**TID7102: Engineering Economics**

**Short description**

This course provides knowledge on financial capacity, performance and financing of industry. It covers financial analysis, financial statements and how to analyze risk in an industry.

**Course objectives**:

This subject develops students' capability to understand and assess financial statements of industrial entities, and to identify and manage risk in the management and practice of engineering and enterprise.

**Learning objectives:**

By the end of the course the student should be able to;

1. Prepare a balance statement
2. Prepare an income statement from enterprise incurred costs
3. Identify the main hazards in an engineering project and design an appropriate

risk management strategy

1. Interpret financial statements and audited accounts
2. Understand what figures in accounts mean

**Methods of course delivery:**

1. lectures and discussions
2. self study assignments
3. case studies and group discussions

**Method of assessment**

Assessment will be done through coursework which will include assignments, class room and take home tests, project work and presentations and a written examination. Course work will carry a total of 40% and written examination carries 60%. Coursework marks will be divided into; Assignments 5%, Tests 10% and Practical Work 25%.

**Course content**

Financial statement analysis (Income, Cash flow statements, Balance Sheet, budgeting and analysis of performance (18 hours), analyzing fixed and variable cost, allocation of indirect costs, analysis of product costs (8 hours), Investment appraisal, Feasibility Studies, Business Plans, net present value, internal rate of return, depreciation and taxation, multi-attribute analysis (12 hours), Measures of investment worth under risk, utility theory, risk analysis, decision tree analysis (7 hours). Case Studies (15 hours).

**Basic reading list/references:**

1. D.G. Newman, T.G. Eschenbach, and J. LaVelle 2009, *Engineering Economic Analysis,* 10th, Oxford University Press.
2. Chan S Park, *Adanced Engineering Economics*, John Wiley & Sons Inc.
3. Sepalveda J. A Sounder, W.E, Gottfried, B.S. *Schaums Outline of Engineering Economics*; Mcgraw-Hill, 1984.
4. Blank L.T, Tarquin A.J., *Basics of Engineering Economy, 2007,* Mcgraw-Hill.