

EE4090: ENGINEERING TRAINING

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Engineering Training

Subject Code

EE - Electrical Engineering

Course Number

4090

Academic Unit

Electrical Engineering (EE)

College/School

College of Engineering (EG)

Course Duration

One Semester

Credit Units

0

Level

B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

(EE2000 Logic Circuit Design
or EE2301 Basic Electronic Circuits
or EE2005 Circuits and Devices I)
and CS2311 Computer Programming

The above pre-requisite requirements only apply to Part B In-house Training.

Precursors

Nil

Equivalent Courses

EE4091 and EE4092
or
EE4093 and EE4095
or
EE4096 and EE4097

or
EE4290 and EE4291

Exclusive Courses

Nil

Part II Course Details

Abstract

Students will gain practical experience under the Industrial Attachment Scheme (IAS) / Overseas Internship Scheme (OIS) (Part A) or the in-house training scheme (Part B).

Part A (Industrial Attachment Scheme (IAS) / Overseas Internship Scheme (OIS))

Students will gain practical work experience and / or learn new technologies from an industrial / research environment while their spirit of professionalism will be nurtured.

Part B (In-House Training)

Students will undergo comprehensive practical training in computer and data engineering, electrical and electronic engineering, information engineering, and microelectronics engineering. In particular, students will gain valuable hands-on experiences that complement the theoretical knowledge acquired through their taught courses.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	For Part A (IAS/OIS) Describe practical working experience gained from an industrial / research environment		x	x	
2	For Part A (IAS/OIS) Discuss the importance of the spirit of professionalism and professional ethics in a real-life environment		x		
3	For Part A (IAS/OIS) Describe the technologies used in a modern industrial / research setting			x	
4	For Part A (IAS/OIS) Communicate their ideas and present their work effectively		x	x	
5	Part B (In-House Training) Describe practical experience gained from an in-house environment		x	x	
6	Part B (In-House Training) Apply proper engineering tools and analysis techniques to solve real-world problems			x	
7	Part B (In-House Training) Describe the technologies used in a modern industrial setting		x		
8	Part B (In-House Training) Communicate their ideas and present their work effectively		x	x	

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 real-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.

Learning and Teaching Activities (LTAs)

LTAs		Brief Description	CILO No.	Hours/week (if applicable)
1	For Part A Laboratory	Students will work in a company or research institute to complete the tasks/jobs assigned by the mentors there. Through the training, students will gain practical work experience and / or learn new technologies.	1, 2, 3, 4	At least 40 hours/week (IAS: 6 weeks, OIS: 9-13 weeks)
2	For Part B Laboratory	Students will complete the tasks stated in selected training modules described in Part III. Through the training, students will gain practical experience.	5, 6, 7, 8	40 hours/week(2 weeks)

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1	Part A (IAS/OIS) -Logbook -Demonstration and Presentation -Co-supervisor comments Part B (In-House Training) -Logbook -Quizzes or assignments -Demonstration and presentation	1, 2, 3, 4, 5, 6, 7, 8	100	CILO No. 1-4 for Part A Weightings: Log-book(34%); Demonstration and Presentation (33%); Co-supervisors comments(33%) CILO No. 5-8 for Part B Continuous Assessment: 100% Please refer to the additional document for EE4090 Assessment Components for In-House Training.	Yes

Continuous Assessment (%)

Examination (%)

0

Additional Information for ATs

Part A: The assessment is based solely on a pass/fail criterion. In order to pass the course, students must successfully complete the training with satisfactory performance, as recommended by the training mentor and the CityU co-supervisor.

Part B: Please refer to the attached document titled "EE4090 Assessment Components for In-House Training" for further information.

Assessment Rubrics (AR)**Assessment Task**

Continuous assessment on the progress of assigned tasks or group project

Criterion

Achievements in CILOs

Pass (P)

Reach the required level

Failure (F)

Not even reaching the marginal level

Part III Other Information

Keyword Syllabus**Part A: Industrial Attachment Scheme (IAS)/ Overseas Internship Scheme (OIS)**Structure and Content

Students are required to undergo a six-week IAS or nine to thirteen-week OIS training in a company or research institute that is relevant to the electronic, electrical, computer, or IT industry. The duration of the training for each student is contingent upon the availability of engineering training programs offered by the respective company or research institute.

Supervision and Assignment

A mentor from the company or research institute will be assigned to provide guidance, advice, and assess the student's performance throughout the training period. Additionally, academic staff members from the Department of Electrical Engineering at City University of Hong Kong will be appointed as co-supervisors to monitor the student's progress. Students are expected to maintain a weekly logbook to document their work and activities. The assessment will be based on the logbook entries as well as the overall performance of their assigned tasks. Before the completion of the training, students will be required to deliver a presentation on their work.

Part B: In-house Training

Students are required to complete two out of the following four modules, which encompass practical training in electrical and electronic systems, computer hardware and software, computer system administration, and networking:

Electrical, Electronics and 3D Drawing Workshop

Design circuit layouts for electrical and electronic sub-systems; Utilize Altium Designer, a PCB design software; Integrate and solder a PCB circuit board; Create 3D drawings using DesignSpark Mechanical; Gain knowledge of basic electrical installation practices; Understand MOS transistors through SPICE simulation.

Raspberry Pi and IoT

Set-up, configure a Raspberry Pi computer system and develop IoT applications based on its hardware and software.

Computer System Administration

Set-up and configure Linux and Window systems according to specific requirements.

CCNA Networking

Set-up, configure, test, and monitor a network according to specific requirements.

Reading List

Compulsory Readings

Title	
1	Nil

Additional Readings

Title	
1	Nil