

Projects

Technical Language II

Second Semester 2020

Technical Language Area

General Instructions

The projects have to be done in the groups ALREADY established in class. The date to present this report is October 12th/13th (The first of these two days in which you have class).

Only the coordinator or one representative of the group will upload the following documents to the UEDI Platform activity associated with this project:

- 1. A text editor document:** This is the digital report in Microsoft Word and a PDF format following the structure and requirements specified in this text.
- 2. A slide presentation:** This is a digital presentation in Microsoft PowerPoint developing the topic that has been chosen from this text.

You will choose **ONLY ONE PROJECT PER GROUP**, which is the one according to the dominant career of the members of your group. For example, in a group of 5 people, if you have three chemical engineering students you have to make the chemical engineering project because of the majority of members from that career. If there is a tie (empate) of the number of members (two dominant careers, for example 2 industrial, 2 chemical and 1 mechanical) choose in consensus one of the two careers that tied.

The following rubric must be included in the **second page** of the work.

Presentation	/ 15
Introduction	/ 15
Objectives (1 general and several specific)	/ 20
Investigation (framework)	/ 20
Conclusions	/ 25
Annexes	/ 5
References (APA Style)	

For this project, the following style and content of **cover page** has to be used:

Civil Engineering

Soil Testing

Objective: To learn and explain the usefulness of soil testing

Activity: To make a handbook that indicates how to perform soil tests.

Description:

- To form groups of 3 to 6 students.
- The students will choose a soil test that they will investigate to acknowledge the procedure, tools and purpose of it.
- They will present their investigation through a video presentation and a technical report.
- The students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word technical glossary)
 - References (Bibliography)

It is compulsory to present the written report and the handbook the day of the oral presentation. Remember that the handbook must contain the summary of the investigation.

Procedure:

- The students will propose which test they are going to investigate to the project.

- The students will visit libraries and web sites to find all the information about the test they chose.

- The students will write a report that includes:
 - Index,
 - Introduction,
 - Objectives,
 - Investigation
 - Purpose of the test,
 - Procedure to follow,
 - Used tools,
 - Conclusions,

- Annexes and link of the video
- Bibliography.

- They will upload a video to youtube, send the link at ingles@ing.usac.edu.gt

Chemical / Environmental Engineering

Mini-ecosystem

Objective: To know the balance of an ecosystem and how to maintain it

Activity: To build a Mini Ecosystem with plants, bugs, etc.

Description:

- investigate how the plants make the photosynthesis
- The students will explain how chemistry is involved in the process.
- Each group will construct a mini ecosystem and they will present a logbook with the daily observations of the ecosystem.
- The students will prepare an oral presentation of the investigation. This must be described clearly in English in no more than 5 minutes.
- Students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word glossary)
 - References (Bibliography)

Industrial Engineering

Employees' Benefits in Guatemala

Objective: To know the benefits that an employee has to have at any enterprise

Activity: To investigate all the benefits that an employer has to provide to the workers.

Description:

- To make groups of 3 to 6 students.
- The students will research the different benefits for employees in Guatemala (payments, health, etc).
- The students will prepare brochures with the information in English and Spanish about the benefits, and they will give the brochures to the students.
- They will prepare an oral presentation of the investigation. This must be described clearly in English in no more than 5 minutes.
- The students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word glossary)
 - References (Bibliography)

Science and Systems Engineering

LINUX

Objective: To learn how to install and use LINUX.

Activity: To create a handbook and a tutorial for installing and using Linux.

Description:

- To make groups of 3 to 6 students.
- The students will research the principal characteristics of Linux
- Each group will create a tutorial of installation of LINUX using a virtual machine.
- The students will explain the usage of Linux in an oral presentation .This must be described clearly in English in no more than 5 minutes.
- Students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word glossary)
 - References (Bibliography)

Mechanical and Mechanical-Industrial Engineering

Welding Applications

Objective: To acquire the basic knowledge of how welding processes are done and how they are use in industrial applications.

Activity: To research the different types of welding

Description:

- To make groups of 3 to 6 students.
- Each group will investigate the different types of welding and their applications in industries.
- Each group will explain the required protection for welding and how to weld.
- The students will prepare a video tutorial explaining the usage of al list one welding device and its applications in industries. This must be described clearly in English in no more than 5 minutes.
- Students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word glossary)
 - References (Bibliography)

Electronics and Electrical Engineering

Basic Components

Objective: To know at least 20 different components in circuits.

Activity: To identify 20 different components and describe the operation of at least 5 of them.

Description

- To make groups of 3 to 6 students.
- Each group will prepare a sample board / sample book with 15 different components
- Each group member will explain the operating mode of one of these components.
- The Students must prepare a written investigation with the following content:
 - Front Page
 - Index
 - Introduction
 - Objectives
 - Investigation
 - Conclusions
 - Annexes (At least 10 word glossary)
 - References (Bibliography)