



UNIVERSITETI / UNIVERSITY
"ISA BOLETINI"
MITROVICË

Course Curriculum Model (Syllabus)		
Faculty:	FACULTY OF MECHANICAL AND COMPUTER ENGINEERING	
Department:	Mechanical Engineering and Economic Engineering	
Study Program	MSc in Manufacturing Technology and Management	
Level:	Master	
Code of the course:	115MTM	
Course:	Engineering Practice and Industry Integration	
Course Status:	Mandatory	Mandatory/Elective
Semester:	II	Winter/ Summer
Number of hours per week:	3 hours / week (contact + supervision)	
ECTS:	5	
Time / location:	Flexibility	
Academic Year / Semester	2026/2027	
Language of Instruction:	Albanian (with flexibility in English)	
Lecturer:	Prof. Ass. Dr. Fitim Zeqiri	
Assistant:		
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Telephone:		
Course Description	This course provides students with practical exposure to modern manufacturing environments. Students engage in engineering activities related to manufacturing processes, production systems, quality control, CAD/CAM technologies, automation, and industrial problem-solving through industrial visits, laboratory work, and industry-based assignments.	
Course Purpose / Course Goals	This course aims to familiarize students with real industrial environments and manufacturing technologies. It provides practical experience in engineering applications, production processes, quality assurance, automation systems, and industrial problem-solving while strengthening students' professional and technical skills required in modern manufacturing industries.	
Course Objectives	• To expose students to real manufacturing and industrial environments. • To strengthen the connection between theoretical knowledge and practical engineering applications. • To develop students' understanding of manufacturing processes, production systems, and industrial technologies. • To enhance students' ability to observe, analyze, and evaluate engineering practices in industry. • To familiarize students with industrial standards, workplace safety, and quality management practices. • To improve students' problem-solving, teamwork, communication, and technical reporting skills. • To prepare students for professional engineering practice and future collaboration with industrial organizations.	

Intended Learning Outcomes (ILOs)	Upon successful completion of the course, students will be able to: • Analyze manufacturing processes and production systems in industrial environments. • Apply engineering principles to solve practical manufacturing problems. • Evaluate the performance of manufacturing equipment and systems. • Use industrial tools and technologies relevant to modern manufacturing. • Prepare technical reports based on industrial observations and practical activities. • Demonstrate professional and ethical behavior in industrial environments.
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	Weeks	Lecture
Program	1-15	• Course overview, expectations, and assessment methods • Importance of academia–industry collaboration • Introduction to industrial practice and safety. • Manufacturing systems and plant organization. • Observation of machining operations. • CNC technologies and automation. • CAD/CAM applications in industry. • Quality control and inspection systems. • Lean manufacturing practices. • Mid-term project discussion. • Additive manufacturing applications. • Production planning practices. • Industrial maintenance systems. • Industry 4.0 applications. • Industrial case study analysis. • Preparation of final report. • Presentation of industrial practice outcomes.

Literature / Reading List:				
Literature	Core Textbooks: - Groover, M. P. <i>Automation, Production Systems, and Computer-Integrated Manufacturing</i>. Pearson. - Kalpakjian, S., & Schmid, S. R. <i>Manufacturing Engineering and Technology</i>. Pearson. - Schey, J. A. <i>Introduction to Manufacturing Processes</i>. McGraw-Hill. Supplementary Literature: W. Bolton. <i>Mechatronics: Electronic Control Systems in Mechanical and Electrical Engineering</i>. Pearson. S. Groover. <i>Work Systems and the Methods, Measurement, and Management of Work</i>. - Humphreys, P. et al. <i>Lean Manufacturing: Tools, Techniques, and How to Use Them</i>. Industry 4.0 / Modern Manufacturing: - Kagermann, H., Wahlster, W., & Helbig, J. <i>Recommendations for Implementing the Strategic Initiative INDUSTRIE 4.0</i>. - Industry reports and white papers from Siemens, Bosch, and other manufacturing companies. Standards and Practical Resources: - ISO 9001 – Quality Management Systems. - ISO 14001 – Environmental Management Systems. - Company manuals, technical documentation, and industrial case studies provided during course practice. - Bessant, J., & Tidd, J. <i>Innovation and Entrepreneurship</i> (Wiley). - Groover, M. P. <i>Fundamentals of Modern Manufacturing</i>. - Kerzner, H. <i>Project Management: A Systems Approach</i>. - Selected academic papers, industry reports, and case studies (to be provided).			
Teaching Methods	- Industrial visits and on-site observation in manufacturing companies - Practical training in real production environments - Supervised industrial practice and mentorship by engineers - Case-based learning from real industrial processes - Group work on practical engineering tasks and reports - Workshops focused on hands-on use of manufacturing tools and systems			
	Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)			
	Activity	Hours	Days/weeks	Total

	- Industrial practice / on-site training – 40 hours - Supervised practical activities in workshops/labs – 25 hours - Fieldwork and company visits – 15 hours - Project work (group/individual) – 20 hours - Technical report writing – 15 hours - Independent study and preparation – 10 hours			
Total				125

Evaluation Methods

- Industrial Practice Report – 40%
- Practical Assignment / Field Tasks – 30%
- Presentation of Industrial Practice Outcomes – 20%
- Attendance and Active Participation – 10%

Evaluation	Final grade	Points (%)	Mark
		91 – 100	10
		81 - 90	9
		71 - 80	8
		61 - 70	7
		51 - 60	6

Attendance, Ethics and Practical Work Rules

Regular attendance and active participation in all practical activities, industrial visits, and supervised sessions is mandatory. Students are required to follow all organizational and safety rules during industrial and workshop activities.

Practical Work Requirements

All practical assignments, reports, and project documentation must be prepared using a computer. Students are required to ensure both the technical accuracy and professional presentation of their work, including proper formatting, clarity, and structured reporting according to given guidelines.

Academic Ethics

All practical reports and project outputs must be original work of each student or assigned group. Plagiarism, copying from other students, internet sources, or any other external material without proper referencing is strictly prohibited. Similar or identical submissions will be considered academic misconduct and will negatively affect the final grade.

Deadlines and Time Management

Submission deadlines for all practical tasks and reports will be clearly defined in agreement with students at the beginning of each activity. Late submissions will not be accepted unless justified by valid reasons. Students are expected to manage their time effectively, especially when participating in industrial visits or external activities. If a student is unable to attend a scheduled activity (including travel or other commitments), they are responsible for completing and submitting the required work in advance.

Consultations

Students have the right to request consultations with the instructor regarding practical tasks, industrial reports, or project development whenever necessary and reasonable.

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.

Plagiarism or cheating will be penalized according to university regulations.