

Course Number: 28558

Course Name: : CONDITION MONITORING

Course Type: Theory
Prerequisite: -
Level: Graduate
Group: Solid Meachanics,Naval Eng.

Type & Max Unit: Constant 3
Corequisite:-
First Presentation: 2001
Last Edition: 2017

Objectives:

Modern maintenance techniques based on Condition Monitoring is the Main goal of this course. After introducing important equipment in industries, applied probability and statistics will be taught. Reliability and availability of parallel and Serial systems with their failure will be discussed. Condition monitoring and fault diagnosis using vibration will be taught in Deep.

Topics:

- Introduction to rotating and reciprocating Machinery and Their application in industries
- Applied probability and statistics
- Failure distribution
- Constant failure rate models
- Reliability of Systems
- Failure mode in equipments
- Sensors, vibration measurement and analysis
- Fault Diagnosis in rotating machinery using vibration analysis
- Vibration instruments and their application in diagnosis and balancing
- Introduction to thermography, oil analysis, and Current analysis

References:

- Randall R.B., Vibration-based Condition Monitoring, John Wiley & Sons Ltd,2011
- R.E. walpol, et.al. probability& Statistics for Engineers and Scientists , 9th edition, prentice Hall, 2012
- Ebiling, C.E., An Introducton to Reliability and Maintainability Engineering, 2ndedition, Waveland Press, Inc.,2009