WAP 227 – Workplace Application I

Course Code	Course Name	Semester	
WAP 227	Workplace Application I	Fall ☒ Spring ☐ Summer ☐	
Hours		**Credit**	**ECTS**
Theory	**Practice** / **Lab**	3	3
0	6 / 0		

Course Details	
Department	Aerospace 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 course is for students to apply and deepen the theoretical knowledge and skills acquired in the first two years of their engineering studies within a professional workplace. The aims are to further develop their understanding of the business world, corporate culture, and professional work processes. Gain hands-on experience with industry- standard tools and methodologies used in solving engineering problems. Enhance professional competencies such as teamwork, effective communication, problem-solving, and professional ethics. Refine their career goals and prepare for more advanced workplace applications and post- graduation professional life.
Course Content	This course requires students to spend one full day per week at a partner company. The course content includes an advanced occupational health and safety review, integration into a specific department or project team, applying engineering principles to assigned tasks and small-scale projects under the guidance of a workplace mentor, documenting progress through weekly activity reports, and preparing a comprehensive final report and presentation summarizing their technical contributions and professional development.
Course Method/ Techniques	Lecture ☐ Question & Answer ☐ Presentation ☐ Discussion ☐
Prerequisites/	Must be a 2nd-year student and have successfully completed WED 128

Corequisites	(Workplace Education) and all first-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

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

Weekly Schedule

No	Topics	Materials/Notes
1	Orientation, Review of Workplace Education, Setting project goals with mentor	Workplace Education Guideline
2	In-depth department introduction; understanding project scope and requirements	Workplace Education Guideline
3	Applying basic engineering principles; data collection and initial analysis	Weekly Report
4	Taking on simple tasks and understanding the workflow	Weekly Report
5	Taking on simple tasks and understanding the workflow	Weekly Report
6	Carrying out small-scale tasks assigned by the mentor	Weekly Report
7	Carrying out small-scale tasks assigned by the mentor	Weekly Report
8	Carrying out small-scale tasks assigned by the mentor	Weekly Report
9	Carrying out small-scale tasks assigned by the mentor	Weekly Report
10	Carrying out small-scale tasks assigned by	Weekly Report

	the mentor	
11	Taking on more comprehensive tasks	Weekly Report
12	Taking on more comprehensive tasks	Weekly Report
13	Taking on more comprehensive tasks	Weekly Report
14	Documenting work according to technical standards	Weekly Report
15	Compiling all work and observations from the semester	Final Report Draft
16	Submission of the Final Report	Workplace Evaluation Form

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	Analyzes the organizational structure, professional culture, and project workflows in an engineering workplace.
L2	Applies core engineering principles and theories to solve practical tasks and contribute to small-scale projects.
L3	Selects and utilizes modern engineering tools, software, and techniques relevant to their assigned tasks.
L4	Collaborates effectively within a team, manages assigned responsibilities, and demonstrates professional ethics in all workplace interactions.
L5	Documents work processes and outcomes and presents technical findings clearly in accordance with professional reporting standards.
L6	Implements workplace practices that adhere to occupational health and safety regulations.

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	3	4	3	3	3	4	3	3	5	4	3					39
L2	5	4	5	4	4	3	3	3	3	4	2					40
L3	3	3	4	3	5	4	4	3	4	3	3					39
L4	5	3	4	5	5	4	3	5	5	4	2					45
L5	4	4	3	4	4	3	3	4	4	5	3					41
L6	4	3	3	3	5	5	4	5	4	3	3					42
															Total	**246**

i. The ability to actively integrate theoretical engineering knowledge with practical applications; to understand and apply the operational, organizational, and cultural dynamics of a professional workplace within the context of assigned projects and tasks.

ii. The ability to identify, analyze, and actively contribute to the solution of technical problems and engineering tasks encountered in the workplace; the ability to adapt and implement problem- solving methods according to real-world business objectives and constraints.

iii. The ability to take ownership of and execute workplace projects, processes, and tasks in accordance with defined requirements and deadlines; the ability to develop systematic and proactive approaches to assigned responsibilities.

iv. The ability to effectively select and apply modern engineering tools, software, and technologies specific to the industry and assigned tasks; the ability to analyze and manage technical information and data within a professional context.

v. The ability to actively participate in workplace processes, gather technical information, analyze business outcomes, and constructively interpret and apply feedback from supervisors and colleagues to improve personal and team performance.

vi. The ability to work productively as a member of intra-departmental and cross-departmental teams and to collaborate with colleagues; the ability to manage individual tasks and project responsibilities and work independently.

vii. The ability to communicate effectively both orally and in writing in a professional setting; proficiency in preparing technical reports and professional correspondence, making meaningful contributions to project meetings, delivering technical presentations, and understanding and applying workplace instructions.

viii. To embrace the need for continuous professional development and lifelong learning; the ability to assess personal competencies, seek new learning opportunities, and rapidly adapt to evolving industry trends and technologies.

ix. The ability to act in full accordance with professional ethical principles and corporate policies; demonstrating professional responsibilities and the high standards of conduct expected in the workplace.

x. The ability to implement fundamental business practices such as project workflows, time management, and quality assurance; to reflect an understanding of the importance of customer focus, efficiency, and innovation in a competitive environment through one's work.

xi. The ability to evaluate the impact of one's activities on health, safety, and the environment; demonstrating an awareness of corporate social responsibility and the organization's role within the broader society and marketplace.