



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

1. COURSE

BEI203. Technical and professional English V (Elective)

2. GENERAL INFORMATION

2.1 Course	: BEI203. Technical and professional English V
2.2 Semester	: 5 th Semester.
2.3 Credits	: 2
2.4 Hours	: 4 HP;
2.5 Duration of the period	: 16 weeks
2.6 Type of course	: Elective
2.7 Learning modality	: Face to face
2.8 Prerequisites	: BEI202. Technical and professional English IV. (4 th Sem)

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

A fundamental part of the integral formation of a professional is the ability to communicate in a foreign language in addition to the native language itself. In the engineering and computing career, technical English is the most critical tool for accessing the forefront of knowledge and research, writing scientific papers, participating in international conferences, and collaborating in global teams. This course brings students to the level of autonomous technical communicators capable of producing and critically evaluating academic and professional content.

5. GOALS

- Increase the ability and fluency to communicate complex technical ideas in English.
- Ensure that students interact with emphasis on scientific argumentation and advanced technical writing.
- Master vocabulary for software engineering, data science, and systems research.

6. COMPETENCES

AG-C03) Individual and Team Work: Performs effectively as an individual and as a member or leader in diverse teams. (Familiarity)

AG-C04) Communication: Communicates effectively in complex computing activities. (Usage)

7. TOPICS

Unit 1: Scientific Argumentation (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
- Advanced review of auxiliary verbs and verb tenses in academic writing. - Negative questions and emphatic answers in scientific debate. - Word formation: Prefixes and suffixes common in computing and science. - Correcting misconceptions: Refuting claims in technical discussions.	By the end of the unit, students use auxiliaries and tenses precisely to construct scientific arguments, challenge erroneous technical claims, and engage in structured academic debate.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 2: Research Methodology (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
- Present Simple vs. Present Continuous: Distinguishing general facts from ongoing experiments. - State verbs and action verbs in experimental descriptions. - Vocabulary: Research design, experimental variables, data collection methods. - Writing: Description of a research method or experimental procedure.	Students differentiate between stative and progressive uses to accurately describe scientific laws, ongoing experiments, and research methodologies in computing and engineering.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 3: Case Studies (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
- Narrative tenses: Simple Past, Past Continuous, and Past Perfect in case study analysis. - Structure of "Used to" and "Would" for describing legacy systems and past practices. - Vocabulary: Historical computing cases, paradigm shifts, engineering lessons learned. - Writing: Structured case study report on a computing incident or innovation.	Students analyze and narrate sequences of technical events and historical computing cases fluently, applying narrative tenses correctly in professional case study reports.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 4: Research Proposals (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
• Predictions and plans: Future tense review for academic proposal writing. • Future Continuous and Future Perfect in project scope and outcomes. • Vocabulary: Research objectives, expected contributions, scope and limitations. • Writing: Short research proposal or technical project abstract.	• Students project research goals and anticipated outcomes, and make evidence-based predictions about the evolution of technology using appropriate future forms in formal academic writing.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 5: Technical Documentation (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
• Verb patterns (Verbs followed by -ing or infinitive) in instructional writing. • Expressions with "Like" for analogies and technical comparisons. • Vocabulary: API documentation, user manuals, technical specifications. • Debates: Standards for open-source documentation and reproducibility.	• Students use complex verb patterns to write clear, precise technical documentation and use analogical reasoning to explain technical concepts to diverse audiences.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 6: Long-term Projects (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
• Present Perfect Continuous vs. Simple Present Perfect in research progress reports. • Modal verbs of deduction (Present and Past) for interpreting experimental results. • Vocabulary: Long-running systems, sustained research programs, startup development. • Oral presentations: "Progress report on a computing research project".	• Students discuss long-term research and development activities, make deductions about technical outcomes, and present progress reports on computing projects with appropriate academic register.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 7: Advanced Technical Writing (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
• Relative clauses (Defining vs. Non-defining) in technical paper writing. • Advanced passive voice in formal scientific and engineering prose. • Vocabulary: Peer review, impact factors, citation practices, open access. • Writing: Abstract and introduction section of a computing research paper.	• Students write precise, well-structured technical and scientific texts using relative clauses and advanced passive constructions to add depth and clarity to research writing.
Readings : [Soars023S], [Soars023W], [Soars023T], [Cambridge06], [MacGrew99]	

Unit 8: English for Software Engineering (12 hours)	
Competences Expected: AG-C03,AG-C04	
Topics	Learning Outcomes
• Agile Methodologies: Scrum, Kanban, and XP terminology in English. • QA (Quality Assurance) and Testing: Test plans, bug reports, acceptance criteria. • Software requirements documentation: user stories, use cases, specifications. • Simulation: Technical team meeting (Sprint planning and retrospective).	• By the end of the course, students command software engineering and project management terminology, can produce professional technical documents, and actively participate in international technical meetings and reviews in English.
Readings : [Soars023S], [Soars023W], [Soars023T], [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

Theory Sessions:

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

Lab Sessions:

In order to verify their competences, several activities including active learning and roleplay will be developed during lab sessions.

Oral Presentations:

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

Reading:

Throughout the course different readings are provided, which are evaluated. The average of the notes in the readings is

considered as the mark of a qualified practice. The use of our virtual campus allows each student to access the course information, and interact outside the classroom with the teacher and with the other students.

The final grade NF depends on the following grades:

- PE : Partial Exam.
- FE : Final Exam.
- P : Permanent Evaluation (Average of practical work and graded assignments).

The final grade NF is calculated as follows:

$$NF = \frac{PE + FE + P}{3}$$

10. BASIC BIBLIOGRAPHY