, computer science, programming, CAD, mechanical engineering)</i>
Type of course	<i>Student project</i>
Weekly lecture hours (SWS)	<i>6</i>
ECTS credits	<i>6</i>
Workload	<i>In total 180 h as project work</i>
Assessment (grading; pass/fail)	<i>graded</i>
Regular cycle	<i>Each semester</i>
Language of instruction	<i>English</i>
Contents:	<i>Augmented Reality Technology (AR) has gained a lot of importance in the industry in recent years. This development is mainly due to the high performance of AR hardware and software and steadily decreasing prices of AR systems. Through the use of AR technology, operating-related data about physical objects (e.g., machinery, vehicles, buildings) can be viewed in real time. With the help of this data, e.g. complex system functions can be explained and visualized (assembly / disassembly, maintenance, service).</i>
Learning outcome (competencies):	<p><i>Within several student projects, AR apps for different technical systems will be implemented. The implementation of the AR apps comprises i.a. following tasks:</i></p> <ul style="list-style-type: none"> • <i>Realtime rendering of 3D Graphic data (e.g. 3D CAD data) to technical systems.</i> • <i>Handling functions of the presented 3D Graphic data (e.g. section view, exploded view).</i> • <i>Viewing of system functions (e.g. through animations).</i>
Teaching methods	<input type="checkbox"/> <i>Lecture</i> <input checked="" type="checkbox"/> <i>Group work</i> <input type="checkbox"/> <i>Exercises</i> <input type="checkbox"/> <i>Simulation</i> <input type="checkbox"/> <i>Video feedback</i> <input type="checkbox"/> <i>Others:</i>
Assessment methods	<i>Project implementation and submit of a project report.</i>
Recommended reading	
Additional information	
Recognition of credits	