Manufacturing Processes I

Basic Course Specification		
Course Title	**Course Code**	**Program on which the course is given**
Manufacturing Processes I	IM 212T	Bachelor
Academic Year	**Specialization** (hr/week)	**Pre-Requisites**
2020 - 2021	• Theoretical(2) • Application(4) • Credit(3Cr.)	IM 112 T

Overall Course Objectives

The student should be able to understand the fundamentals of the material removal processes and to optimize these processes, i.e. minimize waste and cost and maximize effecting and quality.

Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	7th Week Assessment	12thWeek Assessment	Class Activities	Final Exam
1.Assess and evaluate the characteristics and performance of components, systems and processes, land apply critical thinking.	c,f		x		x
2. Select and appraise appropriate ICT tools to a variety of engineering problems and create innovative solutions	a, e	x	x		
3. Analyze and solve the problems presented by industrial entities.	b, d, e		x	x	x

Course Content

Lec./ Week #	Topic	Hrs. #	Theor.	App.
1	Introduction to manufacturing process	6	2	4
2	Mechanics of chip formation	6	2	4
3	Cutting tools for machining	6	2	4
4	Tool were and tool life	6	2	4
5	Economics of machining	6	2	4
6	Turning operations	6	2	4
7	7th Week Exam	6	2	4
8	Drilling and reaming	6	2	4
9	Milling operation	6	2	4
10	Shaping and broaching	6	2	4
11	Grinding and finishing operations	6	2	4
12	12th Week Exam	6	2	4
13	Numerical control of machine tools	6	2	4
14	Non-traditional machining – innovative tools	6	2	4
15	Revision	6	2	4
16	**Final Assessment**			
Total Hours		**90**	**30**	**60**

Teaching & Learning Methods	Facilities Required for Teaching & Learning Methods
• Lectures • Attending workshops • Assignments & sheets	• White board and data show • Machining workshop

• Practical and machining practices	

Students Assessment Methods	
Assessment Schedule	
Assessment#1	Week 7
Assessment#2	Week 12
Assessment#3	Class and Workshop Activities
Assessment#4	Week 16

Grading Method		
7th Week Assessment	Written Exam	**30%**
12th week Assessment	Written Exam	**20%**
Class Activities	Assignments	**10%**
Final Exam	Written Exam	**40%**
	Total	**100 %**

Staff Requirements
Marine Chief Engineer/ Ph.D.

Course Notes	**Essential Books**
Lecturer notes and sheets (Updated 2020)	Fundamentals of machining processes: conventional & nonconventional processes 9781466577022.
Recommended Books	**Periodicals and Publications**
SME, Tools and Manufacturing Engineers Hand book, McGraw Hill,2013	None

IMO References
None

Accreditation Bodies
*Egyptian Authority for Maritime Safety (EAMS) European Commission (EC) *ISO (9001 – 2015) DNV-GL *Central Evaluation and Accreditation Agency Hanover, Germany (ZEVA) *Ministry of Education (KSA) *Ministry of Higher Education (Greece) *Ministry of Higher Education (Oman) *Commission for Academic Accreditation (CAA), Ministry of higher Education (UAE) *University of Plymouth, United Kingdom (dual degree)

Prepared by: Course Coordinator **Reviewed by: Head of Department**

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