

國立陽明交通大學資訊工程學系「智慧健康照護跨域學程」實施要點
National Yang Ming Chiao Tung University
Department of Computer Science
Implementation Guidelines for Cross-Disciplinary Smart Health Care

資訊工程學系 110 學年度第 5 次課程委員會訂定(110 年 11 月 19 日)
資訊學院 110 學年度第 4 次課程委員會訂定(110 年 11 月 23 日)
110 學年度第 3 次校課程委員會通過(110 年 12 月 2 日)
110 學年度第 2 次教務會議核備通過(110 年 12 月 16 日)
資訊工程學系 110 學年度第 8 次課程委員會修訂(111 年 4 月 14 日)
資訊學院 110 學年度第 6 次課程委員會修訂(111 年 4 月 19 日)
110 學年度第 5 次校課程委員會通過(111 年 5 月 13 日)
110 學年度第 4 次教務會議核備通過(111 年 6 月 16 日)
資訊工程學系 111 學年度第 4 次課程委員會修訂(111 年 12 月 22 日)
資訊學院 111 學年度第 3 次課程委員會修訂(111 年 12 月 28 日)
資訊工程學系 111 學年度第 6 次課程委員會修訂(112 年 4 月 14 日)
資訊學院 111 學年度第 4 次課程委員會修訂(112 年 4 月 18 日)
111 學年度第 3 次校課程委員會通過(112 年 5 月 16 日)
111 學年度第 4 次教務會議核備通過(112 年 5 月 30 日)
資訊工程學系 112 學年度第 8 次課程委員會修訂(113 年 4 月 9 日)
資訊學院 112 學年度第 4 次課程委員會修訂(113 年 5 月 8 日)
112 學年度第 3 次校課程委員會通過(113 年 5 月 20 日)
資訊工程學系 113 學年度第 7 次課程委員會修訂(114 年 3 月 26 日)
資訊學院 113 學年度第 5 次課程委員會修訂(114 年 4 月 10 日)
113 學年度第 3 次校課程委員會通過(114 年 5 月 12 日)
資訊工程學系 114 學年度第 8 次課程委員會修訂(115 年 3 月 25 日)
資訊學院 114 學年度第 4 次課程委員會修訂(115 年 4 月 17 日)
114 學年度第 4 次校課程委員會通過(115 年 5 月 14 日)

- 一、依據國立陽明交通大學跨域學程實施辦法，國立陽明交通大學資訊工程學系(以下簡稱本系)為鼓勵大學部學生進行跨領域學習，建立跨域學習深度，協助學生拓展第二專長，提供學生可以在畢業學分不增加(或僅少量增加)情況下，修畢跨域學程，特訂定本要點。
- I. These Implementation Guidelines are prescribed by National Yang Ming Chiao Tung University Department of Computer Science (hereinafter referred to as Our Department) based on NYCU Cross-Disciplinary Program Implementation Regulations to provide the opportunity for students to proceed cross-disciplinary learning with a few extra credits in order to encourage students to conduct cross-disciplinary study, build the depth of cross-disciplinary study, and assist students in expanding second specialty.
- 二、依據國立陽明交通大學跨域學程實施辦法，本系學生修習「智慧健康照護跨域學程」(以下簡稱本學程)，於修畢後可於畢業證書上加註「智慧健康照護」為跨域專長。
- II. According to NYCU Implementation Guidelines for Cross-Disciplinary Program, students in Department of Computer Science could be remarked as “Smart Health Care” on the diploma once they complete this program.
- 三、本要點實施細節
- 1.適用對象：本校資訊工程學系申請智慧健康照護跨域學程的學生適用本要點。
 - 2.申請程序：
本系學生欲修習本學程者得於每學年下學期提出申請，經本系、護理學系及醫學系審查通過後，方可修習本學程。
 - 3.修業規定：
(1)本學程的課程列示於「資訊工程學系『智慧健康照護跨域學程』必修科目表」，其課程

- 包含：校定必修，基礎學科 14 學分，必修 31 學分，主題學程選修 12 學分，本系必修及主題學程課程(參閱本系必修科目表)，本系專業選修課程(至少 9 學分)(需修本系所開授的各專業科目，含大學部、研究所選修課程)，以及智慧健康照護跨域模組(30 學分)，畢業學分至少 128 學分。本系甲組選擇跨域學程為畢業條件者，依本系必修科目表規定。
- (2)修習本學程之學生，若無法完成(1)中所規定之課程，可回復修習原資訊工程學系的學士學位課程。
- (3)跨域模組課程與學生本系應修課程及學分重複者，由醫學系或護理學系指定之相關選修課程補足。

III. Guidelines in detail

1. People applicable to this program: undergraduate students who are Department of Computer Science apply for Cross-Disciplinary Program of Smart Health Care.
2. Procedure to apply for this program:
Students may submit applications to our department during the second semester of every year. The application will be evaluated by the Curricular Committees at our department, school of Medicine and the department of Nursing respectively. Students are enrolled in the cross-disciplinary program only after their applications have been approved by tripartite sides.
- 3.Regulation for the program:
 - (1) Courses included in this program are listed on “Course for the students of School of Computer Science Cross-disciplinary Program of Smart Health Care”. Courses are classified:
Required courses of the university
Core curriculum at our department: 66 credits
Cross-disciplinary program module courses of Smart Health Care: 30 credits
At least 128 credits are required for graduation.
 - (2) Students who study for cross-disciplinary program at our department are not able to complete the program, they shall give up the cross-disciplinary program and take credits of bachelor degree program at their original department of Computer Science.
 - (3) Besides compulsory courses that have been marked as waivable, students may submit applications for waiving other courses.
If any course in the cross-disciplinary program module has the same name or curriculum as one of the compulsory courses of our department, the passed credits of the course may not count in the program. The duplicated credits must be made up with a related elective course appointed by school of Medicine and the department of Nursing.

四、本系之單位主管或其指定之專任教師擔任學程召集人，統籌執行學程各項事宜。學程召集人需指定至少一名專任教師擔任跨域學程導師，專責輔導跨域學程學生。

IV. Our department assigned one full-time teacher to be the mentor of the cross-disciplinary program and formed mentor group with teachers of cross-disciplinary program at other department or college to give guidance to cross-disciplinary program students.

五、為鼓勵不同系所或學院合作提出跨域共授課程，由兩位以上教師開授跨領域之創新整合式課程，得依本校教師授課時數核計原則規定辦理。

V. In order to encourage different departments or colleges to working together to design cross-disciplinary curriculum, teaching hours for the innovative cross-disciplinary curriculum offered by more than two teachers could be calculated according to National Yang Ming Chiao Tung University Principles for Verifying and Calculating Teachers' Teaching Hours.

六、修讀跨域學程學生在申請通過前已修習及格之科目學分，若合於第二專長模組課程應修課程學分，得經第二專長的系所或學院審查同意後，予以追加採認。

VI. The credits of cross-disciplinary program module curriculums having obtained before the student is admitted to take the cross-disciplinary program can only be counted if the credits are recognized by the department or college of the second specialty.

七、修讀跨域學程學生之選課手續應於加退選期限內完成，且每學期所修之第二專長模組課程科目、學分及成績均列記於其歷年成績表內。

VVII. Students taking a cross-disciplinary program shall enroll courses of the program by the deadlines of course registration. The courses, credits, and grades of the cross-disciplinary program module curriculums should be listed in the annual transcripts in each semester.

八、學生之第二專長模組課程學分及成績分別併入學期修讀學分總數及學期平均成績計算。

VIII. The courses, credits, and grades of cross-disciplinary program are incorporated into the student's semester credits and average grades.

九、修讀跨域學程學生，擬終止修讀跨域學程者，應至教務處申請撤銷其跨域學程資格，並回復至所屬學系修課規定。其已修習及格之第二專長模組課程學分，經所屬學系核定，報教務處備查後得抵免其所屬學系選修課程學分。

IX. Students taking a cross-disciplinary program and intending to terminate the study in the cross-disciplinary program shall register with the Office of Academic Affairs for withdrawal from the program and follow the regulations and requirements of their major department. The passed courses of the cross-disciplinary program can be used as credit waiver against the ones of core courses in the major with the approval of the major department and submit to the Office of Academic Affairs for archiving purposes.

十、修讀跨域學程學生凡符合跨域學程規定畢業者，其畢業生名冊、歷年成績表及學位證書應加註跨域專長名稱。但畢業時如尚未修滿跨域學程規定之科目與學分，不得申請發給有關跨域學程之任何證明。

X. For students who earn sufficient credits and meet the requirements of the cross-disciplinary program, the name of the cross-disciplinary program will be noted in the graduate roster, transcripts, and diplomas, otherwise, no certificate of the cross-disciplinary program will be issued.

十一、本要點如遇修訂，須主動知會醫學系、護理學系。

XI. Department of Computer Science should notify school of Medicine and department of Nursing if the guidelines need to be revised

十二、本要點如有未盡事宜，悉依本校學則及其他相關規定辦理。

XII. If there is any unaccomplished matter of these guidelines, it shall be handled in accordance with the school constitution of our university as well as other relevant regulations.

十三、本要點經系、院及校級課程委員會審查通過後實施，修訂時亦同。

XIII. These guidelines were approved by Curricular Committee at department and college and university level before putting it into practice; the same shall be done upon any amendment thereto.

資訊工程學系「智慧健康照護跨域學程」必修科目表
Courses for the students of Department of Computer Science
Cross-disciplinary Program of Smart Health Care

類別 Category	科目名稱 Courses		學分 Credits	開課系所 Dept.	備註 Remark
本系學分 (66 學分)	基礎科學 14 學分，必修 31 學分，主題學程選修 12 學分，本系必修及主題學程課程(參閱本系必修科目表)，本系專業選修課程(至少 9 學分)(需修本系所開授的各專業科目，含大學部、研究所選修課程)。本系甲組選擇跨域學程為畢業條件者，依本系必修科目表規定。				
共同必修 General education course (6 學分)	進階應用	照護科技跨域專題(I) Smart Health Care Cross-Disciplinary Projects (I)	2	醫學系/ 護理系/ 資工系	
		照護科技跨域專題(II) Smart Health Care Cross-Disciplinary Projects (II)	2	醫學系/ 護理系/ 資工系	
	核心	健康照護數位轉型講座 Digital transformation in health care	2	醫學系/ 護理系/ 資工系	詳細課程名稱依當學期公告 Detailed course names to be announced
醫護模組必修 (8 學分)	基礎	基礎醫學概論 Introduction to Basic Medicine	2	醫學系	必修
		人類發展學 Human Development	2	護理系	
	進階應用	臨床醫學概論 Introduction to Clinical Medicine	2	醫學系	
	基礎	流行病學 Epidemiology	2	醫學系	必選修 五選一 One out of five courses *「醫學人文與倫理」為領域課程 *詳細課程名稱依當學期公告
		醫學人文與倫理 Medical Humanities and Ethics	2	醫學系	
		營養與疾病 Nutrition in Health and Disease	2	護理系	
	核心	健康政策、法令與策略 Health Policy, Legislation, and Strategy	2	護理系	
	進階應用	跨文化健康促進與藥物食品安全 Cross-cultural health promotion and food and drug safety	2	護理系	

選修 (至少 16 學分)	基礎	護理學導論 Introduction to Nursing	2	護理系	醫學系或護理系課程至少選 9 學分 *「醫療與社會人文」與「進階公共衛生議題」為領域課程 *詳細課程名稱依當學期公告
	核心	公共衛生概論 Introduction to Public Health	1	醫學系	
		醫事法律 Medical Laws & Regulations	1	醫學系	
		醫療經濟學 Health Economics	2	醫學系	
		醫療與社會人文 Medical Humanity and Social Science	2	醫學系	
		傳播科技與健康照護 The application of media and technology in healthcare	2	護理系	
		看得到、找得到、用得着的長期照顧 Simple Way to Get the Service of Long Term Care	2	護理系	
		教學原理與教學法 Principles & Methods of Teaching	2	護理系	
		影像處理概論 Introduction to Image Processing	3	資工系	
		人工智慧概論 Intro. to Artificial Intelligence	3	資工系	
		資料庫系統概論 Introduction to Database Systems	3	資工系	
		機器學習概論 Introduction to Machine Learning	3	資工系	
		數位訊號處理概論 Intro. to Digital Signal Processing	3	資工系	
		訊號與系統 Signals and Systems	3	資工系	
	進階應用	生醫資料、訊號及影像的人工智慧 Artificial Intelligence for Biomedical Data, Signal, and Image	2	醫學系	
		機器學習概論與實作 Introduction to Machine Learning and Practice	3	醫學系	
		進階公共衛生議題 Topics in Advanced Public Health	1	醫學系	
		人工智慧醫學影像應用專題研究 Research Project in Application of Artificial Intelligence on Medical Imaging	3	醫學系/ 資工系	
		數位醫學專題研究	2	醫學系	

	Introduction to Machine Learning for Digital Healthcare			
	醫學影像原理與實務 Principles and Practices of Medical Imaging	3	醫學系	
	生醫科學與藥物發展的新知與前瞻 New frontiers in biomedical sciences and pharmaceutical development	2	醫學系	
	精神衛生護理學 Psychiatric Mental Health Nursing	3	護理系	
	護理專業問題研討 Seminar in Professional Issues	2	護理系	
	計算機圖學概論 Intro. to Computer Graphics	3	資工系	
	計算機網路概論 Intro. to Computer Networks	3	資工系	
	資料探勘 Data Mining	3	資工系	
	巨量資料分析技術與應用 Big Data Analytics Techniques and Applications	3	資工系	
	資料視覺化與視覺分析 Data Visualization and Visual Analytics	3	資工系	
	網路程式設計概論 Intro. to Network Programming	3	資工系	
	網路安全 Network Security	3	資工系	
	電腦視覺 Computer Vision	3	資工系	
	圖形識別 Pattern Recognition	3	資工系	
校必修 General courses		學分數 依入學年度規定 Credits criterion based on the year of register	校定必修依入 學年度規定 General course based on the year of register	
最低畢業學分 Credits at least		128		
※本系重要課程擋修制度及其他相關規定請參閱資工系修業辦法。 For the prerequisite of some important courses, please check the CS regulations. ※資工系之「資訊工程專題(一)(二)」得申請免修「照護科技跨域專題(I)(II)」，提出申請 經智慧健康照護跨域討論會議審查，經審核通過准予免修「照護科技跨域專題(I) (II)」，但須以智慧健康照護跨域學程之選修學分補足其學分數。 ※智慧健康照護跨域模組（30學分），修畢於畢業證書加註「跨域專長：智慧健康照護」				