DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT
MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY, JAMSHORO

Title of Subject	**:**	**Engineering Economy**	**INM-702**	**(2+0)**
Discipline	**:**	Industrial Engineering and Management		
Semester	**:**	1st Semester 1st Year		
Effective	**:**	**21S**- Batch and onwards		
Credit Hours	**:**	Th: 02		
Marks	**:**	Th: 50		
Minimum Contact Hours	**:**	Th: 28		

Aims

The aim of this course is to introduce student with advanced concepts of engineering economic analysis and its role in engineering decision making. It is designed to offer the students the tools needed for rigorous presentation of the effect of the time value of money on engineering problem solving.

Objectives

- To explain and demonstrate the principles and techniques of engineering economic analysis as applied in different fields of engineering.
- To apply knowledge of mathematics, economics, and engineering principles to solve engineering problems.
- To apply engineering economic techniques on solving engineering problems by using computer tools such as spreadsheets.

CONTENTS:

Introduction

Concept of Engineering Economics, Element of Cost, Cash Flows: Their Estimation and Diagramming, Break-Even Analysis, Profit/Volume Ratio Analysis, Material Selection Analysis, Product Design Analysis, Production Process Analysis,

Interests and Their Applications

Time value of money, Single-Payment Compound Amount, Single-Payment Present Worth Amount, Present Worth Method of Comparison, Future Worth Method

Rate of Return Analysis

ROR Calculations, cautions when using ROR methods, ROR Evaluations, Using spreadsheets for ROR analysis

Replacement and Retention Analysis: Types of Replacement Problem, Determination of Economic Life of an Asset, Replacement Analysis of Existing Asset with a New Assets, Using spreadsheets for replacement analysis

Depreciation Analysis: Methods of Depreciation, Straight Line Method of Depreciation, Declining Balance Method of Depreciation, Sum-of-the-Years-Digits Method of Depreciation, Service Output Method of Depreciation, Using Spreadsheets for Depreciation Computations

RECOMMENDED BOOKS

1. Leland Blank, P. E., Anthony Tarquin, P. E., *Engineering Economy*, McGraw-Hill Education, Latest Edition.
2. R. Panneerselvam, *Engineering Economics*, PHI Learning Private Limited, New Delhi, Latest Edition.

Approval:	Board of Studies:	Res. No. 3.1	Dated: 27.08.2019
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