

City University of Hong Kong
Course Syllabus

offered by College/School/Department of Electrical Engineering
with effect from Semester A in 2018/2019

Part I Course Overview

Course Title: Project

Course Code: EE4080

Course Duration: Two Semesters

Credit Units: 6

Level: B4

Proposed Area:
(for GE courses only)

Arts and Humanities
 Study of Societies, Social and Business Organisations
 Science and Technology

Medium of Instruction: English

Medium of Assessment: English

Prerequisites:
(Course Code and Title)

For Normative 4-year Degree Students
At least 63 credit units of the Major Requirement, College Requirement and College-specified GE Courses have been completed

For Advanced Standing Students^(Note 1 & 3)
At least 39 credit units (For Advanced Standing I students) / 36 credit units (For Advanced Standing II students) of the Major Requirement have been completed

Note 1: Credits of exempted courses are counted regardless of the completion time of replacement courses

Note 2: Corresponding reduction in credit requirement applies to ASII students granted with waiver arrangement on courses upon admission.

Note 3: Students completed full requirement in College-specified GE courses (MA1200/MA1201/MA1300/MA1301) can have one course counted towards the credit unit requirement specified above.

Precursors:
(Course Code and Title) Nil

Equivalent Courses:
(Course Code and Title) EE4181 Project (ECE) or
EE4281 Project (CDE) or
EE4381 Project (INFE)

Exclusive Courses:
(Course Code and Title) Nil

Part II Course Details

1. Abstract

This course is to provide students the options to undertake either academic project (Part A) or industrial project (Part B).

Part A: Academic Project

The aim of this academic project is to provide students with a project to integrate and apply what has been learnt in the programme. This allows students to be trained in organizing and managing a substantial individual project to initiate creativity, innovation and intellectual abilities.

Part B: Industrial Project

The aim of this part is to provide students, in collaboration with industry, an industrial project to integrate and apply what has been learnt in the taught undergraduate courses. This enables students to be trained in co-operation with the electronic related industry while nurturing students with a spirit of professionalism. The result will strengthen employability by meeting the needs of industry.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

Part A

No.	CILOs [#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Complete a project in the area of electronic and communication, computer or information engineering in substantial depth		√	√	√
2.	Demonstrate critically, the innovative design ideas, analysis, implementation and solutions encountered in a project		√	√	√
3.	Communicate in written form, a substantial formal report reflecting outcomes effectively and accurately		√	√	√
4.	Communicate orally with the aid of presentation techniques to give optimum impact		√	√	√
		100%			

* If weighting is assigned to CILOs, they should add up to 100%.

Part B

No.	CILOs [#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Complete an industrial project in design, applied research or development		√	√	√
2.	Demonstrate initiative, innovative and intellectual abilities in handling a challenging technical project		√	√	√
3.	Communicate in written form, a substantial formal report reflecting outcomes effectively and accurately		√	√	√
4.	Communicate orally with company mentors to identify industrial needs and solve technical problems		√	√	√
		100%			

* If weighting is assigned to CILOs, they should add up to 100%.

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

Part A

TLA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
Laboratory and other activities	Project guidance by project supervisor and self-learning	√	√	√	√			Laboratory: 104 hrs (8hrs x 13wks) Other activities: 72 hrs (5.5hrs x 13wks) Total: 176 hrs/semester

Part B

TLA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
Laboratory and other activities	Project guidance by project supervisor and self-learning	√	√	√	√			Laboratory: 104 hrs (8hrs x 13wks) Other activities: 72 hrs (5.5hrs x 13wks) Total: 176 hrs/semester

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.						Weighting*	Remarks
	1	2	3	4				
Continuous Assessment: <u>100%</u>								
Project report, Demonstration, Oral Presentation	√	√	√	√			100%	
Examination: <u>N/A</u>								
							100%	

* The weightings should add up to 100%.

Remark:

For a student to pass the course,

- (i) They must conduct an oral presentation,
- (ii) They must obtain an overall pass (D) grade or above,
- (iii) They did not obtain a final fail (F) grade from the supervisor and assessor.

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Coursework	Achievements in CILOs	High	Significant	Moderate	Basic	Not even reaching marginal levels

6. Constructive Alignment with Major Outcomes

MILO	How the course contribute to the specific MILO(s)
1	An ability to apply knowledge of mathematics, science and engineering
2	An ability to design and conduct experiments as well as to analyze and interpret data
3	An ability to design a system, component, or process that conforms to a given specification within realistic constraints
5	An ability to identify, evaluate, formulate and solve engineering problems
6	Awareness of professional and ethical responsibilities
7	An ability to communicate effectively
8	Knowledge in contemporary issues and an awareness of the impact of engineering solutions in a broad, global and societal context
9	Recognition of the need for life-long learning
10	An ability to use necessary engineering tools

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

Project Implementation

Formulation of design problem; utilization of engineering/problem solving skills; analysis, assumptions, extension of knowledge; concepts, innovation; project management; usage, resource management.

Project Demonstration

Live demonstration; guided tour; supporting material; explanation of problems encountered.

Project Report

Organization; content, engineering/theoretical analysis, relevance; use of appendices, engineering/theoretical work, report writing style and grammar; presentation of material; visual.

Project Oral Presentation

Content; relevance, accuracy, delivery; organization, preparation and effectiveness of delivery, style, pacing and body language, time management.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	N/A
----	-----

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

1.	The project supervisor should recommend relevant books, publications and reference materials prior to the commencement of the project. The student, however, is expected to perform some of the literature search himself/herself.
----	--

Evidence for each level of achievements in Project Implementation and Project Report

Project reports should be assessed based on specific areas of achievements, the examples of which are given below. Depending on the level of achievement in each area, the supervisor and assessor should assign a point from 'A' to 'F', where 'F' means 'No Progress' and the descriptions for 'A' to 'D' are tabulated below. The final point or overall performance is determined based on the points assigned for each item.

Areas of Achievement (e.g.)	Marginal (D)	Adequate (C)	Good (B)	Excellent (A)
Project Implementation				
Formulation of design problem	Not formulated clearly	Unclear in some respects and not well thought out	Clear, but the scope is not well defined.	Clear, well thought out and scope well defined
Problem solving/ engineering skills : <ul style="list-style-type: none"> ● Analysis ● Assumption 	<ul style="list-style-type: none"> ● Engineering analysis infrequently used or appears trivial and leads to obvious conclusions ● No assumptions stated 	<ul style="list-style-type: none"> ● Included some analysis, but not very detailed or challenging; many steps seem not supported by calculations ● Assumptions are stated but none are justified 	<ul style="list-style-type: none"> ● Detailed & challenging engineering analysis; but some steps seem not supported by calculations ● Assumptions are stated, but some not justified. 	<ul style="list-style-type: none"> ● Detailed & challenging engineering analysis at every stage of the design process ● All assumptions are stated and justified
Extension of knowledge <ul style="list-style-type: none"> ● Concepts ● Innovation 	<ul style="list-style-type: none"> ● Basic concepts not applied correctly; new areas not included ● No innovative work initiated 	<ul style="list-style-type: none"> ● Basic concepts used; new ideas not introduced ● Innovative work initiated; of minimal importance 	<ul style="list-style-type: none"> ● Basic concepts used easily, and include some new concepts ● Innovative work initiated; but of minimal impact 	<ul style="list-style-type: none"> ● Basic and creative concepts used. ● Promising innovative work initiated
Project management (PM) : Usage and resource management	Little evidence of PM; Little evidence of good resource management e.g. late component sourcing and unplanned late laboratory usage	Use of PM techniques but limited application; some evidence of resource management but mainly on a reactive basis	Use of PM techniques with evidence of application; evidence of proactive use of resources but also some reactive utilization	Continuous use of PM techniques; proactive use of resources e.g. planned lab usage & work within the confines of resources
Project Report				
Organization	Disorganized to the extent preventing understanding.	Unclear organization.	Organization is generally good, but some parts seem out of place	Written work is well organized and easy to understand.
Content - Engineering/ theoretical analysis	Little engineering/ theoretical analysis	Analysis is of trivial calculations & poorly explained	Analysis poorly explained or so detailed that the audience loses interest	Analysis presented with sufficient details to be understood at peer level
Relevance – <ul style="list-style-type: none"> ● Engineering/ theoretical work ● Use of appendices 	<ul style="list-style-type: none"> ● Engineering/theoretical work presented totally irrelevant to the work performed ● Considerable amount of material misplaced and appendices not documented 	<ul style="list-style-type: none"> ● Most engineering/ theoretical work presented either trivial or not used in the work performed ● Some misplacement of information in the text vs. the appendix. Appendices poorly documented 	<ul style="list-style-type: none"> ● Most of the engineering/theoretical work presented relevant to the work performed. ● Information appropriately placed in either the main text or appendices; but documentation and referencing somewhat incomplete 	<ul style="list-style-type: none"> ● Engineering/theoretical work presented entirely relevant to the work performed. ● Information appropriately placed in either the main text or appendices
Writing style and grammar – <ul style="list-style-type: none"> ● Spelling and grammar ● Writing style 	<ul style="list-style-type: none"> ● Frequent spelling and grammatical errors ● Writing disorganized and difficult to read and understand 	<ul style="list-style-type: none"> ● More than one spelling/ grammar error per page ● Readable writing style, but difficult to follow 	<ul style="list-style-type: none"> ● A few spelling and grammatical errors ● Writing style indicates planning that makes reading easy 	<ul style="list-style-type: none"> ● Spell-checked and proofread well ● Writing style indicates planning that makes reading easy and flow of material makes understanding easy
Presentation of materials -Visual, graphs/diagrams.	There are few visual aids, and those used are carelessly prepared.	Most visual aids are sloppy and hard to read.	Visual aids are good, but a few are sloppy or difficult to read.	Visual aids frequently used, easy to read, understand & professional

Final Year Project Presentation
Examples of Evidence for each Level of Achievements (Rubric)

Areas of Achievements	No progress (F)	Marginal (D)	Adequate (C)	Good (B)	Excellent (A)
	0	1 point	2 points	3 points	4 points
I. Content – Relevance of information presented	<ul style="list-style-type: none"> No progress 	<ul style="list-style-type: none"> Irrelevant to or inappropriate for the purpose, audience and setting 	<ul style="list-style-type: none"> Relevant to and appropriate for the purpose, audience and setting 	<ul style="list-style-type: none"> Relevant to and appropriate for the purpose, audience and setting Audience is attentive. 	<ul style="list-style-type: none"> Relevant to and appropriate for the purpose, audience and setting Audience is engaged in the presentation.
II. Content – Accuracy of information presented	<ul style="list-style-type: none"> No progress 	<ul style="list-style-type: none"> Contains major inaccuracies 	<ul style="list-style-type: none"> Covers main points but with limited facts and few details; There may be minor inaccuracies. 	<ul style="list-style-type: none"> Statements or positions communicated clearly and accurately, with no major omissions. 	<ul style="list-style-type: none"> Statements or positions communicated clearly and strongly supported with accurate and appropriate details.
III. Delivery - Organization, preparation and effectiveness of delivery	No progress	<ul style="list-style-type: none"> Appears uncomfortable & not confident in most parts of presentation Little evidence of organization & preparation Awkward and frequent errors in sentence structure; poor English 	<ul style="list-style-type: none"> Appears comfortable in only parts of the presentation Some evidence of organization & preparation Some errors in sentence structure; English just comprehensible 	<ul style="list-style-type: none"> Appears comfortable in most parts of presentation Evidence of organization & preparation Correct sentence structure; proficiency in English demonstrated 	<ul style="list-style-type: none"> Confident & relaxed throughout the presentation Clear evidence of organization and presentation Sentence structure consistently correct; good English
IV. Delivery - Style, pacing and body language; Time management	No progress	<ul style="list-style-type: none"> Inappropriate separation from audience & communication appears distant Distractive body stance & use of hands Noticeably exceed or fall short of the time allotted 	<ul style="list-style-type: none"> Body stance & proximity to audience indicate some discomfort with the subject and audience Distractive hand gestures Speaker either rushes or rambles excessively to meet the time allotted. Time frame is “approximately” met. 	<ul style="list-style-type: none"> Body stance & proximity to audience indicate comfort with the subject and the audience Hand gestures emphasize major points The speaker uses time allotted, but the presentation is slightly rushed or delayed. 	<ul style="list-style-type: none"> Body stance & proximity to audience indicate confidence and comfort with the subject and the audience. Hand gestures facilitate communication Comfortably uses the time allotted, without evidence of compensation.