Search

CEE4412-01 (2ND SEMESTER, 2020)

연세대학교 YONSEI UNIVERSITY

Created Date	2020-07-15 17:59:55	Last-Modified	2020-08-25 18:00:02
Course Title	CONSTRUCTION ECONOMIC FEASIBILITY	Credit	3
Location	EngHD403	Time	Tue8,9

Instructor	Kim Hyoungkwan	Department	공과대학 건설환경공학과
Office	N403	Telephone	02-2123-5799
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Core Competencies	공학기초능력	창의적융합능력	협동및국제화능력
	20	30	50

Target Students	Third year engineering students
Course Description & Goals	This course is designed to introduce students methodologies for evaluating economic feasibility of infrastructure. Upon successful completion of this course students should be able to understand: □ basics of financial decisions □ how to evaluate business assets □ how to analyze project cash flows □ different types of public private partnership □ lifecycle costs of infrastructure projects
Prerequisite	Engineering Basic Design
Course Requirements	This class is conducted based on the principle of “flipped learning.” Students are required to engage with video lectures or other materials outside of class to prepare for in-class activities. The in-class activities include asking questions, discussion, and team-based problem solving. Due to the COVID 19, the online class (Zoom sessions) will replace the in-class activitis until further notice.
Grading Policy(Absolute)	Grade components will be weighted as follows in computation of the final course grade: ○ Homework 50% ○ Term project 50% Term Project: Objective: Apply knowledge gained in CEE4412 to analysis of a real life infrastructure project. Choose a real life project with more than $100,000,000 value (ongoing, finished, or future) to study. The project should have a certain level of project finance features. It is not necessary to enter the construction site to complete the report. Submit a report including: ○ A brief description, including photographs and/or drawings, of the project ○ The parties involved in the project (contractual agreement) ○ Cash flow analysis for short-term loan ○ Cash flow analysis for long-term loan ○ Overall project valuation Sensitivity analysis ○ Other interesting findings Students must work in-groups to produce the term project. One page interim report that shows the construction project identified and names of their group members should be presented in the class. The report must be neatly word processed on one side of the paper with a maximum of 6000 words excluding figures and appendices, and submitted. The project will be presented to the class. Grades will be based on content and presentation.
Texts & References	Contemporary Engineering Economics (5th Edition) 5th Edition by Chan S. Park (Author); ISBN-13: 978-013611848 Construction Management, 4th Edition Daniel W. Halpin, Bolivar A. Senior; ISBN-13: 978-0470447239
Instructor's Profile	Hyoungkwan Kim, PhD, PEng Professor of Civil & Environmental Engineering Dpt. Room: N403
TA's Name & Contact	Jiu Sohn, Graduate Research Assistant

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Syllabus in English	This course is designed to introduce students methodologies for evaluating economic feasibility of infrastructure. Upon successful completion of this course students should be able to understand: - basics of financial decisions - how to evaluate business assets - how to analyze project cash flows - different types of public private partnership

Week	Period	Weekly Topic & Contents	Course Material Range & Assignments	Reference
1	2020-09-01 2020-09-07	Engineering Economic Decisions Accounting and Financial Decision Making	Video lecture (Engineering Economic Decisions) Video lectures (Accounting and Financial Decision Making I and II)	(9.1.) Fall semester classes begin (9.3. - 9.7.) Course add and drop period
2	2020-09-08 2020-09-14	Commanding Heights (the battle for the world economy); Episolde 1 - the battle of ideas (Two-hour episode)	http://www.infocobuild.com/books-and-films/social-science/commanding-heights-pbs.html	
3	2020-09-15 2020-09-21	Interest Rate and Economic Equivalence	Video lectures (Interest Rate and Economic Equivalence I and II)	
4	2020-09-22 2020-09-28	Project Cash Flow During Construction Understanding Money and its Management	Video lecture (Project Cash Flow During Construction) Video lectures (Understanding Money and its Management I and II)	
5	2020-09-29 2020-10-05	Present-Worth Analysis	Video lectures (Present-Worth Analysis I and II)	(9.30. - 10.2.) Chuseok Holiday (10.3.) National Foundation Day
6	2020-10-06 2020-10-12	Annual Equivalent-Worth Analysis Rate-of-Return Analysis 1	Video lectures (Annual Equivalent-Worth Analysis; Rate-of-Re Return Analysis I)	(10.6. - 10.8.) Course withdrawal period (10.7.) First third of the semester ends (10.9.) Hangul Proclamation Day
7	2020-10-13 2020-10-19	Rate-of-Return Analysis 2 and 3	Video lectures (Rate-of-Re Return Analysis II and III)	
8	2020-10-20 2020-10-26	First Review		(10.20. - 10.26.) Midterm Examinations
9	2020-10-27 2020-11-02	Interim report presentation		
10	2020-11-03 2020-11-09	Project Funding	Video lectures (Project Funding I and II) *Project Team organization and idea prsentation	
11	2020-11-10 2020-11-16	Depreciation and Corporate Taxes Cash Flow Statement Development and Cost of Capital	Video lecture (Depreciation and Corporate Taxes) Video lecture (Cash Flow Statement Development and Cost of Capital)	(11.16.) Second third of the semester ends
12	2020-11-17 2020-11-23	Inflation and Its Impact on Project C Cash Flows	Video lectures (Inflation and Its Impact on Project Cash Flows I, II and	

			III) * Interim presentation and report submission	
13	2020-11-24 2020-11-30	Project Risk and Uncertainty	Video lecture (Project Risk and Uncertainty)	
14	2020-12-01 2020-12-07	Second Review		
15	2020-12-08 2020-12-14	Term project presentation	*Final project presentation and report submission	(12.8. - 12.21.) Self-study and Final Examinations
16	2020-12-15 2020-12-21			(12.8. - 12.21.) Self-study and Final Examinations

* Changes in Management of Academic Semester
During the midterm examinations (2021.4.19. - 4.23.) and final examinations (2021.6.7. - 6.8.) period, classes or self-study should be continued unless there is an exam scheduled during the week.
* According to the University regulation section 57-2, students with disabilities can request special support related to attendance, lectures, assignments, or exams by contacting the course professor at the beginning of semester.Upon request, students can receive such support from the course professor or from the Center for Students with Disabilities(OSD). The following are examples of types of support available in the lectures, assignments, and exams:
(However, actual support may vary depending on the course.)
[Lecture]
- Visual Impairment: alternative, braille, enlarged reading materials, note-taker
- Physical Impairment: alternative reading materials, access to classroom, note-taker, assigned seat
- Hearing Impairment: note-taker/stenographer, recording lecture
- Intellectual Disability/Autism: note-taker, study mentor
[Assignments and Exam]
- Visual, Physical, Hearing Impairment: extra days for submission, alternative type of assignment, extended exam time, alternative type of exam, arranging separate exam room, and proctors, note-taker
- Intellectual Disability/Autism: personalized assignments, alternative type of evaluation