CU_CURR501
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THE CHINESE UNIVERSITY OF HONG KONG
Print Course Catalog Details

May 10, 2023
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 Academic Org: Dept of Computer Sci & Engg – Subject: Computer Engineering

Course: CENG4480   **Course ID:** 001790   **Eff Date:** 2022-07-01   **Crse Status: Active**   **Apprv. Status:** Approved   【Course Rev】

Embedded System Development and Applications 嵌入式系統開發及應用

This course aims at enhancing students' skills in developing embedded systems. Advanced techniques in the use of real-time operating systems, interfacing, integration and applications of sensors and actuators for signal analysis and control will be discussed. Project development methods and management skills will be introduced.

本科旨在加強學生發展嵌入式系統的技能。本科將討論先進的實時操作系統應用、接口、傳感器和驅動器的信號分析和控制等技術。亦會介紹項目開發和管理技能。

Grade Descriptor: A

EXCELLENT – exceptionally good performance and far exceeding expectation in all or most of the course learning outcomes; demonstration of superior understanding of the subject matter, the ability to analyze problems and apply extensive knowledge, and skillful use of concepts and materials to derive proper solutions.

有關等級說明的資料,請參閱英文版本。

B

GOOD – good performance in all course learning outcomes and exceeding expectation in some of them; demonstration of good understanding of the subject matter and the ability to use proper concepts and materials to solve most of the problems encountered.

有關等級說明的資料,請參閱英文版本。

C

FAIR – adequate performance and meeting expectation in all course learning outcomes; demonstration of adequate understanding of the subject matter and the ability to solve simple problems.

有關等級說明的資料,請參閱英文版本。

D

MARGINAL – performance barely meets the expectation in the essential course learning outcomes; demonstration of partial understanding of the subject matter and the ability to solve simple problems.

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F

FAILURE – performance does not meet the expectation in the essential course learning outcomes; demonstration of serious deficiencies and the need to retake the course.

有關等級說明的資料，請參閱英文版本。

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:

1. Students should be able to mange an embedded system development project.
2. Students should understand the difficulties of sensing signals from sensors and control actuators in an embedded system and be able to address them.
3. Students should understand the skills required to design a reliable embedded system.

Course Syllabus:

This course aims at enhancing students' skills in developing embedded systems. Advanced techniques in the use of real-time operating systems, interfacing, integration and applications of sensors and actuators for signal analysis and control will be discussed. Project development methods and management skills will be introduced.

Assessment Type:

Essay test or exam	：50%
Lab reports	：40%
Presentation	：10%

Feedback for Evaluation:

1. Course evaluation
2. Feedback though discussions in laboratory classes.

Required Readings:

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Recommended Readings:

1. MicroC OS II: The Real Time Kernel (With CD-ROM) by Jean J. Labrosse
2. High-Speed Digital Design: A Handbook of Black Magic by Howard W. Johnson and Martin Graham Prentice Hall

OFFERINGS

1. CENG4480   Acad Organization=CSD; Acad Career=UG

COMPONENTS

LAB : Size=30; Final Exam=N; Contact=1
LEC : Size=30; Final Exam=Y; Contact=2
TUT : Size=30; Final Exam=N; Contact=1

ENROLMENT REQUIREMENTS

1. CENG4480   **Enrollment Requirement Group:**
                               Not for students who have taken CENG3480 in 2008-09 and before;
                               Prerequisite: CENG2400 or ESTR2100.
                               For 2nd-year entrants, the prerequisite will be waived.

                               New Enrollment Requirement(s):
                               Pre-requisite = no change
                               Exclusion = no change

CAF

eLearning hrs for blended cls   0
No. of micro-modules   0
Research components (UG)   1% - 49%

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