



UNIVERSITETI I MITROVICËS
'ISA BOLETINI'

Course Curriculum Model (Syllabus)		
Faculty:	FACULTY OF MECHANICAL AND COMPUTER ENGINEERING	
Department:	Computer Science and Engineering	
Level:	Bachelor	
Code of the course:	207 CSE	
Course:	CAE and Digital Factory	
Course Status:	-	Mandatory, Elective
Semester:	(III)	Winter/Winter
Number of hours per week:	2+2	
ECTS:	4	
Time / location:	Wensday, 9 ⁰⁰ -10 ³⁰ , S308	
Year of studies:	2021/2022	
Lecturer:	Dr. Fitim Zeqiri	
Assistant:	Dr. Fitim Zeqiri	
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Telefon:		
C o n t e n t	To learn the concepts of automation, Discrete Control Systems, Advanced Manufacturing Processes, Computerized Numerical Control Technology. Concept and scope of industrial automation- Industrial Robots-Discrete Control, CAD/CAM/CAE, PLC, CNC systems, Part Programming, APT programming, Latest trends in Manufacturing.	
P u r p o s e	Fundamental knowledge in Manufacturing systems is desirable	
A c c e s s i b i l i t y	After completing the course, the students will be able to identify and describe the different areas of production automation and conversant with the latest trends in manufacturing.	

	Weeks	Lecture
P r o g r a m	<i>First week:</i>	Concept and scope of industrial automation
	<i>Second week:</i>	Sensors, Actuators and other control system components.
	<i>Third week:</i>	Concepts, features, fundamentals, components, classification,
	<i>Fourth week:</i>	Design considerations of NC machine tools –Tooling,
	<i>Fifth week:</i>	Maintenance of CNC machines.
	<i>Sixth week:</i>	CAE technology
	<i>Seventh week:</i>	Robotics software control
	<i>Eighth week:</i>	Controls and System devices
	<i>Ninth week:</i>	Control loops of NC system, Reference pulse and sampled data techniques – CNC adaptive control – ACO and ACC systems.
	<i>Tenth week:</i>	Fundamentals of part programming.
	<i>Eleventh week:</i>	Manual part programming, Computer aided part programming - APT programming
	<i>Twelfth week:</i>	Concepts of GT, FMS, CIM.
	<i>Thirteenth week:</i>	Additive manufacturing concepts,
	<i>Fourteenth week:</i>	Green and sustainable manufacturing.
	<i>Fifteenth week :</i>	Latest trends and developments in Manufacturing.

	Literature
L i t e r a t u r e	[1] Panagiotis Kyratsis, Konstantinos Kakoulis, Angelos P. Markopoulos, Advances in CAD/CAM/CAE Technologies , ISBN 978-3-03928-741-3 (PDF), 2020.
	[2] Shaban Buza, CAE and Digital Factory , WUS Austria and University of Prishtina, Prishtinë 2010
	<u>Literatura shitesë:</u>
	[1] G. Pahl & W. Beitz, Engineering Design, Third Edition, Springer-Verlag, London 2007
	[2] P. I. Kattan, Matlab Guide to Finite Elements, Springer-Verlag, Berlin 2009.
	[3] Shaban Buza, Sistemet CAD/CAM, WUS Austria and UP, Prishtinë 2009
	[4] Shaban Buza et al, CIM, EU Tempus DRIMS, 2012
	[5] James A. Rehg, Henry W. Kraebber, Computer-Integrated Manufacturing, Third Edition, Pearson and Prentice Hall, USA 2005

Lectures, exercises, individual work, experimental work, seminar papers, colloquia, essays, field work, group work, etc. Completed according to the specifics of your subjects!			
Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)			
Activity	Hours	Days/weeks	Total
Lectures	2	15	30
Exercise sessions (with TA)	2	15	30
Practical work	-	-	-
Office hours	2	2	4
Fieldwork	-	-	-
Midterms, seminars	4	2	8
Homework	2	5	10
Self-study	2	4	8
Final exam preparation	-	-	-
Time spent in exams	2	2	4
Projects, presentations, etc.	3	2	6
Total			100

E v a l u a t i o n	Teaching methodology: (according to the Statute and Regulation for studies of UMIB)		
	Tests / Colloquia (First Test) (Second test)	10% 10% 10%	
	Practical test during exercises (Essay)		
	Workshop seminar		
	Interpretation and presentation of artistic creativity and other works.		
	Assignments and courses during the semester	15%	
	Professional practice.		
	Other, Continuity		
	Final exam	55%	
	Total	: 100%	
	Final grade	Pikēt (%)	Nota
		91 – 100	10
		81 - 90	9
		71 - 80	8
		61 - 70	7
		51 - 60	6

Criteria for regular attendance and rules of etiquette during the organization of the lesson are set.

Computer work:

Graphic works, I have to draw and write with a computer. In the works it is obligatory to respect the criteria for both the visual and the content aspect of the required works.

Ethics in teaching:

Graphic works should be personal works of each student. There will be no tolerance for copying, "borrowing" from the Internet or any other material. The same or similar works will have negative evaluations in the final evaluation of the student.

Time:

In agreement with the students, the deadlines for submitting works will be determined. There will be no tolerance for delays in the submission of works. Failure to arrive at the time when the assignment is explained does not justify the student for not submitting the paper. The deadline will be given earlier. If you are going to travel abroad, then you need to submit the paperwork in advance. The student has the right to request a consultation with the professor whenever he / she deems it reasonable and necessary for the performance of his / her work.

Rules of conduct and academic policies:

- active participation of students in lectures o participation in discussion, comments and free expression of opinion, opinion and academic position (with arguments)
- Mandatory independent work and use of additional sources of information (various scientific websites, scientific journals, conference proceedings, etc.)
- Respecting lecture schedules without compromising academic freedom (silent cell phones) of respecting the word, thoughts and ideas of colleagues,
- It is not allowed to arrive late and leave without a valid reason from the lecture, test or exam o preparation and holding of relevant lectures, (obligation of the teacher).
- if the student is absent more than four times without reason in lectures and exercises, does not receive the signature for attendance. o the student cannot take the exam without an official document,

if the student is dissatisfied with the grade obtained, has the right to complain in writing to the dean, within two working days after the announcement of the results, UMIB Statute o if the student does not follow the rules, in the exam uses tools that are not allowed, it is evaluated with a negative grade.

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Mitrovicë; 8/01/2021

Dr. Fitim **ZEQIRI**