Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering	Insitute of Mechatronics and Vehicle Engineering

Subject title and code: **IT Project, BMVITM4BNF** **Credits:** *5*

Full-time study 2023/2024 *ac. year* 2 *semester*

The course is available at: mechatronical engineering

Supervised by: Dr. habil Zsolt Csaba Johanyák	**Instructors:** Dr. habil Zsolt Csaba Johanyák

Prerequisite (neptun code):

Weekly number of lessons

Lecture:	Group seminar:	Lab: 2	Consultation:

Way of assessment: Midterm mark (Written and oral)

Online consultation *(in case it's required): ... (BBB link)*

Educational goal: *This course is designed to immerse students in real-world IT project scenarios, tackling complex problems in mechatronics. The curriculum prioritizes hands-on, project-based learning fostering teamwork, and deepening students' understanding of IT methods and technologies. The primary focus is on honing team collaboration skills and mastering Python development or the usage of visual tools such as Orange.*
The course is designed to be adaptable, with a focus on experiential learning. The specific tools and technologies will depend on the actual project assignments.

Schedule

Education week	**Topics**
1.	Team formation and introduction. Detailed discussion of the project assignment with each team. Clarification of expectations and goals.
2.	Overview of theoretical concepts relevant to mechatronics/mechanical engineering IT projects. Discussion of necessary software tools based on each team/project. Q&A session for clarifications.
3.	Introduction to Agile methodologies in the context of IT projects. Overview of IT project management principles. Comparison between plan-driven traditional development methods and Agile approaches.
4.	Detailed discussion on project planning and scope definition. Breakdown of tasks and responsibilities within teams. Introduction to tools for project planning and collaboration.
5.	Practical session on Python development or usage of visual tools (e.g., Orange). Implementation of basic functionalities related to the actual projects. Troubleshooting and Q&A.
6.	Midterm presentation. Teams present their progress and findings. Peer and instructor feedback provided. Evaluation criteria discussed.
7.	Individual consultations with teams to review midterm feedback. Addressing challenges. Introduction to best practices for issue resolution in IT projects.
8.	Rectoral break
9.	Ongoing project development with guidance and support. Weekly check-ins to monitor progress and address questions. Troubleshooting sessions based on team needs.
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12.	Focus on finalizing projects. Guidance on quality documentation practices. Preparing for the final presentation and report.
13.	All teams present their final projects and findings. In-depth evaluation of project solutions and documentation quality. Peer and instructor feedback provided.
14.	Optional make-up presentation for any team requiring one. Course reflection and discussion on lessons learned. Wrap-up and acknowledgment of achievements.

Mid-semester requirements

Test	Assignment to be submitted	Lab measurement

amount	dates	amount	deadlines	amount	dates
		1	Week 13		

According to the Study and Examination regulations of Óbuda University attendance of group seminars and lab exercises are mandatory.

Other requirements for participation in sessions not covered by the regulations and restrictions on substitutions:

Test		Assignment to be submitted		Lab measurement	
maximum points available	minimum score required to pass /test	maximum points available	minimum score required to pass / assignment	maximum points available	minimum score required to pass /lab
…points	…points	100points	40points	…points	…points

Total number of points achievable in semester: …points				
Grading thresholds	**satisfactory** 40 points and above	**average** 55 points and above	**good** 70 points and above	**excellent** 85 points and above

Other evaluation criteria:
Students have to do a midterm presentation (6th week) about their progress, which counts 40% in their final score. Besides, they submit and present (13th week) a final report that counts 60%. The way they solved the assignment and the quality of the documentation also count at the final evaluation.

Receive a signature denied entry:	During the semester, the midterm requirements can be replaced in the case of illness. In the case of an unsuccessful final report presentation, a replacement is possible within the first 10 working days of the examination period, within the framework of a fee-based Replacement Examination.
Required references:	References and readings will be recommended on a case-to-case basis related tot he actual assignment.
Recommended references:	
Quality assurance methods of the subject:	

Things, that are not included, can be found within the regulations of Óbuda University.