

# Economic Analysis and Financial Management for Engineering (CIEE 725)

## Syllabus

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### Part 1: Course Information

#### Instructor Information

Instructor: Dr. Raymond Aoieong  
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#### Course Description

The course is to cover the fundamental principles needed by construction managers to successfully manage the finances of construction companies. These principles include accounting for financial resources, managing costs and profits, managing cash flows and analyzing financial alternatives.

#### Prerequisite

None

#### Course Duration

42 contact hours, 3 hours per week (3-credit course)

**Credit:** 3

**Compulsory/elective course:** Elective

### Part 2: Course Objectives

#### *Part 1: Engineering Economics & Feasibility Studies*

The objectives of the 1st part of the course are: (1) to provide a sound understanding of the principles, basic concepts, and methodology of engineering economy; and (2) to develop proficiency with the principles employed in the financial and economic analysis on the feasibility of projects.

#### *Part 2: Financial Management for Engineering*

The objectives of the 2nd part of the course are: (1) to provide a good understanding of the sources and means of acquiring capital funds for engineering organizations; and (2) to introduce the basic principles employed in the preparation and interpretation of a contractor's balance sheet and income statement.

Upon completion of this course, other than having a basic and good understanding of the following topics, students will be able to:

1. analyze financial alternatives using tools such as *Present Worth, Future Worth and Annual Worth and Rate of Return*
2. solve problems using the principles of *Engineering Economics*
3. read, analyze and discuss *Financial statements*
4. analyze and manage *Costs and Benefits*
5. describe and use *Construction Accounting systems*
6. perform *Cash Flows* analysis

### Part 3: Major Assessment Methods

Mid-term exam. : 50%  
Final exam.: 50%