Department of Electrical and Electronic Engineering

ELEC2840 Engineering Training
Academic year 2019 – 2020
Last updated : Dec 28, 2019

ARRANGEMENT FOR COMPUTER ENGINEERING (CE) STUDENTS

ELEC2840 is a core 6-credit course of all EEE (CE/EE/ElecE) students. It is a course offered in the summer semester. Most students would enroll this course in their second year of studies. Students would receive a pass/fail instead of a letter grade for this course.

To satisfy the requirement of this course, students are required to complete four core modules and submit a satisfactory final report by the deadline. Students in different programmes are required to take different sets of modules. For CE students, the four modules are IoT, NET, CI, and APP. The details of the four modules are below.

	Training	Contents
1	(IoT) Internet of Things	Learn how to use Raspberry Pi for IoT application and Python for machine learning. The GPIO (General Purpose Input/Output) pins of Pi allow environmental data to be collected through sensors. Raspberry Pi thus has been widely used in developing Internet of Things (IoT), monitoring and control applications. In this module, we will introduce python and GPIO programming as well as develop several simple IoT applications.
2	(NET) Practical Networking	Concept of networking, TCP/IP, connection of UTP network cable, testing, configuration of router, Ethernet switch, access point and computer terminal
3	(CI) Circuit and Instrumentation	Use National Instrumentation LabVIEW software in simulating systems to measure instead of measure readings using real hardware components. Use of Power logic and Power PCB as design software to design the layout of PCB for connecting to the LabView system
4	(APP) Mobile Apps	Mobile devices such as phones, tablets, watches, have become a necessity in modern societies. In this module, we will introduce basic programming in the iOS platforms. Unique features of mobile devices, such as small display, sensors, portability, etc. will be explored.

Traditionally, each core module is a 4.5-day (Mon-Thur full day + Fri morning except public holidays) hands-on training on a particular topic. In other words, each student is required to spend four weeks to attend four different workshop modules in order to receive the credit of this course.

As we have received feedback that more flexible arrangement is preferred, we now offer online version of IoT and APP modules. Materials will be posted on Moodle. Students can work on the materials at their own pace according to their schedule. To earn the credit of the module, students have to submit the required exercises before the last day of the module. We will host consultation sessions throughout the semester to provide support if needed.

Due to the special situation in the first semester, the arrangement of APP and IoT modules is now updated as follows:

Schedule for APP Module

Session	Mode	Period	Quota
1	online	(1st semester) Oct 14, 2019 – March 13, 2020	20
2	online	(2nd semester) Jan 20, 2020 – May 29, 2020	20
3	traditional	a week in June exact period to be determined	20

Mac machines are currently located in CB103A. They will be moved to CB104 in the last few days of December. Access hours of CB104 are 8am – 9pm Monday to Saturday (excluding public holidays). iOS devices are available only during TA consultation hours.

Schedule for IoT Module

Session	Mode	Period	Quota
1	hybrid	Jan 6, 2020 – Feb 3, 2020	10
2	hybrid	Jan 13, 2020 – Feb 3, 2020	20
3	online	(2nd semester) Jan 20, 2020 – May 29, 2020	30
4	traditional	a week in June exact period to be determined	20

In **online mode**, materials will be available on Moodle on or before the first day of the period. All required exercises should be submitted on or before the last day of the period. We will arrange TAs to answer questions through emails. TAs will also host consultation sessions in the lab for device distribution and help. Due to TA and equipment constraints, quota is still imposed in online sessions. Consultation sessions will be arranged according to the enrollment figures and the progress of students. We will announce the dates and venues of consultations in due course. In **traditional mode**, the lab is reserved for one week for students to finish all materials and exercises. TAs will be on duty in the whole week.

Sessions 1 & 2 of IoT Module will be conducted in the hybrid mode, meaning all materials will be on Moodle and all exercise submissions should go through Moodle, while TAs will host consultation sessions in the lab. Students can opt for completing the exercises in the lab or at home within the deadline. The consultation hours are:

Jan 6 – Jan 10, 2020: 2:00 – 5:00pm
Jan 13 – Jan 17, 2020: 11am – 5:00pm

Students registered for Sessions 1, 2 & 3 can pick up a set of equipment (Raspberry Pi and accessories) from the TA during the consultation hours in CB103A. The equipment is also available for pickup in the Computer Service Group in CB804 during office hours starting from Jan 6.

To facilitate resource arrangement, students need to enroll in the sessions they want to attend through URL https://www.eee.hku.hk/~ugsnews/. The deadline of enrollment of APP Session 1 is Nov 11, 2019. We will release the materials to all CE students before Oct 14, 2019. The deadline of enrollment for other APP sessions and all IoT sessions is Dec 27, 2019. Questions on enrollment in the system should go to Dr WY Cheung (wycheung@eee.hku.hk).

Please note that to fulfill the requirement of ELEC2840, you have to also take the NET and CI modules. More information on these two modules will be announced in due course.

Please send questions on APP and IoT modules to Dr KS Lui (kslui@eee.hku.hk). General questions on ELEC2840 should go to Dr Wilton Fok (wtfok@eee.hku.hk) or Dr WY Cheung (wycheung@eee.hku.hk).