WEX 427 – Workplace Experience II

Course Code	Course Name	Semester		
WEX 427	Workplace Experience II	Fall ☒ Spring ☐ Summer ☐		
Hours			**Credit**	**ECTS**
Theory	**Practice**	**Lab**	3	3
0	6	0		

Course Details	
Department	COMPUTER ENGINEERING
Course Language	English
Course Level	Undergraduate ☒ Graduate ☐
Mode of Delivery	Face to Face ☒ Online ☐ Hybrid ☐
Course Type	Compulsory ☒ Elective ☐
Lecturer (s)	Departmental Academic Advisor & Workplace Mentor
Course Objectives	The primary objective of this capstone course is for students to integrate and synthesize the comprehensive engineering knowledge acquired throughout their undergraduate studies in a real-world professional setting. The course aims to transition students from an academic to a professional mindset by having them take significant ownership of engineering tasks. Key objectives include: contributing meaningfully to complex, multi-stage engineering projects; mastering the use of advanced industry-specific tools and methodologies; demonstrating autonomy, project management skills, and leadership potential within a team environment; and producing professional-grade documentation and presentations that reflect their technical and professional maturation in preparation for their engineering careers.
Course Content	This course requires students to spend two full days per week at a partner company, fully integrated into an engineering team. The content involves contributing to a significant, ongoing engineering project, moving beyond small-scale tasks to engage in problem definition, analysis, design, implementation, and validation. Students will be responsible for managing their project components, collaborating with team members and other departments, adhering to company standards and project timelines, preparing detailed technical documentation, and delivering a formal mid-term and final presentation on their project contributions, challenges, and outcomes to an audience of academic and company personnel.
Course Method/ Techniques	Lecture ☐ Question & Answer ☐ Presentation ☐ Discussion ☐

Prerequisites/ Corequisites	Must be a 4th-year student and have successfully completed WAP 227 (Workplace Application I) and all third-year courses.
Work Placement(s)	The placement continues for 16 weeks throughout the semester, requiring 1 full day (8 hours) per week.

Textbook/References/Materials

Workplace Education Guideline

Company-specific project documentation and technical standards

Relevant engineering handbooks, software manuals, and industry codes

Course Category				
Mathematics and Basic Sciences	☐		Education	☐
Engineering	☒		Science	☐
Engineering Design	☒		Health	☐
Social Sciences	☐		Profession	☒

Weekly Schedule

No	Topics	Materials/Notes
Weekly Schedule		
No	Topics	Materials/Notes
1	Advanced Orientation, Project Assignment, and Definition of Project Scope and Objectives with Mentor.	Workplace Education Guideline
2	Requirement Analysis and Detailed Project Planning; Identifying Key Deliverables and Timelines.	Project Plan Draft
3	Commencing Project Work: In-depth Research, Data Collection, and Application of Advanced Engineering Principles.	Weekly Progress Report
4	Executing Key Project Tasks; Applying Advanced Engineering Tools and Software for Analysis and Design.	Weekly Progress Report
5	Collaboration with Team Members on Integrated Project Components; Attending Project Meetings.	Weekly Progress Report
6	Problem-Solving Complex Technical Challenges; Iterative Design and Prototyping/Modeling.	Weekly Progress Report

7	Mid-term Project Progress Review with Mentor; Preparation for Mid-term Presentation.	Weekly Progress Report
8	Mid-term Project Report and Presentation to Academic Advisor and Mentor.	Mid-term Report & Presentation
9	Implementing Feedback from Mid-term Review; Continuing with Advanced Project Tasks.	Weekly Progress Report
10	Focusing on Testing, Validation, and Quality Assurance of Project Work.	Weekly Progress Report
11	Analyzing Project Outcomes and Comparing them against Initial Objectives and Requirements.	Weekly Progress Report
12	Taking on More Independent Responsibilities and Contributing to Team Decision-Making.	Weekly Progress Report
13	Finalizing all Technical Aspects of the Project; Documenting Final Designs and Results.	Weekly Progress Report
14	Compiling the Comprehensive Final Report; Structuring the Narrative and Technical Data.	Final Report Draft

Assessment Methods and Criteria		
In-term studies	**Quantity**	**Percentage**
Attendance	16	30
Lab	-	-
Practice	-	-
Fieldwork	-	-
Course-specific internship	-	-
Quiz/Studio/Criticize	-	-
Homework	-	-
Presentation / Seminar	-	-
Project	-	-
Report	16	70
Seminar	-	-
Midterm Exam	-	-
Final Exam	-	-
	Total	**100%**
Contribution of Midterm Studies to Success Grade	1	40
Contribution of End of Semester Studies to Success Grade	1	60
	Total	**100%**

ECTS Allocated Based on Student Workload			
Activities	**Quantity**	**Duration (Hrs)**	**Total Workload**
Course Hours	-	-	-
Lab	-	-	-

Practice	-	-	-
Fieldwork	-	-	-
Course-specific Work Placement	-	-	-
Out-of-class study time	-	-	-
Quiz/Studio/Criticize	-	-	-
Homework	-	-	-
Presentation / Seminar	-	-	-
Project	-	-	-
Report	16	4	64
Midterm Exam and Preparation for Midterm	-	-	-
Final Exam and Preparation for Final Exam	-	-	-
Total Workload			**64**
Total Workload / 25			**2.56**
ECTS Credit			**3**

Course Learning Outcomes	
No	**Outcome**
L1	Integrates into the company's organizational and professional culture and proposes improvements to project workflows based on observation and analysis.
L2	Synthesizes advanced engineering principles and theories to design, develop, and manage complex engineering project components from conception to completion.
L3	Masters and independently applies modern engineering tools, software, and analytical techniques, justifying their selection for specific project requirements.
L4	Leads and collaborates effectively within diverse engineering teams, demonstrating initiative, managing responsibilities, and upholding professional ethics.
L5	Produces professional-grade technical documentation and persuasively presents complex project findings to both technical and non-technical audiences.
L6	Critically evaluates and ensures adherence to occupational health, safety regulations, and quality assurance standards throughout the project lifecycle.

Contribution of Course Learning Outcomes to Program Competencies/Outcomes

Contribution Level: 1: Very Slight, 2: Slight, 3: Moderate, 4: Significant, 5: Very Significant

	P1	**P2**	**P3**	**P4**	**P5**	**P6**	**P7**	**P8**	**P9**	**P10**	**P11**					**Total**
L1	4	4	3	4	4	5	4	4	5	5	4					50
L2	5	5	5	4	5	4	4	4	4	4	3					47
L3	5	5	5	4	5	4	5	3	4	4	3					47
L4	5	4	4	5	5	5	4	5	5	5	3					50
L5	4	4	4	5	4	4	4	5	5	5	4					48
L6	4	4	4	5	5	5	5	5	5	4	5					51
															Total	293

i. The ability to synthesize and apply advanced engineering knowledge with practical applications; to analyze, critique, and contribute to the operational, organizational, and cultural dynamics of a professional workplace to develop innovative solutions.

ii. The ability to independently identify, formulate, and solve complex engineering problems encountered in the workplace; the ability to design and conduct experiments, as well as to analyze and interpret data to improve business outcomes.

iii. The ability to manage project timelines, resources, and deliverables in accordance with defined requirements; demonstrating autonomy, accountability, and a proactive approach to leading assigned project components.

iv. The ability to critically evaluate, select, and master modern engineering tools, software, and technologies specific to the industry; the ability to justify tool selection and manage technical data flows within a professional context.

v. The ability to drive workplace processes, gather critical technical information, analyze business outcomes, and provide constructive feedback to supervisors and colleagues to improve team and organizational performance.

vi. The ability to lead and function effectively on multi-disciplinary teams, both intra-departmental and cross-departmental; the ability to manage individual and team responsibilities with a high degree of independence.

vii. The ability to communicate complex technical information persuasively and effectively, both orally and in writing, to diverse audiences; proficiency in negotiating technical requirements, leading project meetings, and authoring comprehensive engineering reports.

viii. To demonstrate a commitment to continuous professional development and lifelong learning; the ability to independently identify knowledge gaps, seek out new learning opportunities, and strategically adapt to evolving industry trends.

ix. The ability to uphold and advocate for the highest standards of professional and ethical principles and corporate policies; demonstrating exemplary professional conduct and taking responsibility for engineering decisions.

x. The ability to apply project management principles and contribute to strategic business objectives such as quality assurance, innovation, and efficiency; to demonstrate a sophisticated understanding of the competitive commercial environment.

xi. The ability to analyze and assess the broader impact of engineering solutions on health, safety, and the environment; demonstrating a deep awareness of corporate social responsibility and sustainable engineering practices.