

University of Pretoria Yearbook 2018

Maintenance engineering 420 (MII 420)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Mechanical Engineering BEng Mechanical Engineering ENGAGE
Prerequisites	No prerequisites.
Contact time	1 practical per week, 3 lectures per week
Language of tuition	Separate classes for Afrikaans and English
Department	Mechanical and Aeronautical Engineering
Period of presentation	Semester 2

Module content

Introduction: Definition and objectives, statistical concepts. Mathematics of failure: Reliability concepts, fitting distribution to failure data. Maintenance management: Investment decisions, maintenance profit impact. Maintenance structure: Preventive, time based, condition based, corrective, design out. Data analysis: Renewable, repairable systems, Laplace trend test, analysis methodology. Optimizing maintenance strategies: Replacement/overhaul age, inspection frequencies, capital replacement, simulation. Reliability-Centred Maintenance (RCM). Maintenance systems: Components, structure, computer methods. Tribology: Friction laws, lubrication theory, contamination control. Maintenance Practice: Systems approach, management approach, modelling.

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