

# KING SAUD UNIVERSITY

## College of Engineering

### GE 403: Engineering Economy (First Semester 1432-1433H, 2011-2012G)

**INSTRUCTORS:** Prof. Talal Al-Refeai, Prof. Magdy Zahw, Dr. Hely, and Dr. Welid Elsaigh

**TEXT:** White, Case, and Pratt, "Principles of Engineering Economic Analysis," 5<sup>th</sup> Edition.

Chapter	Topics	Homework
1	Introduction to Engineering Economic Analysis: Time value of money, Principles of Engineering Economic Analysis, Economic Analysis Techniques. Sections 1-2→1-4	8, 9, 10
2	<u>Time Value Of Money</u> : Cash Flow Diagrams, Simple Interest Calculations, Compound Interest Calculations, Multiple Compounding Periods in a year and Continuous Compound Interest Calculations. Sections: 2-1→2-6, 2-A.	6, 8, 9, 13, 15, 16, 24, 32, 56, 90, 98, 130, 156, 164, 172.
3	<u>Equivalence and Indifference</u> . Section 3-7, 3-9	40, 41, 42, 43, 44, 45, 58, 60
4	<u>Comparison of Alternatives</u> ., Choosing Planning Horizons, Sections: 4-1, 4-2	4, 5, 6
5	<b><u>Measure of Worth:</u></b> <u>Present Worth Analysis</u> : Single Alternative, Multiple Alternatives, One shot investment Sections: 5-3, 5-4, 5-5 <u>Discount Payback Period</u> : Single Alternative, Multiple Alternatives, Sections: 5-6, 5-7 <u>Capitalized Worth</u> : Single Alternative, Multiple Alternatives, Sections: 5-8, 5-9	<b>CH5:</b> 9, 10, 12, 13, 25, 27, 61, 62, 65, 66, 69, 72, 74
6	<u>Fut ur Worth Analysis</u> : Single Alternative, Multiple Alternatives, More on unequal lives. Sections: 6-2, 6-3, 6-5	<b>CH6:</b> 4, 7, 9, 18, 31, 32, 36, 67, 68
7	<u>Annual Worth Analysis</u> : Single Alternative, Multiple Alternatives, Least Common Multiple of Lives Assumption, Sections: 7-2, 7-3, 7-4	<b>CH7:</b> 4, 5, 8, 23, 24, 25, 28, 51, 53, 60, 61, 63
8	<u>Capital Recovery Cost</u> : Section 7-6 <u>Internal Rate of Return</u> : Single Alternative, Multiple Alternatives, Sections: 8-2, 8-3 <u>External Rate of Return</u> : Single Alternative, Multiple Alternatives, Sections: 8-4, 8-5	<b>CH8:</b> 3, 5, 8, 15, 34, 51, 53, 54, 65
9	<u>Depreciation</u> . Sections: 9.1, 9.3, 9.4, 9.5, 9.A ,9.B	9,10,11,12,13,14,46,47,48,49
11	<u>Replacement Analysis</u> : Sections 11-1, 11-2, 11-2-1, 11-3, 11-3-1	4, 5, 7
12	<u>Inflation Effects</u> : Before- Tax Analsis in Inflationary Conditions, Sections : 12-1, 12-2, 12-3.	1, 13, 15, 17, 20
14	<u>Economic Analysis of Public Projects</u> .Sections: 14-1 to 14-7	6, 8, 9, 13, 14
16	<u>Cost Terminology</u> : Life Cycle Viewpoint, Past/Future Viewpoint, Manufacturing Cost Structure Viewpoint , Fixed/Variable Viewpoint and Average/Marginal Viewpoint.Section 16-2	3, 4, 6, 10, 12

### **Grade Distribution**

Quizzes (15%) and Attendance (5%)

**20%**

1<sup>st</sup> Midterm (5.30-6.30 PM)

Mon. 3-01-1433

**20%**

2<sup>nd</sup> Midterm (5.30-6.30 PM)

Wed. 26-01-1433

**20%**

Final Exam

**40%**