



**DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING  
MECHANICAL ENGINEERING PROGRAM, BSC.**

**Course Syllabus**

- 1. Course number and name**  
IE 323 Engineering Economy and Management
- 2. Credits and contact hours**  
(3+0) 3 credit hours, 3 contact hours
- 3. Course type**  
Face to face Learning Course
- 4. Instructor's or course coordinator's name**  
Eng. Dana Salameh
- 5. Textbook information**  
L. T. Blank and A. Tarquin, "Engineering Economy", 7th edition, McGraw-Hill, 2012.
  - a. Other supplemental materials**  
Instructor's Notes
- 6. Specific course information**
  - a. Catalog description**  
Fundamentals of engineering economy. Cost concepts. Time value of money. Economic analysis of alternatives. Replacement analysis. Engineering management
  - b. Prerequisites or co-requisites**  
Prerequisite: **Calculus 2**
  - c. The course is:**  
Required **in the engineering program.**
- 7. Specific goals for the course**
  - a. Course outcomes:**  
After completion of the course, students are expected to be able to:
    1. Understanding of the "time value of money" concept.
    2. Ability to apply interest equations to equivalence calculations.
    3. Ability to apply various methods for economic analysis of alternatives.
    4. **Ability to make replacement decisions.**



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- b. The following student outcomes are addressed by the course:**  
None

**8. Learning Outcomes and their Alignment with Program Educational Objective (PEO's), Methods of Delivery, and Assessment Methods:**

Learning Outcomes	Program PEOs	Method of Delivery	Assessment Method
<b>Course Outcomes</b>			
CO-(1): Understanding of the “time value of money” concept.	-	Lectures (Example and Problems)	First exam
CO-(2): Ability to apply interest equations to equivalence calculations	-	Lectures (Example and Problems)	Second exam
CO-(3): Ability to apply various methods for economic analysis of alternatives.	-	Lectures (Example and Problems)	Homework
CO-(4): Ability to make replacement decisions.		Lectures (Example and Problems)	Final exam

**9. Weekly Teaching Plan**

Week number	Lecture	Topic	Method of Delivery
1	Lec_1	Chapter 1 Foundations of Engineering Economy	Lecture
	Lec_2	Chapter 1 Foundations of Engineering Economy	Lecture
	Lec_3	Chapter 1 Foundations of Engineering Economy	Lecture
2	Lec_4	Chapter 1 Foundations of Engineering Economy	Lecture
	Lec_5	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
	Lec_6	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
3	Lec_7	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
	Lec_8	Chapter 2 Factors: How Time and Interest Affect Money	Lecture



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	Lec_9	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
4	Lec_10	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
	Lec_11	Chapter 2 Factors: How Time and Interest Affect Money	Lecture
	Lec_12	Chapter 3 Combining Factors and Spreadsheet Functions	Lecture
5	Lec_13	Chapter 3 Combining Factors and Spreadsheet Functions	Lecture
	Lec_14	Chapter 3 Combining Factors and Spreadsheet Functions	Lecture
	Lec_15	Chapter 3 Combining Factors and Spreadsheet Functions	Lecture
6	Lec_16	Chapter 3 Combining Factors and Spreadsheet Functions	Lecture
	Lec_17	Chapter 4 Nominal and Effective Interest Rates	Lecture
	Lec_18	Chapter 4 Nominal and Effective Interest Rates	Lecture
7	Lec_19	Chapter 4 Nominal and Effective Interest Rates	Lecture
	Lec_20	Chapter 4 Nominal and Effective Interest Rates	Lecture
	Lec_21	Chapter 4 Nominal and Effective Interest Rates	Lecture
8	Lec_22	Chapter 4 Nominal and Effective Interest Rates	Lecture
	Lec_23	Chapter 5 Present Worth Analysis	Lecture
	Lec_24	Chapter 5 Present Worth Analysis	Lecture
9	Lec_25	Chapter 5 Present Worth Analysis	Lecture
	Lec_26	Chapter 5 Present Worth Analysis	Lecture
	Lec_27	Chapter 5 Present Worth Analysis	Lecture
10	Lec_28	Chapter 6 Annual Worth Analysis	Lecture
	Lec_29	Chapter 6 Annual Worth Analysis	Lecture
	Lec_30	Chapter 6 Annual Worth Analysis	Lecture
11	Lec_31	Chapter 6 Annual Worth Analysis	Lecture
	Lec_32	Chapter 6 Annual Worth Analysis	Lecture
	Lec_33	Chapter 7 Rate of Return Analysis: One Project	Lecture
12	Lec_34	Chapter 7 Rate of Return Analysis: One Project	Lecture
	Lec_35	Chapter 7 Rate of Return Analysis: One Project	Lecture
	Lec_36	Chapter 8 Rate of Return Analysis: Multiple Alternatives	Lecture
13	Lec_37	Chapter 8 Rate of Return Analysis: Multiple Alternatives	Lecture
	Lec_38	Chapter 8 Rate of Return Analysis: Multiple Alternatives	Lecture
	Lec_39	Chapter 8 Rate of Return Analysis: Multiple Alternatives	Lecture
14	Lec_40	Chapter 9 Benefit/Cost Analysis and Public Sector Economics	Lecture



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	Lec_41	Chapter 9 Benefit/Cost Analysis and Public Sector Economics	Lecture
	Lec_42	Chapter 13: Payback Analysis	Lecture
15	Lec_43	Chapter 13: Payback Analysis	Lecture
	Lec_44	Engineering management	Lecture
	Lec_45	Engineering management	Lecture

### 10. Grade Distribution:

Assessment	Grade	Date
- First Exam	20%	Fifth Week
- Second Exam	20%	10 <sup>th</sup> Week
- Assignments	10%	
- Final Examination	50%	16 <sup>th</sup> Week

Note: Make-up exams will be offered for valid reasons. It may be different from regular exams in content and format.