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THE CHINESE UNIVERSITY OF HONG KONG
Print Course Catalog Details

September 10, 2018
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Academic Org: Dept of Electronic Engineering – Subject: Electronic Engineering

Course: ELEG2401   **Course ID:** 010155   **Eff Date:** 2018-07-01   **Crse Status:** Active   **Apprv. Status:** Approved   **[Course Rev]**

Introduction to Embedded Systems 嵌入式系統導論

Introduction to microcomputer systems and to the concept of memory. Fundamentals of micro-controller unit, instructions and assembly programming. Input/Output. Interrupt. Timer and counter. Serial communication. Interfacing. Application to step motor. C programming for MCU.

Grade Descriptor
A, A-: EXCELLENT – exceptionally good performance far exceed expectation in all or most of the course learning outcomes. Demonstration of superior understanding of the subject matter, ability to analyze problems and apply extensive knowledge and skillful use of concepts and materials to derive proper solutions.
B+, B, B-: GOOD – good performances in all course learning outcomes and exceed expectation in some. Demonstration good understanding of the subject matter, ability to use proper concepts and materials to solve most of the problems encountered.
C+, C, C-: FAIR – adequate performance in all course learning outcomes. Demonstration of adequate understanding of the subject matter, ability to solve simple problems.
D+, D: MARGINAL – performance barely meet the expectation in all or at least the essential course learning outcomes. Demonstration of partial understanding of the subject matter and ability to solve simple problems.
F: FAILURE – performance does not meet expectation in most the course learning outcomes. Demonstration of serious deficiencies and shall retake the course.

微計算機系統及記憶的概念介紹。微控制器單元基礎，指令集及組合語言。輸入輸出。中斷。定時器和計數器。串行通信。接口。對步進馬達的應用。微控制器的 C 程式。

Information on grade descriptors (等級說明) is available in English version.

Equivalent Offering:
Units: 3 (Min) / 3 (Max) / 3 (Acad Progress)
Grading Basis: Graded
Repeat for Credit: N
Multiple Enroll: N
Course Attributes:

Topics:

COURSE OUTCOMES

Learning Outcomes:
By the end of the course, students should be able to
- Have an overall picture of embedded systems, and understand its advantages and limitations.
- Understand the hardware and software of embedded systems.
- Perform low-level computer language programming to control the operation of embedded systems.
Perform simple experiments to control the hardware by embedded systems.

Course Syllabus:
Introduction to microcomputer systems and to the concept of memory. Fundamentals of micro-controller unit, instructions and assembly programming. Input/Output. Interrupt. Timer and counter. Serial communication. Interfacing. Application to step motor. C programming for MCU.

Assessment Type:

Essay test or exam	：50%
Lab reports	：24%
Other	：11%

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Short answer test or exam : 15%

Feedback for Evaluation:

Wewelcome students' comments and feedback on the course. There are five mainchannels for collecting students' feedback.

1.Mid-term course evaluation: An informal evaluation questionnaire conducted onthe 4th week after the course started. The questionnaire covers the followingareas:
1.1 Courseorganization and objectives
1.2 Understandingfundamental content
1.3 Paceof teaching
1.4 Methodof lecture delivery
1.5 Overallsatisfaction

2.Tutorial: Students can pass their feedback and problem about the course to theteaching assistants.

3.Informal online contact: Students can write their comments via email ornewsgroup. Teaching assistants will follow up with the comments or pass theinformation to the course instructor if necessary.

4.Individual consulting: Students are welcome to visit the course instructorduring office hours. They can exchange opinions to make the course bettersuits the students' needs.

5. Faculty coursequestionnaire: At the end of the course, students are required to providefeedback on different aspects related to teaching and learning of the coursethrough a formal evaluation questionnaire.

Required Readings:

N/A

Recommended Readings:

Textbook:

Ajay V Deshmukh, Microcontrollers - Theoryand Applications (2005, McGraw-Hill).

OFFERINGS
1. ELEG2401   Acad Organization=ELE; Acad Career=UG

COMPONENTS
LAB : Size=100; Final Exam=N; Contact=1 LEC : Size=100; Final Exam=Y; Contact=3 TUT : Size=100; Final Exam=N; Contact=1

ENROLMENT REQUIREMENTS

1. ELEG2401

Enrollment Requirement Group:
Not for students who have taken ELEG3701;
Prerequisite: ELEG2201 or with the consent of the instructor.

New Enrollment Requirement(s):
Pre-requisite = ELEG2201 or with the consent of the instructor
Co-requisite = nil

Exclusion = Not for students who have taken ELEG3701
Other Requirement = nil

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