Course Title: **Taller de Traducción Ingeniería y Adelantos Tecnológicos**
Program and Track: **Interpretación y Traduccíon: 6° Cuatrimestre**
Course ID: **IT0628**
Cohort ID: **6A1**

**Description**

This course provides the modern foundations for linguistic translation in the engineering sciences and in the broader field of advanced technologies. The course will focus on translation in selected engineering disciplines as well as translation related to advanced and emerging technologies that come primarily from the engineering sciences. The professional translational mapping tools developed in this course will be specific to Spanish and English translations, although such tools and methodologies can readily be extended to the translation of other languages.

Major elements of the course will include:

I. Foundations of Science and Engineering
II. Elements of Academic Work
III. Elements of Professional Consulting
IV. AI-Powered Translation
V. Interpretation and Translation of Real-World Technical Documents
VI. Contemporary Topics in Engineering and Science
VII. Vocabulary Building

**Scope and General Sequence**

*I. Foundations of Science and Engineering*

1. Selected Engineering Disciplines
    1.1 General Foundations and History
    1.2 Development in Mexico

2. Engineering vs. Science

3. Kuhn's Perspective
    3.1 Evolution of Normal Science as a Paradigm
    3,2 Scientific Revolutions

4. Wicked Problems

*II. Elements of Academic Work*

1. The Elements of Style in Professional Writing
    1.1 APA Style
    1.2 Strunk and White's. "Elements of Style"
    1.3 Developing a Professional Voice

2. Review of Essential English Grammar

2.1 Murphy's, "English Grammar in Use"
2.2 The Yale Graduate Writing Center

3. Constructing Critiques

*III Elements of Professional Consulting*

1. Quality Assurance / Quality Control (QA/QC)
   1.1 Quality Management Systems (QMS): ISO 9001
   1.2 Records Management: ISO 15489

2. Document Version Control Systems (VCSs)
   2.1 Git
   2.2 GitHub

3. Marron's Tips for Successful Consulting
   3.1 Clients
   3.2 Deliverables
   3.3 Transmittal Letters

*IV. AI-Powered Translation*

1. Professional Translators in the 21st century
   1.1 Current Research
   1.2 Realities

2. AI
   2.1 Machine Learning
   2.2 Large Language Models (LLMs)
   2.3 Generative Pre-Trained Transformers (GPTs)

3. The Tools
   3.1 Python
   3.2 Application Programmer Interfaces (APIs)
   3.3 Software Development Kits (SDKs)

*V. Interpretation and Translation of Selected Real-World Technical Documents*

1. Academic Texts
2. Journal Articles and White Papers
3, Standard Operating Procedures (SOPs)
4. Requests for Quotes (RFQs) and Request for Proposals (RFPs)

*VI. Contemporary Topics in Engineering and Science*

1. Literature Review and Translation in Open-Source Journals
   1.1 IEEE Open Journal of Engineering in Medicine and Biology
   1.2 IEEE Open Journal of the Communications Society
   1.3 Nature Communications

*VII. Vocabulary Building*

**Expectations**

Students will be expected to:

- Attend all classes on time
- Be prepared to take notes and access materials on-line
- Participate in all class activities, including discussions and presentations
- Complete all assignments, quizzes, and the final exam

**Exit Criteria**

Upon the successful completion of the course the student will be able to:

- Demonstrate a solid understanding of the theoretical foundations of engineering and science as well as a basic understanding of selected engineering disciplines
- Demonstrate a solid understanding of English grammatical structures and stylistic elements useful for professional writing
- Demonstrate a solid understanding of document management and QA/QC as well as other elements of professional consulting
- Demonstrate a basic understanding of AI-powered translation and the use of LLMs via APIs
- Analyze and evaluate a wide variety of document types commonly found in the engineering sciences to produce clear, coherent, and accurate English-Spanish translations
- Demonstrate an awareness of contemporary trends in engineering through the review of open source journals
- Acquire and use vocabulary relevant to modern engineering and science
- Produce professional-quality deliverables

| **Interim Evaluations (Partials)** | | **Final Grade** | |
|---|---|---|---|
| Daily Work and Participation | 10% | 1P | 25 % |
| Homework | 60 % | 2P | 25 % |
| Interim Exam | 30% | 3P | 25 % |
| | | Final Exam | 25 % |