

Academic Org: Dept of Computer Sci & Engg – Subject: Computer Science

Course: CSC14140 **Course ID:** 002612 **Eff Date:** 2022-07-01 **Crse Status:** Active **Apprv. Status:** Approved **【Course Rev】**
Open-source Software Project Development 開放代源碼軟件項目開發

This course is to introduce techniques in developing software projects. Topics include leveraging the web server, the database server, and the scripting languages, such as the LAMP (Linux, Apache, MySQL, PHP) platform, to develop software projects, advanced debugging techniques, and performance tuning techniques. Also, this course will introduce the knowledge on software licensing, such as the GNU public license (GPL) and the Berkeley Software Distribution (BSD) license. Last but not least, this course emphasizes in arousing the creativity and fun in developing software projects.

本科的主旨在於教授學生開發軟件項目的技巧。本科將教授利用網站服務器、腳本語言及數據庫服務器，如 LAMP (Linux, Apache, MySQL, PHP) 平台，來開發軟件項目；高級的除錯技巧及效能調校技巧亦是本課程將教授的項目。同時，本科將教授軟件使用許可證的知識，如 GNU 通用許可證及 BSD 許可證。最後，本科亦著重引發學生對於軟件項目開發的創意與樂趣。

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.

有關等級說明的資料，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 will understand different system development issues, such as interprocess communication, system logging, and system security.
2. Students will learn different scripting languages such as PHP and Perl.
3. Students will learn performance tuning techniques, such as the program profiling technique, as well as advanced debugging techniques, such as the memory leakage detection.

Course Syllabus:

This course is to introduce techniques in developing software projects. Topics include leveraging the web server, the database server, and the scripting languages, such as the LAMP (Linux, Apache, MySQL, PHP) platform, to develop software projects, advanced debugging techniques, and performance tuning techniques. Also, this course will introduce the knowledge on software licensing, such as the GNU public license (GPL) and the Berkeley Software Distribution (BSD) license. Last but not least, this course emphasizes in arousing the creativity and fun in developing software projects.

Assessment Type: Essay test or exam : 30%
Others : 70%

Feedback for Evaluation:

1. Results of assignments and examination
2. Course evaluation and questionnaire
3. Reflection of teachers
4. Question-and-answer sessions during class
5. Student consultation during office hours or online

Required Readings:

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Recommended Readings:

1. Professional LAMP: Linux, Apache, MySQL and PHP Web Development. Jason Gerner, et. al. Wrox, 2005.
2. GNU/Linux Application Programming. M. Tim Jones. Charles River Media, 2005.
3. Linux Appliance Design. Bob Smith et. al. No Starch Press, 2007.
4. Linux Debugging and Performance Tuning. Steve Best. Prentice Hall, 2006.
5. Linux Routers. Tony Mancill. Prentice Hall, 2002.

OFFERINGS

1. CSCI4140 Acad Organization=CSD; Acad Career=UG

COMPONENTS

LEC : Size=30; Final Exam=Y; Contact=3
TUT : Size=30; Final Exam=N; Contact=1

ENROLMENT REQUIREMENTS

1. CSCI4140 **Enrollment Requirement Group:**
Prerequisite: CSCI2100 or 2520 or ESTR2102.

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

CAF

eLearning hrs for blended cls 0
No. of micro-modules 0
Research components (UG) 75% – 100%

University theme/ priority Innovation and Design

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