

EAS437 Reliability-Centered Maintenance

Level: 4

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

It will provide students with an understanding on how maintenance programmes are developed and managed both in the civilian and military aerospace sectors. Designing and evaluating reliability-centered maintenance systems will be studied. Local case studies will be used in assessments and seminar discussions.

Topics:

- Development of maintenance programmes
- Definitions, goals and objectives of aerospace maintenance
- Failure patterns study
- Analysis of functions and failures
- P to F curve; condition monitoring and on-condition maintenance
- Life cycle of RCM
- Designing a reliability-centered maintenance system
- RCM methodologies
- MSG-3 techniques
- Requirements for a maintenance programme, and failure finding
- Organizing maintenance reliability board
- Measurement of reliability and maintenance performance

Textbooks:

Neil Bloom: Reliability Centered Maintenance (RCM): Implementation Made Simple McGraw
ISBN-13: 9780071589185

Learning Outcome:

- Discuss the development of maintenance programmes
- Analyse functions and failures
- Evaluate the requirements for a maintenance programme, and failure finding
- Recommend methodologies to study the life cycle of RCM
- Formulate a failure patterns study scheme
- Construct methods to carry out condition monitoring and on-condition maintenance
- Assess the design process of a reliability-centered maintenance system (Practical Component)
- Appraise MSG-3 techniques

Assessment Strategies (Evening Class):

| Components | Description | Weightage Allocation (%) |
|-------------------------------|---------------------------|---------------------------------|
| Overall Continuous Assessment | QUIZ 1 | 15 |
| | TUTOR-MARKED ASSIGNMENT 1 | 15 |
| Overall Examinable Components | Written Exam | 70 |
| Total | | 100 |