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

Embedded System Development and Applications

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.

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.

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.

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.

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.
有关等級說明的資料，請參閱英文版本。

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.

有关等級說明的資料，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 manage 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 through 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

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%
<END OF REPORT>