

## COURSE CONTENT

<b>Academic Year</b>	2017/18	<b>Semester</b>	1
<b>Course Coordinator</b>	TEO CHEE CHONG		
<b>Course Code</b>	CV4107		
<b>Course Title</b>	Engineering Economics and Finance		
<b>Pre-requisites</b>	Nil.		
<b>No of AUs</b>	3 AU		
<b>Contact Hours</b>	<i>Lecture: 26 hr ; Tutorial: 13 hr ; Lab: 0 hr</i>		
<b>Proposal Date</b>	<i>November 2019</i>		

### Course Aims

The subject is aimed to provide you with a sound understanding of the principles, basic concepts, and methodology of engineering economy and sources of finance. Upon completion of the course, you should be able to perform economic evaluation and financial analysis of investments and projects.

### Intended Learning Outcomes (ILO)

After successfully completing the course, you will be able to:

1. Apply appropriate assumptions when evaluating economic aspects of projects
2. Perform quantitative economic analysis of project evaluation
3. Analyze economic scenarios based on principles of engineering economics
4. Apply financial analysis techniques and skills for engineering practice to analyze and evaluate the financial condition of a company
5. Examine the similarities and differences of the various financial instruments so that suitable tools can be employed

### Course Content

*List of key topics taught*

	Topic	Lecture (hours)
1.	Introduction	1
2.	Introduction to Interest	1
3.	Effects of Time and Interest on Money	2
4.	Economic Evaluation of Alternatives	4
5.	Financial Accounting	2

6.	Depreciation Accounting	1
7.	After-tax Economic Analysis	2
8.	Effects of Inflation on Economic Evaluation	1
9.	Replacement Analysis	2
10.	Sources of Finance	4
11	Decision Making under Uncertainty	3

**Assessment (includes both continuous and summative assessment)**

Component	Course LO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	Assessment rubrics
1. Final Examination	1-5	EAB SLO* a, k	60%	Individual	
2. Continuous Assessment 1 (CA1): Quiz 1	1-3	EAB SLO* a, k	20%	Individual	
3. Continuous Assessment 2 (CA2): Quiz 2	1-5	EAB SLO* a, k	20%	Individual	
Total			100%		

\* EAB SLO stands for the Engineering Accreditation Board Student Learning Outcomes. For the full list of student learning outcomes, please take a look at [page 14 of this document](#).

**Formative feedback**

**Learning and Teaching approach**

Approach	How does this approach support students in achieving the learning outcomes?
lectures–	Approach allows you to apply principles and methodologies and the relationship with other factors (e.g., environmental). This gives you needed background for outcomes (1) to (5).
Tutorials	Mostly on analytical and computation problems. The tutorials give you practice in analysing problems that address outcomes (1) to (5).
Proposed TEL: short cases discussed in class	Approach aims to allow you to align with real-world practices of the subject.

## Reading and References

Textbook:  
Blank, L. and Tarquin, A. (2017). Engineering Economy, 8<sup>th</sup> ed., McGraw-Hill Education, New York.

## Course Policies and Student Responsibilities

### **(1) General**

*Students are expected to take all scheduled quizzes. Students are expected to take responsibility to follow up with course notes, assignments and course related announcements. Students are expected to participate in class discussions and activities.*

### **(2) Absenteeism**

*Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.*

## Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

### Course Instructors

Instructor	Office Location	Phone	Email
Dr Teo Chee Chong	N1-01a-09	6790 4887	TeoCC@ntu.edu.sg
Tiong Lee Kong, Robert	N1-01c-72	6790 5253	clktiong@ntu.edu.sg

### Planned Weekly Schedule

Week	Topic	Course LO	Readings/ Activities
1	Introduction and Introduction to Interest	1	Tutorial and lectures
2	Effects of Time and Interest on Money	1	Tutorial and lectures
3	Economic Evaluation of Alternatives	1-3	Tutorial and lectures
4	Economic Evaluation of Alternatives	1-3	Tutorial and lectures
5	Financial Accounting	4-5	Tutorial and lectures
6	Depreciation Accounting and After-tax Economic Analysis(1)	1-4	Tutorial and lectures
7	After-tax Economic Analysis(2) and Effects of Inflation on Economic Evaluation	1-4	Tutorial and lectures
8	Replacement Analysis	1-4	Tutorial and lectures
9	Sources of Finance	1-5	Tutorial and lectures
10	Sources of Finance	1-5	Tutorial and lectures
11	Decision Making under Uncertainty	1-4	Tutorial and lectures
12	Decision Making under Uncertainty	1-4	Tutorial and lectures
13	In-Class Course Review	-	Tutorial and lectures