National University of Engineering (UNI)
School of Civil Engineering
Syllabus 2027-I

1. COURSE

ID202. Technical and professional English IV (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	ID202. Technical and professional English IV
2.2 Semester	:	5th Semester.
2.3 Credits	:	2
2.4 Hours	:	1 HT; 2 HP;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Mandatory
2.7 Learning modality	:	Face to face
2.8 Prerrequisites	:	ID201. Technical and professional English III. (4th Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

At the intermediate level, students apply English to the full range of technical communication required in computing and engineering practice: reading research papers, writing structured technical documents, analyzing case studies, and engaging in professional dialogue. Grammar structures are taught through authentic computing and engineering contexts, reinforcing both linguistic competence and disciplinary knowledge.

5. GOALS

- Develop the ability to write and read structured technical documents in English.
- Bring the student to a more fluent and natural expression in technical and scientific English.
- Master vocabulary for computing, systems engineering, and applied sciences.

6. COMPETENCES

ABET-3) An ability to communicate effectively with a range of audiences. (Familiarity)

ABET-5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. (Familiarity)

7. TOPICS

Unit 1: Best Practices and Ethics (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Modals of obligation and advice: Should, Must, Have to in engineering codes. • Prohibition and absence of obligation in software licensing and data privacy. • Vocabulary: Professional ethics, intellectual property, responsible AI. • Writing: Formal technical recommendation and policy documents.	• By the end of the unit, students correctly use modal auxiliaries to express engineering standards, ethical obligations, and professional recommendations in formal technical environments.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 2: Failures and Root Causes (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Past Perfect: Structure and use in root cause analysis and post-mortems. • Contrast between Simple Past, Continuous, and Perfect in failure timelines. • Vocabulary: System outages, security breaches, cascading failures. • Expressions for reporting information: reported speech in incident briefings.	• Students reconstruct complex failure timelines and root cause analyses by establishing clear chronological sequences through the use of past tense contrasts.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 3: If-Then Logic (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Conditionals Type 0, 1, and 2 applied to computing logic and engineering decisions. • Sentences with "If" and "Unless" for system constraints and requirements. • Vocabulary: Hypothetical scenarios, risk analysis, and optimization trade-offs. • Expressions of what-if design thinking: "If we used X, the system would..."	• Students pose real and hypothetical technical scenarios and their consequences, using conditional structures to reason about design choices and engineering decisions.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 4: Ongoing Research (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Present Perfect Continuous for describing research in progress. • Contrast between Simple and Continuous Present Perfect in scientific writing. • Vocabulary: Continuous integration, agile development, iterative research. • Word formation: Prefixes and suffixes in scientific and technical terminology.	• Students describe research activities and development processes that began in the past and continue into the present, emphasizing duration and iterative progress.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 5: Manufacturing and Deployment (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Passive Voice in all basic tenses for technical process descriptions. • Verbs with two objects in passive: data is sent to the server by the client. • Vocabulary: Hardware manufacturing, cloud deployment, CI/CD pipelines. • Writing: Technical description of a deployment or production process.	• Students use the passive voice across multiple tenses to describe technical processes where the action, system, or result is the focus rather than the agent.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 6: Tech Roadmaps (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Future Continuous and Future Perfect for project timelines and milestones. • Adverbs of probability: perhaps, probably, definitely — in tech forecasting. • Vocabulary: Product roadmaps, release planning, emerging research areas. • Oral presentations: ”The state of AI / quantum computing in 5 years”.	• Students project technical states, completed future milestones, and research outcomes, discussing computing and engineering roadmaps with advanced vocabulary.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 7: Technical Teams (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Indirect questions and Tag questions in technical interviews and peer reviews. • Common Phrasal Verbs in engineering and research environments. • Vocabulary: Collaboration tools, code review practices, team roles. • Writing: Short technical blog posts and engineering team updates.	• Students use polite inquiry forms and confirmation strategies in technical interviews and team discussions, improving their fluency and naturalness in professional engineering contexts.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

Unit 8: Technical English IV: Networks and Security (12 hours)	
Competences Expected: ABET-3,ABET-5	
Topics	**Learning Outcomes**
• Networking terminology: protocols, topologies, OSI model, routing. • Cybersecurity vocabulary: vulnerabilities, threats, encryption, authentication. • Reading and writing network incident and security audit reports. • Project: Security assessment plan for a computing infrastructure.	• By the end of the course, students command networking and cybersecurity technical terminology to read specialized documentation and communicate effectively with IT and security professionals in English.
Readings : [**Soars022S**], [**Cambridge06**], [**MacGrew99**]	

8. WORKPLAN

8.1 Methodology

Individual and team participation is encouraged to present their ideas, motivating them with additional points in the different stages of the course evaluation.

8.2 Theory Sessions

The theory sessions are held in master classes with activities including active learning and roleplay to allow students to internalize the concepts.

8.3 Practical Sessions

The practical sessions are held in class where a series of exercises and/or practical concepts are developed through problem solving, problem solving, specific exercises and/or in application contexts.

9. EVALUATION SYSTEM

********* EVALUATION MISSING ********

10. BASIC BIBLIOGRAPHY