

## Study Guide for Exam 1

Course Title: **Taller de Traducción Ingeniería y Adelantos Tecnológicos**  
Course ID: **IT0628 (Marron, 25-2)**  
Cohort ID: **6A1**  
Exam Date: **11 Feb 2025**

**General Instructions:** A detailed and thorough study and review of the following tasks will prepare you for our first exam.

### **Task 1**

Be able to write a condensed summary from your paper on the history of an engineering discipline in Mexico. Your condensed summary should certainly recount the history of the engineering field you selected, but it must focus on the present state of the discipline in Mexico. You should be able to write this condensed summary in both English and Spanish.

### **Task 2**

In a few paragraphs (in English), be able to discuss your perspective and the general public's perspective on the difference(s) between science and engineering. Additionally answer the question: Do you think scientists and engineers have a moral or ethical responsibility for the knowledge they create?

### **Task 3**

Critique the following article using the Reporter's Toolkit of questions: 1) Who is the intended audience? 2) What is the newsworthy event(s)? 3) When are the events happening? 4) Where are the events happening? 5) Why was the article written? Give your opinion of the article.

#### ***The Future of Self-Healing Concrete in Urban Infrastructure***

*As cities grow, urban infrastructure faces significant challenges, including wear and tear caused by environmental stressors. Engineers have been exploring self-healing concrete as a solution to this problem. This innovative material contains microcapsules filled with healing agents, such as bacteria or epoxy resin. When cracks form, these capsules break open, releasing their contents to fill the gaps and restore structural integrity.*

*Studies suggest that self-healing concrete can extend the lifespan of buildings and reduce maintenance costs. However, challenges remain. The production of these materials is expensive, and the healing process may not work effectively in extreme climates or for larger cracks. Additionally, questions about the long-term durability of the material remain unanswered.*

*Advocates argue that with continued research, self-healing concrete could revolutionize construction, particularly in earthquake-prone or coastal regions. Critics, however, emphasize the need for rigorous field tests and the development of cost-effective manufacturing methods before widespread adoption.*

#### **Task 4**

Outline Kuhn's perceptions of what constitutes 'normal science'. How do practitioners of normal science think? What are the types of problems tackled by normal science? What is the goal of normal science? What are researchers in normal science generally doing when they publish their results? Why do people build careers in normal science?

#### **Task 5**

Briefly explain (in English) the concept of 'wicked problems' and how such problems differ from the problems in Kuhn's 'normal science'.

#### **Task 6**

Translate the following excerpt from Strunk and White's, "Elements of Style" into Spanish.

14. Use the active voice.

*The active voice is usually more direct and vigorous than the passive. The habitual use of the active voice makes for forcible writing. This is true not only in narrative concerned principally with action but in writing of any kind. Many a tame sentence of description or exposition can be made lively and emphatic by substituting in the active voice for some such perfunctory expression as there is or could be heard.*

*There were a great number of dead leaves lying on the ground. (passive)*  
*Dead leaves covered the ground. (active)*

*At dawn the crowing of a rooster could be heard. (passive)*  
*The cock's crow came with dawn. (active)*

*The reason he left college was that his health became impaired. (passive)*  
*Failing health compelled him to leave college. (active)*

*It was not long before she was very sorry that she had said what she had. (passive)*  
*She soon repented her words (active)*