

No	Course Information (2019-2020)	
1	Unit name:	Industrial Management I (2019-2020)
2	Code:	EcE 51006
3	Classification:	Engineering Subject
4	Credit value:	2.5 (2-1-0)
5	Semester/ Year Offered:	1/5
6	Pre-requisite:	-
7	Mode of delivery:	Lecture, Discussion, Teamwork
8	Assessment system and breakdown of marks:	Tutorial , Assignment Activity Exam
	Tutorial	10%
	Assignment	10%
	Activity (classwork)	10%
	Mid-term Examination	70%
9	Academic staff teaching unit:	Department of Electronic Engineering
10	<p>Course outcome of unit:</p> <p>In this course students will be able</p> <ul style="list-style-type: none"> • To demonstrate knowledge and understanding of engineering management principles. • To analyze the cash flow and the financial process by using business tools. • To apply engineering management principles in implementing systems, processes and projects that meet specific requirements • To apply professional engineering management practice in assessing and solving societal and cultural issues and evaluating sustainability of the solution. • To practise team work and communicate effectively. 	
11	<p>Synopsis of unit:</p> <p>The course introduces engineering and technology management, management characteristics and functions, engineering and technology management challenges and skill needs, useful information on engineering and technology management. Engineering management is devoted to organization, the human element and method of</p>	

3	<p>Tools for Making Effective Engineering and Technology Management Decisions</p> <p>3-1 Introduction</p> <p>3-2 Discounted cash flow</p> <p>3-3 Depreciation analysis</p> <p>3-4 Decision trees</p> <p>3-5 Optimization techniques</p> <p>3-6 Learning curve analysis</p> <p>3-7 Fault tree analysis</p> <p>3-8 Forecasting</p> <p>3-9 Problem</p>
4	<p>Project Selection and Management</p> <p>4-1 Introduction</p> <p>4-2 Terms and definitions</p> <p>4-3 Type of information required for evaluating a project</p> <p>4-4 Project selection models</p> <p>4-5 Need for project Management, Project organization life cycle phase, and project management functions and procedure characteristics</p> <p>4-6 Project manager responsibilities, qualifications, selection and reporting</p> <p>4-7 Project management methods</p> <p>4-8 Project management benefits and project management failure Factors</p> <p>4-9 Problem</p>
7	<p>Creativity and Innovation</p> <p>7-1 Introduction</p> <p>7-2 Creativity and innovation definitions, classifications of inventions, and factors in creativity</p> <p>7-3 Creativity climate, ways and guidelines to develop creativity and creative problem solving process</p> <p>7-4 Types of barriers to creative thinking, management barriers to creativity and innovation prevention reasons</p> <p>7-5 Individual creative person engineer and manager characteristics; attributes of manager of creative people; and a noncreative person's characteristics</p> <p>7-6 New idea generation, presentation, evaluation and elimination</p> <p>7-7 Creativity methods</p> <p>7-8 Problem</p>

14	Main references: B. S. DHILLON, ENGINEERING AND TECHNOLOGY MANAGEMENT TOOLS AND APPLICATIONS
15	Additional references: 1:Project Management for Business, Engineering and Technology , John M. Nicholas and Herman Steyn, 3th Edition. <u>2</u> : Engineering Economic Analysis, Donald G. Newnan, 9 th Edition.