



UNIVERSITETI / UNIVERSITY  
"ISA BOLETINI"  
MITROVICË

| Course Curriculum Model (Syllabus) |                                                                                                                                                                                                                                                                                                                                                                                  |                    |
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| Faculty:                           | FACULTY OF MECHANICAL AND COMPUTER ENGINEERING                                                                                                                                                                                                                                                                                                                                   |                    |
| Department:                        | Computer Science and Engineering                                                                                                                                                                                                                                                                                                                                                 |                    |
| Study Program                      | BSc. In Computer Science and Engineering                                                                                                                                                                                                                                                                                                                                         |                    |
| Level:                             | Bachelor                                                                                                                                                                                                                                                                                                                                                                         |                    |
| Code of the course:                | 111CSE                                                                                                                                                                                                                                                                                                                                                                           |                    |
| Course:                            | Computer-Aided Design - CAD                                                                                                                                                                                                                                                                                                                                                      |                    |
| Course Status:                     | Elective                                                                                                                                                                                                                                                                                                                                                                         | Mandatory/Elective |
| Semester:                          | II                                                                                                                                                                                                                                                                                                                                                                               | Winter/Summer      |
| Number of hours per week:          | 2+2                                                                                                                                                                                                                                                                                                                                                                              |                    |
| ECTS:                              | 5                                                                                                                                                                                                                                                                                                                                                                                |                    |
| Time / location:                   | Monday, 9 <sup>00</sup> -10 <sup>30</sup> , K3                                                                                                                                                                                                                                                                                                                                   |                    |
| Academic Year / Semester           | 2026/2027                                                                                                                                                                                                                                                                                                                                                                        |                    |
| Language of Instruction:           | Albanian (with flexibility in English)                                                                                                                                                                                                                                                                                                                                           |                    |
| Lecturer:                          | Prof. Ass. Dr. Fatmir Azemi                                                                                                                                                                                                                                                                                                                                                      |                    |
| Assistant:                         |                                                                                                                                                                                                                                                                                                                                                                                  |                    |
| Contact details:                   | Professor                                                                                                                                                                                                                                                                                                                                                                        | Assistant          |
| Email:                             |                                                                                                                                                                                                                                                                                                                                                                                  |                    |
| Telephone:                         |                                                                                                                                                                                                                                                                                                                                                                                  |                    |
| Course Description                 | This course introduces students to <b>AutoCAD</b> for 2D drafting and 3D modeling in engineering. It focuses on creating, editing, and managing technical drawings using layers, blocks, dimensions, and annotations. Students gain practical skills in producing accurate engineering documentation and basic 3D models, preparing them for real-world design and project work. |                    |
| Course Purpose / Course Goals      | The purpose of this course is to provide students with <b>fundamental knowledge and practical skills in AutoCAD</b> for engineering design.                                                                                                                                                                                                                                      |                    |
| Course Objective                   | The objectives of this course are to equip students with the ability to <b>create, edit, and manage 2D drawings and basic 3D models using AutoCAD</b> , applying industry standards and best practices to produce accurate engineering documentation and design projects.                                                                                                        |                    |

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| Intended Learning Outcomes (ILOs) | <b>Knowledge:</b> <ul style="list-style-type: none"> <li>• <b>K1:</b> Explain the role of CAD and AutoCAD in engineering design and documentation.</li> <li>• <b>K2:</b> Describe the main tools and features for 2D drafting, editing, and annotations.</li> <li>• <b>K3:</b> Identify principles of 3D modeling, visualization, and parametric design in AutoCAD.</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
|                                   | <b>Skills:</b> <ul style="list-style-type: none"> <li>• <b>S1:</b> Apply AutoCAD commands to create and modify 2D technical drawings.</li> <li>• <b>S2:</b> Develop and edit 3D models using AutoCAD tools.</li> <li>• <b>S3:</b> Prepare professional layouts, viewports, and print-ready engineering drawings.</li> </ul> <b>Competences:</b> <ul style="list-style-type: none"> <li>• <b>C1:</b> Organize and manage drawings using layers, blocks, hatches, and annotations.</li> <li>• <b>C2:</b> Complete a design project that integrates 2D drafting and 3D modeling.</li> <li>• <b>C3:</b> Work independently and in teams to produce accurate, industry-standard engineering documentation.</li> </ul> |

|         | Weeks                  | Lecture                                                      |
|---------|------------------------|--------------------------------------------------------------|
| Program | <i>First week</i>      | Syllabus Presentation, and Course Rules, Introduction to CAD |
|         | <i>Second week</i>     | Basic Drawing Tools                                          |
|         | <i>Third week</i>      | Object Modification Tools                                    |
|         | <i>Fourth week</i>     | Layers and Properties                                        |
|         | <i>Fifth week</i>      | Blocks and Attributes                                        |
|         | <i>Sixth week</i>      | Hatching and Gradients                                       |
|         | <i>Seventh week</i>    | Dimensioning and Annotations                                 |
|         | <i>Eighth week</i>     | 3D Modeling Basics                                           |
|         | <i>Ninth week</i>      | Advanced 3D Modeling                                         |
|         | <i>Tenth week</i>      | Parametric Design and Constraints                            |
|         | <i>Eleventh week</i>   | Layouts and Viewports                                        |
|         | <i>Twelfth week</i>    | Plotting and Printing                                        |
|         | <i>Thirteenth week</i> | Project Work – Design Part 1                                 |
|         | <i>Fourteenth week</i> | Project Work – Design Part 2                                 |
|         | <i>Fifteenth week</i>  | Revision and Final Assessment                                |

| Literature / Reading List:    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                   |              |
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| Literature                    | <b>Textbooks:</b> <ol style="list-style-type: none"> <li>1. Autodesk, <i>AutoCAD 2025 Tutorial – 2D and 3D Drawing</i>, Autodesk Official Guide</li> <li>2. Randy H. Shih, <i>Mastering AutoCAD 2023 and AutoCAD LT 2023</i>, Sybex</li> <li>3. James M. Van, <i>AutoCAD for Dummies</i>, Wiley</li> </ol> <b>Online Resources:</b> <ol style="list-style-type: none"> <li>1. Autodesk Knowledge Network – <a href="https://knowledge.autodesk.com">https://knowledge.autodesk.com</a></li> <li>2. Autodesk University Courses – <a href="https://www.autodesk.com/university">https://www.autodesk.com/university</a></li> <li>3. YouTube tutorials for AutoCAD 2D and 3D modeling</li> </ol> <b>Supplementary Reading:</b> <ol style="list-style-type: none"> <li>1. William A. F. et al., <i>Engineering Drawing and Design</i>, McGraw-Hill</li> <li>2. Alan J. Kalameja, <i>3D CAD Modeling for Engineers</i>, CRC Press</li> </ol>                                                                |              |                   |              |
|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                   |              |
| Teaching and Learning Methods | <input type="checkbox"/> <b>Lectures:</b> Introduction to CAD concepts, AutoCAD tools, and design principles.<br><input type="checkbox"/> <b>Hands-on Labs:</b> Practical exercises in 2D drafting, 3D modeling, and technical drawing using AutoCAD.<br><input type="checkbox"/> <b>Project-Based Learning:</b> Students work on small engineering components, applying CAD tools to create complete 2D and 3D models.<br><input type="checkbox"/> <b>Demonstrations:</b> Instructor-led step-by-step tutorials for complex commands, parametric design, and 3D modeling.<br><input type="checkbox"/> <b>Collaborative Learning:</b> Group activities and peer review to enhance problem-solving and design skills.<br><input type="checkbox"/> <b>Blended Learning:</b> Online tutorials, video demonstrations, and Autodesk resources for extra practice.<br><input type="checkbox"/> <b>Independent Study:</b> Students practice CAD exercises, review lecture materials, and complete assignments. |              |                   |              |
|                               | Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                   |              |
|                               | <b>Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Hours</b> | <b>Days/weeks</b> | <b>Total</b> |
|                               | Lectures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2            | 15                | 30           |
|                               | Exercise sessions (with TA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2            | 15                | 30           |
|                               | Practical work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3            | 3                 | 9            |
|                               | Office hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1            | 12                | 12           |
|                               | Fieldwork                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1            | 2                 | 2            |
|                               | Midterms, seminars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2            | 2                 | 4            |
|                               | Homework                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3            | 3                 | 9            |
|                               | Self-study                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2            | 6                 | 12           |
|                               | Final exam preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3            | 3                 | 9            |
|                               | Time spent in exams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2            | 2                 | 4            |
|                               | Projects, presentations, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2            | 2                 | 4            |
| <b>Total</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |              |                   | <b>125</b>   |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |      |
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| <b>Evaluation</b> | <b>Assessment Methods and Criteria:</b><br><br><input type="checkbox"/> <b>Lab Exercises – Graphical projects /Presentation (30%)</b> – Regular practical assignments in 2D and 3D CAD exercises. Design project including 2D drawings, 3D model, and documentation; presented individually or in groups.<br><input type="checkbox"/> <b>Participation and Activities (10%)</b><br><br><input type="checkbox"/> <b>Final Practical Exam (60%)</b> – Comprehensive assessment covering all course topics, including 2D and 3D AutoCAD skills, printing, and layouts.<br>(according to the Statute and Regulation for studies of UMIB) |            |      |
|                   | Final grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Points (%) | Mark |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 91 – 100   | 10   |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 81 - 90    | 9    |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 71 - 80    | 8    |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 61 - 70    | 7    |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 51 - 60    | 6    |
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |      |

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| Academic policies | <p><b>Criteria for regular attendance and rules of etiquette during the organization of the lesson are set.</b></p> <p><b>Computer work:</b><br/>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.</p> <p><b>Ethics in teaching:</b><br/>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.</p> <p><b>Time:</b><br/>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.</p> <p><b>Rules of conduct and academic policies:</b></p> <ul style="list-style-type: none"> <li>● active participation of students in lectures o participation in discussion, comments and free expression of opinion, opinion and academic position (with arguments)</li> <li>● mandatory independent work and use of additional sources of information (various scientific websites, scientific journals, conference proceedings, etc.)</li> <li>● respecting lecture schedules without compromising academic freedom (silent cell phones) of respecting the word, thoughts and ideas of colleagues,</li> <li>● 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).</li> <li>● 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,</li> <li>● 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.</li> </ul> <p>Plagiarism or cheating will be penalized according to university regulations.</p> |
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