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

Course: CSCI3180   **Course ID:** 002590   **Eff Date:** 2022-07-01   **Crse Status: Active**   **Apprv. Status:** Approved   【Course Rev】

Principles of Programming Languages 程序設計語言原理

This course introduces, analyses and evaluates the important concepts found in current programming languages. The concepts are illustrated by contrasting their appearances in different languages. Major topics include: concepts, paradigms and implementation techniques.

本科介紹、分析及評價在現時程序設計語言中的重要概念，並透過比較其在不同語言中的表現予以說明。主要專題包括：概念、範例及實踐技術。

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. Exposure to, and understanding of all major programming paradigms;
2. The ability to assess new paradigms and languages;
3. The understanding of how to describe and read programming language syntax descriptions;
4. Knowledge of how syntax descriptions are processed by programming languages;
5. Understanding of the different kinds of PL semantic analysis approaches;
6. Ability to identify differences in different semantic analysis conventions;
7. Ability to consider how to design new programming languages;
8. Understanding of how to determine which principles drive which programming language, and how to carry those through to PL design.

Course Syllabus:

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Assessment Type:

Essay test or exam	: 40%
Others	: 60%

Feedback for Evaluation:

    1. Course evaluations;
    2. Assignments;
    3. Interactive, bi-directional feedback during presentation slots;

Required Readings:

    1. PROGRAMMING LANGUAGES, Principles and Practices, By Louden.
    2. Concepts of Programming Languages by Sebesta
    3. Programming Languages, Design and Implementation, by Pratt and Zelkowitz

Recommended Readings:

OFFERINGS

1. CSCI3180	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. CSCI3180

Enrollment Requirement Group:
    Not for students who have taken ESTR3106.
    Prerequisite: CSCI2100 or 2520 or ESTR2102.
    For senior-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)	0%

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