**National Chung Cheng University**

**Brief Introduction to the Internet-of-Things and Cyber-Physical Systems Curriculum Credited Curriculum**

Approved by the Department Affairs Meeting 2015.04.16

Amended by the Department Affairs Meeting 2015.11.06

I. Purpose

The purpose of this credited course is to provide students, who are interested in Internet-of-Things and Cyber-Physical Systems. The students of Computer Science and Information Engineering study core knowledge and skills of this field to implement the professional skills of Internet-of-Things and Cyber-Physical Systems, moreover, to enhance the employability skills and expertise.

II. Certificate Provided

After the student takes all the courses and credits according to this credited curriculum’s regulations, he/she shall receive enrollment certificate of Internet-of-Things and Cyber-Physical Systems in the department of Computer Science and Information Engineering of National Chung Cheng University.

III. Regulations on the Credited Curriculum

The courses of Internet-of-Things and Cyber-Physical Systems in the department of Computer Science and Information Engineering of National Chung Cheng University are divided three levels, which are shown on the Fig. 1,

1. Fundamental Courses: Basic Internet-of-Things knowledge learning and network programming and development.
2. Core Courses: Advanced Internet-of-Things core technology development and cyber-physical system method.
3. Advanced Course：Integrated Internet-of-Things and application of technology and knowledge of cyber-physical system.
4. Required Credits: At least 21 credits, 7 courses, including at least 3 fundamental courses, 2 core courses and 1 advanced course. 1 optional course can be chosen from any category.
5. Applicant: From sophomore to senior Bachelor students, graduated students of National Chung Cheng University

IV. Credit exemptions can be applied in this credited curriculum, 3 courses at most, and shall be handled through the “Regulations on the Credit Exemptions of the Student” of National Chung Cheng University.

Frequency identification systems and applications

Introduction to computer network

Core technology of internet of things

Cloud data processing and methods

Network programming

Cloud computing

Wireless sensor network

Wireless local area network

Application systems of the internet of things

Cyber-physical system

Introduction to internet of things

Cloud learning science and technology

Distributed systems

Artificial intelligence

Software-defined networking

**Fundamental Course:
at least 3 courses,
9 credits**

Creative design of internet of things

**Core Course:
at least 2 courses,
6 credits**

**Advanced Course:
at least 1 course,
3 credits**

**At least 21 credits, 7 courses in total,
including 1 optional course from any category**

 Fig.1 Course Process

**National Chung Cheng University**

**Internet-of-Things and Cyber-Physical Systems Curriculum**

**Credited Curriculum**

2015 Academic Year Course Plan (Required at least 21 credits, 7 courses)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Category** | **Course Name** | **Credits** | **Department** | **Professor** | **Grade** |
| Fundamental Course: At least three courses, 9 credits | Introduction to computer network | 3 | Department of Computer Science | Bai Qing Lin |  |
| Network Programming | 3 | Department of Computer Science | Bai Qing Lin |  |
| Wireless local area network | 3 | Graduate School of Computer Science | Qi Fu Huang | Graduated students;Elective for Junior and Senior |
| Introduction to Internet of Things | 3 | Graduate School of Computer Science | Qi Fu Huang | Graduated students;Elective for Junior and Senior |
| Artificial Intelligence | 3 | Department of Computer Science | Chuan Kang Ding |  |
| Core Course: at least two courses, 6 credits | Core technology of Internet of Things | 3 | Graduate School of Computer Science | Ren Hong Huang | Graduated students;Elective for Junior and SeniorAdvised to take Introduction to Internet-of-things first (but not compulsory) |
| Wireless sensor network | 3 | Graduate School of Computer Science | Qi Fu Huang | Graduated students;Elective for Junior and Senior |
| Cyber-physical system | 3 | Graduate School of Computer Science | Professor at Department of Computer Science | Graduated students;Elective for Junior and Senior |
| Distributed systems | 3 | Graduate School of Computer Science | Ren Song Ke | Graduated students;Elective for Junior and Senior |
| Advanced Course: at least one course, 3 credits | Frequency Identification Systems and Applications | 3 | Graduate School of Computer Science | Bo An Xiong | Graduated students;Elective for Junior and Senior |
| Cloud data processing and Methods | 3 | Graduate School of Computer Science | Jin Feng Lai | Graduated students;Elective for Junior and Senior |
| Cloud computing | 3 | Department of Computer Science | Wei Guo JIang | Graduated students;Elective for Junior and Senior |
| Application systems of the Internet of Things | 3 | Graduate School of Computer Science | Jin Feng Lai | Graduated students;Elective for Junior and Senior |
| Cloud Learning Science and Technology | 3 | Graduate School of Computer Science | Bao Da You | Graduated students;Elective for Junior and Senior |
| **Software-defined networking** | **3** | **Graduate School of Computer Science** | Ren Hong Huang | **Graduated students; Elective for Junior and Senior** |
| **Creative Design of Internet-of-Things** | **3** | **Graduate School of Computer Science** | **Jin Feng Lai** | **Graduated students; Elective for Junior and Senior** |

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