Fu Jen Catholic University ,Department of Graduate Institute of Applied Science and Engineering（輔仁大學應用科學與工程研究所）

**Ph. D Program Courses List（博士班： 必修課程／選修課程) 列表**

Effective for Students Enrolled in and from the 2020 (Aug) ~~(Jul) Academic Year (110學年度起學生適用)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Categories for  Compulsory Courses | Course Title | Credit  Hours | 1st Year | | 2nd Year | | 3rd Year | | 4th Year | |  |
|  | | | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester | Remark |
| Required Courses by Department  所必修課程 | Thesis/ 論文 | 12 |  |  |  |  | 12 | 12 | 12 | 12 |  |
| Seminar 專題討論 | 4 | 1 | 1 |  |  |  |  |  |  |
| Special Topics - Biotechnology & Medicine(I)  專題研究-生物科技暨醫學領域(一) | 1 |  |  | 1 |  |  |  |  |  |
| Special Topics - Biotechnology & Medicine (II)  專題研究-生物科技暨醫學領域(二) | 1 |  |  |  | 1 |  |  |  |  |
| Special Topics - Biotechnology & Medicine(III)  專題研究-生物科技暨醫學領域(三) | 1 |  |  |  |  | 1 |  |  |  |
| Special Topics - Biotechnology & Medicine (IV)  專題研究-生物科技暨醫學領域(四) | 1 |  |  |  |  |  | 1 |  |  |
| Special Topics -Opto-Electronic Technology(I)  專題研究-光電科技領域( (一) | 1 |  |  | 1 |  |  |  |  |  |
| Special Topics -Opto-Electronic Technology(II)  專題研究-光電科技領域( (二) | 1 |  |  |  | 1 |  |  |  |  |
| Special Topics -Opto-Electronic Technology(III)  專題研究-光電科技領域( (三) | 1 |  |  |  |  | 1 |  |  |  |
| Special Topics -Opto-Electronic Technology (IV)  專題研究-光電科技領域( (四) | 1 |  |  |  |  |  | 1 |  |  |
| Special Topics - Information Mathematics (I)  專題研究-資訊數學領域(一) | 1 |  |  | 1 |  |  |  |  |  |
| Special Topics - Information Mathematics (II)  專題研究-資訊數學領域(二) | 1 |  |  |  | 1 |  |  |  |  |
| Special Topics - Information Mathematics (III)  專題研究-資訊數學領域(三) | 1 |  |  |  |  | 1 |  |  |  |
| Special Topics - Information Mathematics (IV)  專題研究-資訊數學領域(四) | 1 |  |  |  |  |  | 1 |  |  |
| Special Topics - Computer Engineering(I)  專題研究-計算機工程領域(一) | 1 |  |  | 1 |  |  |  |  |  |
| Special Topics - Computer Engineering(II)  專題研究-計算機工程領域(二) | 1 |  |  |  | 1 |  |  |  |  |
| Special Topics - Computer Engineering(III)  專題研究-計算機工程領域(三) | 1 |  |  |  |  | 1 |  |  |  |
| Special Topics - Computer Engineering(IV)  專題研究-計算機工程領域(四) | 1 |  |  |  |  |  | 1 |  |  |
| Special Topics - Electrical Engineering(I)  專題研究-電機工程領域( (一) | 1 |  |  | 1 |  |  |  |  |  |
| Special Topics - Electrical Engineering(II)  專題研究-電機工程領域( (二) | 1 |  |  |  | 1 |  |  |  |  |
| Special Topics - Electrical Engineering(III)  專題研究-電機工程領域( (三) | 1 |  |  |  |  | 1 |  |  |  |
| Special Topics - Electrical Engineering(IV)  專題研究-電機工程領域( (四) | 1 |  |  |  |  |  | 1 |  |  |
| Total Complusory Credits/ 所必修專業學分 | | 12 | | | | | | | | | |
| Elective Courses/ 所專業選修 | | | | | | | | | | | |
| English/ Chinese Course Title | | Credit | 1st Year | | 2nd Year | | 3rd Year | | 4th Year | |  |
| Hours | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester | 1st  semester | 2nd  semester |
| Elective Courses by Department  所專業選修 | English for Science and Technology 科技英文 | 3 | 3 |  |  |  |  |  |  |  | \*At least 15  professional credits  (12 credits for specialized fields+  3 credits Non-specialized fields)  選修15學分(12學分為專攻領域+  3學分非專攻領域)  \* (Non-specialized fields)  Management of Technology and Innovation  科技管理為非專攻領域課程  \*(As a requirement for graduation)  English for Science and Technology  科技英文為畢業要件 |
| Management of Technology and Innovation 科技管理 | 3 |  | 3 |  |  |  |  |  |  |
| Biotechnology & Medicine  生物科技暨醫學領域 | 12/24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Opto-Electronic Technology  光電科技領域 | 12/24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Information Mathematics  資訊數學領域 | 12/24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Computer Engineering  計算機工程領域 | 12/24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Electrical Engineering  電機工程領域 | 12/24 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total Elective Credits 所專業選修學分 | | 12+3/24 | | | | | | | | | |
| Graduate Credits／ 應畢業學分 | | 35 | | | | | | | | | |