

Course Title: **Taller de Traducción Ingeniería y Adelantos Tecnológicos**  
Program and Track: **Interpretación y Traducción: 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 Science, Engineering, and Technology
- 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 21<sup>st</sup> 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 Science, Engineering, and Technology*

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 and exams

### **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, evaluate, and translate a wide variety of document types commonly found in the engineering sciences
- Analyze, evaluate, and translate selected open source journal articles in contemporary engineering, science, and technology
- Design, develop, and implement personal dictionaries for the translation of specialized terminology in engineering, science, and technology
- Produce professional-quality deliverables

### **Interim Evaluations (Partials)**

Daily Work and Participation	10%
Homework	60 %
Interim Exam	30%

### **Final Grade**

1P	25 %
2P	25 %
3P	25 %
Final Exam	25 %