ADDIS ABABA UNIVERSITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING

Course Outline for Engineering Economics Course Number: **CEng5211**

Course Objective: Understand the basic concepts of

- Engineering economic decision making
- Time value of money
- Benefit-cost analysis
- Depreciation

Learning outcome:

- Determine present and future worth and rates of return on investment.
- Carry out economic evaluation and choose form investment alternatives.
- Developand understand benefit-cost analyses.
- Study depreciation of different machinery and infrastructure assets.
- Prepare and interpret a simple economic feasibility study.

Content:

1. **Basic concepts of Engineering Economics**
   - 1.1. Introduction
   - 1.2. Engineering economics decisions
   - 1.3. Understanding financial statements
2. **Cost of Money**
   - 2.1. Interest
   - 2.2. Time value of money
   - 2.3. Economic equivalence
3. **Economic Evaluation**
   - 3.1. Present worth and Future analysis
   - 3.2. Payback periods
   - 3.3. Internal rate of return
4. **Benefit-Cost analysis**
5. **Depreciation**
6. **Overview of Project Economic feasibility study**

References

1. Ted G. Eschenbach, Engineering Economy: Applying Theory to Practice, Oxford University Press, 2011.
2. E. Paul DeGarmo, William G. Sullivan, James A. Bontadelli, Elin M. Wicks, Engineering Economy,Perntice Hal, 1997.
3. Donald G. Newnan, Ted G. Eschenbach, Jerome P. Lavelle, Engineering Economic Analysis, Oxford University Press, 2009.
4. James L. Riggs, David D. Bedworth, Sabah U. Rundhawa, Engineering Economics, McGrawhill Education, 1996.

Mode of Assessment:

- Continuous Assessment 50% (Assignment, Project, Quiz)
- Final Examination 50%