

Course Syllabi

1. INDU-00021 PRODUCTION CONTROL SYSTEMS

2. 144 credits hours.

3. Bibliography

- Production and Operations Analytics, Steven Nahmias, Tava Lennon Olsen, 2020
- Planeación y control de la producción, Thomas E. Vollmann, William L. Berry, D. Clay Whybark, Robert Jacobs, 2005

4. Specific Course Information

- This subject introduces concepts of planning and control of production and operations. It includes the processes used for Master Resource Planning, Detailed Programming and Planning, Operations Execution and Control and Tactical Resource Management. Students will be able to identify various technologies and show themselves capable of managing complex information and support systems. The subject contributes to ABET's learning results: RA1. Problem solving. It identifies, formulates and solves complex engineering problems by applying engineering, science and mathematics principles. RA2. It applies 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. It develops and conducts appropriate experimentation, analyzes and interprets the data and uses engineering criteria to obtain conclusions.
- Corequisites:
 - INDU-00007 QUALITY MANAGEMENT
- Prerequisites:
 - INDU-00018 PRODUCTION MANAGEMENT

5. Learning Objectives of the Course

- Train the student in the implementation of a system of planning and control of production and operations within an organization, using various current tools
 - Recognize all systems of planning and control of production and operations.
 - Manage the integral planning of production
 - Identify the software available in the market, which apply and use the tools of planning and control of production and operations.
- Learning Outcomes
 - Ra1. plans and solves production problems through the development of aggregate plans, master plans and material requirement plans.
 - Ra6. proposes improvements in the production processes of an organizational system using techniques of control, analysis and interpretation of data.
 - Ra2. proposes a needs plan according to the different schemes or models available to optimize resources.

6. Course Topics

- Unit 1: introduction and plant capacity
- Unit 2: aggregate planning
- Unit 3: production master plan (mps)
- Unit 4: material requirement plan (mrp)
- Unit 5: production control

