

Course Syllabi

1. INGE-00014 INDUSTRIAL EQUIPMENT

2. 96 credits hours.

3. Bibliography

- Perry's Chemical Engineers' Handbook, Green, D.W., Perry, R.H., 2008
- Manual de Maquinaria de Construcción, Díaz del Río, 2001
- Los transportes en la ingeniería industrial: Problemas y prácticas, Vol 2., Miravete, A., Larrodé, E., 1998
- Fundamentals of Internal Combustion Engines, Gupta, H.N., 2012
- An Introduction to Thermal Power Plant Engineering and Operation, Das, P.K., Das, K., 2018
- Conveyors. Application, Selection, and Integration, Patrick M. McGuire, 2010

4. Specific Course Information

- a. The subject Industrial Team introduces the student in concepts of design, selection and operation of equipment that are of common use in the industry, such as speed reducers, industrial transport systems, elevators, crushing and grinding equipment, as well as internal combustion engines and steam turbines and steam generators that form part of thermal plants. In this matter the factors to be considered to understand, dimension, select and operate these equipments, consider and economic factors. The matter contributes to the exit profile points "Recommends the best procedure for optimising a production system" and "Identifies the impacts that the implementation of projects would generate", from the point of view that industrial projects require equipment and machinery selected and managed properly. The concepts addressed, in addition, serve as the basis to advance the study of ISO 55000. It contributes to: RA1. Problem solving Identifies, fo It organizes and solves complex engineering problems by applying RA2 engineering, science and mathematics principles. Design Apply engineering design to produce solutions that meet specific needs taking into account public health, safety and well-being, as well as global, cultural, social, environmental and economic factors RA6. Experimentation. Develops and conducts appropriate experimentation, analyzes and interprets the data and uses engineering criteria to obtain conclusions.

b. Prerequisites:

- INGE-00018 MACHINE TOOLS

5. Learning Objectives of the Course

- a. Identify different equipment used in industrial processes and know the criteria used for the calculation, selection and operation of such equipment.
- Calculate and select industrial speed reducers
 - Calculate and select industrial transport systems
 - Identify and select materials handling systems in industry

6. Course Topics

- Introduction
- Industrial reducers
- Transport systems
- Izage systems
- Internal combustion motors
- Vapor generation equipment and term plants

- Structural and grinding equipment
- Equipment of classification, separation and mixing