Course Syllabi

1. INDU-00010 MAINTENANCE ENGINEERING
2. 96 credits hours.
3. Bibliography
   • Organización y Gestión Integral de Mantenimiento, García Santiago, 2003
4. Specific Course Information
   a. Maintenance Engineering aims to study and develop techniques to keep equipment and facilities in service for as long as possible and with maximum performance, Maintenance Engineering can be divided into three large areas of knowledge, namely Management, Execution and Knowledge of Specific Maintenance Techniques, within Maintenance Management the organization, methods, times, programming, standards and procedures will be addressed. As regards the implementation of maintenance, a study is carried out on the knowledge of maintenance of pumps, fans, compressors and turbines. Finally, specific maintenance techniques such as reliability analysis, breakdown analysis, vibration analysis, axis alignment, rotor balance and oil analysis are studied. The maintenance function for the optimization of the production process, establish the parameters of the control of the maintenance management in a real production system and perform the correct execution of the maintenance in order to obtain an optimal production in compliance with the established regulations and maintaining the procedures that guarantee the parameters of safety and occupational health. This matter contributes to: RA1. Problem solvingIdentifies, formulates and solves complex problems of in engineering applying principles of engineering, science and mathematics RA6. Experimentation. Develops and conducts appropriate experimentation, analyzes and interprets the data and uses engineering criteria to draw conclusions RA7. Self-employed learningGets and applies new knowledge as required, using appropriate learning strategies
   b. Prerequisites:
      • INGE-00014 INDUSTRIAL EQUIPMENT
      • INGE-00020 ENERGY TECHNOLOGY
5. Learning Objectives of the Course
   a. Study and understand the three major maintenance areas of the function that are the Management, Execution and Knowledge of the Specific Maintenance Techniques
      - RA1
      -RA7.Know the management tools to increase the availability of the equipment to the precise level.
      - RA1
      -RA7. Understand how to reduce costs to the minimum compatible with the necessary level of availability of the equipment.
      - RA1
      -RA6
      -RA7. Study how to improve the reliability of machines and installations
      - RA1
      -RA6
      -RA7. Comp render how to assist the engineering department in new projects to facilitate the maintenance of the new facilities
      - RA1

-RA6

-RA7. Study the specific techniques of maintenance

b. Learning Outcomes

- A study of the maintenance of the function
- Study equipment management
- Study of human resources management
- Study the management of work
- Study the analysis of equipment reliability
- Study the analysis of averia
- Consideration of the diagnostic analysis of degradation and pollution of the oil
- Studies allineation technologies and equilbrate of rooters
- Study the diagnostic of vibration analysis
- Study of maintenance management assisted by order
- Study the diagnostic fall in equipment
- Study of degaste mechanisms and protection technologies
- Study of predictive maintenance technologies
- Study control of maintenance management

6. Course Topics

- The function maintenance
- Management of equipment, management of human resources, management of work
- Control of maintenance management, analysis of equipment reliability
- Allination of eyes, balance of rodents
- Diagnostic falls in equipment
- Waste mechanisms and protection technologies
- Analysis of averia
- Preditional maintenance technologies
- Diagnostic average for analysis of degradation and pollution of diagnostic average oil for vibration analysis