

HO CHI MINH CITY OPEN UNIVERSITY
FACULTY OF CIVIL ENGINEERING

SYLLABUS

MINISTRY OF EDUCATION AND TRAINING
HO CHI MINH CITY OPEN UNIVERSITY

COURSE SPECIFICATION

I. General information

1. Course title in Vietnamese: **Kinh tế xây dựng** (Course code: (CENG5301))

2. Course title in English: Engineering Economy in Construction

3. Mode of delivery:

☐ FTF ☐ Online ☒ Blended

4. Language(s) for instruction:

☐ Vietnamese ☒ English ☐ Both

5. Knowledge/Skills:

☐ General ☒ Major

☐ Foundation ☐ Additional

☐ Discipline ☐ Graduation thesis

6. Number of Credits

Total	Theory	Practice	Self-study
3	3	0	105

7. Administration of the course:

a) Faculty/Division: Faculty of Civil Engineering

b) Academics: 1. Phong Thanh Nguyen, Ph.D.; 2. MBA. Phuong Thanh Phan 3. Dr. Khoa Dang Vo; 4. Quan Khac Nguyen

c) Email: phong.nt@ou.edu.vn

d) Room: Room.705, Faculty of Civil Engineering, Ho Chi Minh City Open University; Address: 35-37 Ho Hao Hon St, Co Giang Ward, District 1, Ho Chi Minh City

II. Course overview

1. Course Description

This course introduces the basic principles of project appraisal and evaluation in construction and engineering problem.

2. Course Conditions

No.	Conditional Course(s)	Course Code
1.	Pre-requisites subject	
	No request	
2.	Prior-subject	
	No request	
3.	Parallel subject	
	No request	

3. Course objectives

After finishing the course, students should be able to:

Course Objectives	Description	Program learning Outcomes (PLOs) be fit for to the course
CO	<i>Knowledge:</i> The objective of the course is to expose learners to both the theoretical principles and the practical applications engineering economy in construction and engineering projects	PLO4
CO	<i>Skill:</i> The ability to apply engineering economic analysis techniques in construction engineering and management project	PLO5, PLO6
CO	<i>Attitude:</i> Students will take the responsibility to solve given assignments on their own and submit the solution on time. Students learn to manage their time between self-study, solving assignments. .	PLO8

4. Course Learning Outcomes (CLOs)

Course Objectives	Course learning Outcome	Description of CLO
CO1	CLO1.1	Explain the concept of technical economics.
CO2	CLO2.1	Using economic and technical analysis tools and methods applied in the construction industry and Applying analytical methods and tools to compare and select construction investment plans.
CO3	CLO3.1	Ability to work in groups, a sense of responsibility, and organization of work

Integrated matrix between Course learning Outcomes (CLOs) and Programme Learning Outcomes (PLOs)

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CLO1				4					
CLO2					4	4			

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CLO3								4	

5. Teaching and Learning Materials

a. *Textbook*

[1] Nguyễn Văn Chơn, *Kinh tế đầu tư xây dựng*, Nhà xuất bản Xây dựng, 2015 (Tái bản năm 2022)

b. *Additional readings*

[2] Carl D. Martland, *Toward More Sustainable Infrastructure: Project Evaluation For Planners And Engineers*, Lần thứ 1, Hoboken, New Jersey : John Wiley & Sons, 2012. (Mã số tài liệu trong thư viện: 52002)

[3] Leland Blank, Anthony Tarquin, *Engineering Economy*, New York, NY: McGraw-Hill Education, 2018 . (Mã số tài liệu trong thư viện: 52076)

7. Course Assessment

Assessment Components	Assessment Contents	Time of assessment	CLO	Weighting (%)
(1)	(2)	(3)	(4)	
A1. Formative assessment	Presentation or case study exercises	During term	CLO1.1, CLO2.1, CLO3.1	50%
A2. Summative assessment	All of chapters	End of term	CLO1.1, CLO2.1	50%
Total				100%

[illegible]

[illegible]

Week Section	Content	CLOs	Teaching and learning										Assessment	Textbooks and materials
			Self-study		FTF				Online (if any)					
					Theory		Practice		Theory		Practice			
			Activity	Hour	Activity	Periods	Activity	Periods	Activity	Periods	Activity	Periods		
(1)	(2)	(3)	(4)		(5)		(6)		(7)		(8)		(9)	(10)
	analysis 2. Uncertainty analysis		Review, do multiple- choice questions or exercises, case studies, read the content of the next part		examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books (9 x 50 mins).									
Total				105		35				10				

9. Ma trận tích hợp giữa chuẩn đầu ra của môn học và phương pháp giảng dạy – phương pháp đánh giá

Tuần/buổi học Week Section	Nội dung Content	CĐR môn học CLOs	Hình thức dạy học Teaching and learning methods	Hình thức đánh giá Student assessment
(1)	(2)	(3)	(4)	(5)
1	Foundations of Engineering Economy 1. Engineering economy definition approach 2. Engineering economy approach 3. Interest rate, MARR 4. Cash flows 5. Cost of capital	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
2	Time value of money 1 Use factors for single amounts and uniform series 2 Use the geometric gradient series factor 3 Nominal and effective interest rate	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
3	Project investment selection and analysis 1 Present value analysis	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples.	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test

Tuần/buổi học Week Section	Nội dung Content	CĐR môn học CLOs	Hình thức dạy học Teaching and learning methods	Hình thức đánh giá Student assessment
(1)	(2)	(3)	(4)	(5)
	2 Annual value analysis		+ Home: review knowledge and read books	
4	Project investment selection and analysis 3 Rate of Return	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
5	Project investment selection and analysis Analysis 4 Benefit-cost ratio analysis. 5. Break-even analysis	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
6	Project investment selection and analysis Analysis 6 Other methods	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
7	Capital Budgeting 1 Capital budgeting using present value analysis 2 Capital budgeting using linear programming	CLO1.1. CLO2.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
8	Inflation and Depreciation 1.The impact of inflation – 2. Depreciation methods	CLO1.1. CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test
9	Risk Analysis 1. Deterministic analysis 2. Uncertainty analysis	CLO1.1. CLO2.1 CLO3.1	Lecturer: Teach and give these examples in classroom Student: + Class: listen and do the examples. + Home: review knowledge and read books	Doing exercises, examples and homeworks Submitted to LMS Multiple choices in final test

8. Regulations

Students need to follow the rules of Ho Chi Minh City Open University