電腦軟體 學分學程實施辦法

一、為本校非資工系學生提供跨學域電腦軟體之課程，以培養具有此類專長基本訓練之學生。

二、凡本校非資工系學生，均得申請修讀本學程，修滿本學程規定之科目及學分者，由本校發給學程修畢證明。

三、本學程由理學院及資訊學院共同規劃，資訊工程、應用數學系、資訊技術服務中心提供課程。惟其他系所或非本校開設之相關課程，亦得經本學程教師認可後予以承認。

四、但非本校所開設之相關課程，核心及選修課程至多各為 6 學分。惟仍需由召集人認定。

五、本學程包括必修核心課程 12 學分及選修課程至少須 12 學分，其中選修課程至少須有 9 個學分為該生主修學系之非必修課程，具體課程如”電腦軟體學程課程規劃表”所列。

學分學程課程規劃表

一、學程名稱：**電腦軟體(Program on Computer Software)**

二、課程名稱及開課系所

A 核心課程

編號	課 程 名 稱	開 課 系 所	學分	備註
1	計算機概論	各系所	3	
2	程式語言	資工	3	
3	資料結構	資工、電機、資材或召集人同意	3	
4	系統程式	資工	3	
5	軟體工程相關課程	各相關系所	3	由召集人審查
6	網路程式相關課程	各相關系所	3	由召集人審查

B 選修課程

編號	課 程 名 稱	開 課 系 所	學分	備註
1	離散數學	資工、資科、應數	3	
2	統計	各開課系所	3	
3	數值方法或數值分析	各開課系所	3	
4	計算物理或統計計算	物理所、統計所	3	
5	隨機過程	資工、應數	3	
6	演算法	資工、應數	3	
7	圖論或基礎圖論	資工、應數	3	
8	計算機網路概論	資工	3	
9	作業系統	資工	3	
10	組合課程	資訊技術服務中心	3	
11	應用軟體相關課程	各系所或資訊技術服務中心	2-3	由召集人審查
12	程式設計相關課程	各系所或資訊技術服務中心	2-3	由召集人審查

三、召集人姓名：張書銘（應數系）

四、連絡人姓名：鄭心怡(應數系)

Implementation Rules for the Computer Software Certificate Program

1. The aim of this program is to supply (except students from the Department of Computer Science)with some basic training in computer software.
2. NCTU students (except students from the Department of Computer Science) may apply for this program. Students who have completion all required credits of the program will receive program certification.
3. The program was planned by the College of Science as well as the College of Computer Science, and the courses will be provided by the Department of Computer Science, the Department of Applied Mathematics and the Information Technology Services Center.
4. Courses provided by other departments or outside the university may be counted upon obtaining permission of the instructor of this program. However, courses not provided by NCTU can only count up to 6 credits each in core courses and elective courses. All of these credits should be examined by the convener.
5. The program includes
   A. Core courses (12 credits)
   B. Elective courses (at least 12 credits)
   *At least 9 credits of elective courses should not be required credits of the student's major department. For the list of the courses, please see the Planning Table.

Planning Table for the Certificate Program

1. Program Name: Computer Software
2. Courses

A.Core Courses

Number	Course Name	Department	Credit	Remarks
1	Introduction to Computer Science	Related departments	3	
2	Programming Languages	Department of Computer Science	3	
3	Data Structures	Department of Computer Science	3	
4	System Programming	Department of Computer Science	3	Has to be approved
5	Courses related to software engineering	Related departments	3	Has to be approved
6	Courses related to network programming	Related departments	3	Has to be approved

B.Elective Courses

Number	Course Name	Department	Credit	Remarks
1	Discrete Mathematics	Department of Computer Science, Department of Applied Mathematics	3	
2	Statistics	Related departments	3	
3	Numerical Methods or Numerical Analysis	Related departments	3	
4	Computational Physics or Statistical Computing	Institute of Physics, Institute of Statistics	3	
5	Stochastic Process	Department of Computer Science, Department of Applied Mathematics	3	
6	Algorithm	Department of Computer Science, Department of Applied Mathematics	3	
7	Graph Theory or Basic Graph Theory	Department of Computer Science, Department of Applied Mathematics	3	

8	Introduction to Computer Networks	Department of Computer Science	3	
9	Operating System	Department of Computer Science	3	
10	General Assembly Courses	Information Technology Services Center	3	Has to be approved
11	Courses related to application software	Related departments or the Information Technology Services Center	2-3	Has to be approved
12	Courses related to programming	Related departments or the Information Technology Services Center	2-3	Has to be approved

3. Convener: Shu-Ming Chang (Department of Applied Mathematics)
4. Program Contact: Hsinyi Cheng (Department of Applied Mathematics)