VIDZEMES AUGSTSKOLA

FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION

Course Title:	**RESEARCH METHODOLOGIES AND SCIENTIFIC PUBLICATIONS**				
Course code (VAIS):	**The course code will be specified after receiving the license**				
Study programme:	**Virtual reality and mobile technologies**				
Level of Study programme:	☐ 1st level professional higher education				
	☐ Professional Bachelor				
	☒ Professional Master				
	☐ PhD level				
Type of Study programme:	☒ Compulsory course (Part A)				
	☐ Professional specialization courses (Part B, compulsory)				
	☐ Professional specialization optional courses (Part B, optional)				
	☐ Elective courses (Part C)				
Course Workload:	**Credits**	**ECTS**	**Academic hours**	**Contact hours**	**Independent work hours**
	2	3	80	24	56
Course Author/ Tutor:	**Sarma Cakula** Prof., Ph.D Sarma.cakula@va.lv Consultation: according to the schedule for each semester				
Course Form:	Full time				
Study year, semester:	1st year, 2nd semester				
Language:	Latvian, English				
Prerequisites for the Course:	Basic understanding of engineering and data analyses				
Course Summary:	The aim of this course is to give practical and theoretical knowledge of creative research in field of virtual reality and mobile technologies, use critical, creative thinking, problem solving and data evaluation focusing to scientific research and publication.				
Course Methods:	Lectures, practical activities, workshops, theory tests, final assessment etc.				
Assessment:	Examination				
Requirements for Credits:	1. Passed each lecture's practical activity, practical exercises must be prepared and delivered in determined time. 2. Positive evaluation must be received for all practical works, control tests, exercises and pre-tests. 3. Final examination consists of oral questions and practical activity. If all requirements are not met on time, student is not allowed to pass the exam. For delayed exam requirements, max score is decreased.				
Course Contents:	Research design in engineering. Quantitative & Qualitative Approaches in Engineering. Factors that encourage creative thinking, creative environments. Factors that suppress creative thinking. Open-ended and closed problems in virtual reality and mobile technology field. Analyzing scientific publication in field of virtual and augment reality, mobile technolgies Innovative research, criteria of evaluation. Inferential statistics, statistical tests, correlation. Preparation of scientific publication. Scientific publications, scientific data bases and scientific journals, indexing, developing scientific publications. Presentation of scientific publication, scientific conferences.				
Learning Outcomes; the evaluation methods and	**Learning Outcomes**			**The evaluation methods and criteria**	

criteria	**Knowledge**	
	Knowledge about virtual and augment reality, mobile technologies	Lectures, practical works
	Able to demonstrate advanced or extensive knowledge and understanding, a part of which conforms with the most recent findings in the virtual and augment reality, mobile technologies	Lectures, practical works
	Knowledge about creative thinking and innovative qualitative and quantitative research research.	Lectures, practical works
	Knowledge about data containing, analysing and evaluation.	Lectures, practical works
	Skills	
	Able to use independently theory, methods and problem solving skills to perform research.	Test
	Able to provide arguments when explaining or discussing complex or systemic aspects of the concrete branch of science or professional field both to specialists and non-specialists.	Test
	Able to guide independently the improvement of one's own competences and specialisation, to assume responsibility for the results of staff and group work and analyse them, to perform research or further learning under complex or unpredictable conditions, if necessary, change them, using new approaches.	Test
	Competency	
	Able to define independently and critically analyse complex scientific and professional problems, substantiate decisions and, if necessary, carry out additional analysis	Individual exam with oral questions and practical assessment.
	Able to integrate knowledge of various fields, contribute to the creation of new knowledge, research and the development of new research methods.	Individual exam with oral questions and practical assessment.
	Demonstrate understanding and ethical responsibility for the possible impact of the scientific results on environment and society.	Individual exam with oral questions and practical assessment.
Course Compulsory literature:	1. John W. Creswell. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage Publications, 2009, ISBN 978-1-4129-6556-9 2. Scopus, Web of Science, ScienceDirect	
Course confirmation date:	17.01.2017.	
Date of course description update:	17.01.2017.	

Study Course Plan:

Date	Theme	Academic hours		Study Form
		Contact hours	Independent work hours	
	Research design in engineering. Quantitative & Qualitative Approaches in Engineering.	4	9	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Factors that encourage creative thinking, creative environments. Factors that suppress creative thinking. Open-ended and closed problems in virtual reality and mobile technology field.	4	9	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Analyzing scientific publication in field of virtual and augment reality, mobile technologies. Innovative research, criteria of evaluation.	4	9	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Inferential statistics, statistical tests, correlation.	4	9	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Preparation of scientific publication. Scientific publications, scientific data bases and scientific journals, indexing, developing scientific publications.	4	9	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Presentation of scientific publication, scientific conferences.	4	11	Theoretical lecture. Practical activity. Online test. Skills challenging workshop.
	Final examination	8	-	Final examination with oral questions and practical activity.