**National Chung Cheng University**

**Brief Introduction to the Cloud Computing & Data Science 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 cloud computing and data science. The students of Computer Science and Information Engineering study the core knowledge and skills of this filed to implement the professional skills of cloud computing and data science, 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 cloud computing and data science in the department of Computer Science and Information Engineering of National Chung Cheng University.

III. Regulations on the Credited Curriculum

The courses of cloud computing and data science in the department of Computer Science and Information Engineering of National Chung Cheng University is divided into three levels, which are shown in the Fig. 1.

1. Fundamental Courses: Basic data science and management, and program design development
2. Core Courses: The principle and method of core information model construction and the construction of data analysis
3. Advanced Course：Advanced applications of information science and practical research
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, three courses at most, and shall be handled through the “Regulations on the Credit Exemptions of the Student” of National Chung Cheng University.

Information Engineering

Cloud computing

Cloud data processing and methods

Massive data analysis and practice

Data structure

Data mining

Database systems

Network programming

Machine learning

Statistics

Data visualization

R programming

**Software-defined networking**

Probability

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

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

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

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

Fig.1 Course Process

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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 | Information Engineering | 3 | Graduate School of Computer Science | Wu Sheng | Graduated students  Elective for Junior and Senior |
| Data Structure | 3 | Department of Computer Science | Professor at Department of Computer Science | Required |
| Database systems | 3 | Department of Computer Science | Xing Min Liu | Elective for Sophomore, Junior and Senior |
| Network programming | 3 | Graduate School of Computer Science | Bai Qing Lin | Graduated students;  Elective for Junior and Senior |
| R Programming | 3 | Department of Computer Science | Bo an Xiong | Elective for Sophomore, Junior and Senior |
| Probability | 3 | Department of Computer Science | Professor at Department of Computer Science | Required |
| Core Course: at least two courses, 6 credits | Cloud computing | 3 | Graduate School of Computer Science | Wei Guo Jiang | Graduated students;  Elective for Junior and Senior |
| Data Mining | 3 | Graduate School of Computer Science | Professor at Department of Computer Science | Graduated students;  Elective for Junior and Senior |
| Machine Learning | 3 | Graduate School of Computer Science | Zhen Guo Jiang | Graduated students;  Elective for Junior and Senior |
| Statistics | 3 | Department of Computer Science | Wei Da Zhu | Elective for Sophomore, Junior and Senior |
| Advanced Course: at least one course, 3 credits | Massive data analysis and practice | 3 | Graduate School of Computer Science | Multi-  Professors | 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 |
| Data visualization | 3 | Graduate School of Computer Science | Xing Min Liu | 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** |

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