



Arab Academy for Science, Technology & Maritime Transport  
 College of Engineering & Technology  
 Mechanical Engineering Department

**University/Academy:** Arab Academy for Science, Technology & Maritime Transport  
**Faculty/Institute:** College of Engineering & Technology  
**Program:** B.Sc. Mechanical Engineering

Form no. (12): **Course Specification**

**1- Course Data**

Course Code: <b>ME 542</b>	Course Title: <b>Maintenance Planing</b>	Academic Year/Level: <b>5th year / 10th semester</b>	
Specialization: <b>Mechanical</b>	No. of Instructional Units <b>3 credits</b>	Lecture <b>2 hrs.</b>	Practical <b>2 hrs.</b>

**2- Course Aim**

- Student should understand maintenance concept and types. The importance of maintenance planning & control to judge choose, and adapt maintenance system which provides optimum solution to maintenance problems with the minimum expenditure.

**3- Intended Learning Outcomes**

<b>a- Knowledge and Understanding</b>	<b>Through knowledge and understanding, students will be able to:</b> a.6) Quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues. a.7) Business and management principles relevant to engineering. a.12) Contemporary Engineering Topics a.p.4) The constraints which mechanical power and energy engineers have to judge to reach at an optimum solution a.p.5) Business and management techniques and practices appropriate to mechanical power and energy Engineering applications
<b>b- Intellectual Skills</b>	<b>Through intellectual skills, students will be able to:</b> b.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact b.p.1) Evaluate mechanical power and energy engineering designs, processes and performances and Propose improvements b.p.2) Analyze and interpret data, and design experiments to obtain new data b.m.2) Create solutions to mechatronics systems especially to manufacturing, maintenance and interfacing Problems in a creative way, taking account of industrial and commercial constraints
<b>c- Professional Skills</b>	<b>Through professional and practical skills, students will be able to:</b> c.8) Apply safe systems at work and observe the appropriate steps to manage risks.

	<p>c.9) Demonstrate basic organizational and project management skills.</p> <p>c.10) Apply quality assurance procedures and follow codes and standards.</p> <p>c.p.2) Prepare engineering drawings, computer graphics and specialized technical reports</p> <p>c.p.5) Design, operate, repair and maintain fluid hydraulic power systems for diverse applications</p> <p>c.p.7) Work in mechanical power and energy operations, maintenance and overhaul</p> <p>c.m.2) Manage field problem, identification, formulation and solution</p>
<b>d- General Skills</b>	<p><b>Through general and transferable skills, students will be able to:</b></p> <p>d.3) Communicate effectively</p> <p>d.8) Acquire entrepreneurial skills</p>

#### 4- Course Content

<b>Week No.1</b>	Introduction – Management Functions
<b>Week No.2</b>	Maintenance and Repair.
<b>Week No.3</b>	Maintenance Types
<b>Week No.4</b>	Condition control
<b>Week No.5</b>	Condition monitoring
<b>Week No.6</b>	Maintenance Planning and Control
<b>Week No.7</b>	Maintenance Planning and Control / 7th week evaluation
<b>Week No.8</b>	Planning Administrative System
<b>Week No.9</b>	Cost Control Systems
<b>Week No.10</b>	Coding Systems and economic aspects
<b>Week No.11</b>	Spare Parts Control systems
<b>Week No.12</b>	Computer Planning Systems / 12th week evaluation
<b>Week No.13</b>	Case Studies.
<b>Week No.14</b>	Case Studies
<b>Week No.15</b>	Case Studies
<b>Week No.16</b>	Final examination

#### 5- Teaching and Learning Methods

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

## 6-Teaching and Learning Methods for Students with Special Needs

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

### Engineering Requirements and Design Considerations in college Buildings and its Leading Passages

- The design of college buildings and pedestrian passages leading to it are sloppy to allow the transportation of the handicapped;
- Doors are wide enough to let wheel chairs pass through easily and conveniently.
- Lifts are provided for movement between floors.
- Doors are made from light weight materials to make it easy for the handicapped suffering from weakness in limb muscles or those handicapped using prosthetic limbs to deal with them with the least muscular effort.
- Class floors are made from non-slippery materials to prevent falls on the part of the handicapped.
- Sudden changes in the floor level are prevented.

### Design Considerations of the Classes

- Class boards are placed at 60 cm high to allow wheeled chair users or those suffering from limited arm mobility use them.
- Enough spaces are left between seats and benches to prevent hindering the movement of wheeled chairs between them.
- Handicapped students sit among normal people in class to be able to interact with them. Nevertheless, in urgent cases according to the nature of the disability, the handicapped students sit in fixed suitable places whether at the front or the back of the class.
- Handicapped students sit close to the main exits of the class to be able to evacuate in case of emergencies.

### Academic Support:

- The general academic advisor appoints an academic supervisor for handicapped students.
- Continuous follow ups are made for handicapped students after each assessment to evaluate their academic level of achievement

## 7- Student Assessment

<b>a-Procedures used</b>	1-Written Examinations to assess The Intended Learning Outcomes.	
	2-Class Activities (Reports, Discussions, -----) to assess The Intellectual and general Skills.	
<b>b- Schedule:</b>	Assessment 1	7 <sup>th</sup> Week Assessment
	Assessment 2	12 <sup>th</sup> Week Assessment
	Assessment 3	Continuous Assessments
	Assessment 4	16 <sup>th</sup> Week Final Written Exam
<b>c- Weighing of Assessment</b>	7 <sup>th</sup> Week Evaluation	30 %
	12 <sup>th</sup> Week Evaluation	20 %
	Final-term Examination	40 %
	Oral Examination	00 %
	Practical Examination	00 %
	Semester Work	10 %

	Total	100%
--	-------	------

**8- List of References:**

<b>a- Course Notes</b>	N/A
<b>b- Required Books</b> (Textbooks)	<ul style="list-style-type: none"> <li>• Maintenance Planning Prepared by Eng. Nabil El Khouly</li> </ul>
<b>c- Recommended Books</b>	<ul style="list-style-type: none"> <li>• Patlon Joseph D. Preventive Maintenance, Latest Edition. Prentice – Hall</li> <li>• - IMO Reference Books</li> </ul>
<b>d- Periodicals, Web Sites, etc.</b>	N/A

**Course Instructor: Prof. Mohamed Teamah**

**Head of Department: Prof. El-Sayed Saber**

**Program Manager: Prof. El-Sayed Saber**

**Dean of College of Engineering and Technology of AASTMT**

Name: **Prof. Moustafa Hussein Aly**

Signature:

**Executive Manager of Quality Assurance Center of AASTMT**

Name: **Prof. Aziz Ezzat**

Signature: