



***Strategic Plan for Learning and Teaching
Department of Chemical Engineering***

Branch Name:	Chemical Engineering (CHE)	Session :	2018-2019
Subject Name:	Economics for Engineers	Year:	3 rd
Subject Code:	HU501	Semester :	5 th

Course Objective:	Prepare engineering students to analyze cost/revenue data and carry out make economic analyses in the decision making process to justify or reject alternatives/projects on an economic basis
Course Outcome:	<ul style="list-style-type: none"> • Will be able to perform and evaluate present worth, future worth and annual worth analyses on one of more economic alternatives • Perform and evaluate payback period and capitalized cost on one or more economic alternatives • Will be able to carry out and evaluate benefit/cost, life cycle and breakeven analyses on one or more economic alternatives.

Teaching-Learning Plan:

Lecture Class No.	Reference to the WBUT Syllabus	Subject Topics to be discussed/ covered/ delivered	Text book / Referred book SL.No.
1	Module I	Economic Decisions Making – Overview, Problems, Role	5
2		Decision making process	
3		Engineering Costs & Estimation – Fixed, Variable, Marginal & Average Costs, Sunk Costs, Opportunity Costs, ,	5
4		Recurring And Nonrecurring Costs, Incremental Costs	
5		Cash Costs vs Book Costs, Life-Cycle Costs	5
6		Types Of Estimate, Estimating Models - Per-Unit Model, Segmenting Model	5
7		Cost Indexes, Power-Sizing Model, Improvement & Learning Curve, Benefits.	5
8		Cash Flow, Interest and Equivalence: Cash Flow – Diagrams,	5
9		Categories & Computation, Time Value Of Money, Debt repayment, Nominal & Effective Interest	5
10		Categories & Computation, Time Value Of Money, Debt repayment, Nominal & Effective Interest	5
11		Class Test-I(4 th week of August2017)	5
12	Module II	Present Worth Analysis: End-Of-Year Convention, Viewpoint Of Economic Analysis Studies,	3,5
13		Borrowed Money Viewpoint, Effect Of Inflation & Deflation,	3,5
14		Taxes, Economic Criteria, Applying Present Worth Techniques, Multiple Alternatives	3,5
15		Cash Flow & Rate Of Return Analysis – Calculations, Treatment of Salvage Value	3
16		Annual Cash Flow Analysis, Analysis Periods; Internal Rate Of Return	3

17		Calculating Rate Of Return, Incremental Analysis	3
18		Best Alternative Choosing An Analysis Method, Future Worth Analysis	3
19		Benefit-Cost Ratio Analysis, Sensitivity And Breakeven Analysis.	3
20		Economic Analysis In The Public Sector - Quantifying And Valuing Benefits & drawbacks	3
		Test on Mod-I & Mod-II(3 rd Week of September2017)	
21	Module III	Uncertainty In Future Events - Estimates And Their Use In Economic Analysis, Range Of Estimates,	5
22		Probability, Joint Probability Distributions, Expected Value,	5
23		Economic Decision Trees, Risk , Risk vs Return, Simulation, Real Options	5
24		Depreciation - Basic Aspects, Deterioration & Obsolescence, Depreciation And Expenses, Types Of Property,	5
25		Depreciation Calculation Fundamentals,	5
26		Depreciation And Capital Allowance Methods, Straight-Line Depreciation	5
27		Declining Balance Depreciation, Common Elements Of Tax Regulations For Depreciation And Capital Allowances	5
28		Replacement Analysis - Replacement Analysis Decision Map, Minimum Cost Life Of A New Asset, Marginal Cost, Minimum Cost Life Problems.	5
29			Class Test-II (on Mod-III) in the month of Oct2017)
30	Module IV	Inflation And Price Change – Definition, Effects, Causes, Price Change With Indexes	4,2,6
31		Types of Index, Composite vs Commodity Indexes	4,2,6
32		Use of Price Indexes In Engineering Economic Analysis, Cash Flows that inflate at different Rates	4,2,7
33		Accounting – Function	4,5
34		Balance Sheet, Income Statement, Direct and Indirect Costs, Indirect Cost Allocation	4,5
35		Financial Ratios Capital Transactions, Cost Accounting,	4,5
36		Revision through practice	4,5
		On Mod-III & IV (As per date of Exam Cell)	

Recommended Text/ Reference Books:

Sl.No.	Name of Text/ Reference Book	Name of Author	Publisher & edition
1	Engineering Economics Analysis	Donald Newnan, Ted Eschembach, Jerome Lavelle :	OUP
2	Principle of Engineering Economic Analysis	John A. White, Kenneth E.Case,David B.Pratt	John Wiley
3	Engineering Economics	R.Paneer Seelvan	PHI
4	Economics for Engineers	Dr Shantanu Chakraborty & Nilanjan SinghaRoy	Lawpoint Publications
5	Accounting & Economics	Debashis Majumdar & J K Mitra	New Age International
6	International Journal Of Engineering Management And Economics		Inter Science publishers
7	Journal for Engineering Economists		Taylor & Francis online

Course Co-ordinator / Faculty

Sl. No.	Name of the Course Co-ordinator / Faculty	Signature of Course coordinator / Faculty		Signature of HOD	
1	Prof. Dr.A.K.Das				