

工科系博士班 主、次專長名稱表 及 修課建議

Table of Major and 2nd Major

博士班學生提出“課程與研究計畫申請書”時，主、次專長名稱只能以下表所列出之“專長名稱”為限，並請依列出之“建議選修課程”修課。

1. 如欲新增課程於下表某主、次專長建議選修課程中時，需請指導教授向課程委員會提出申請，說明為何納入此課程之原因。
2. 如有新建議的主、次專長名稱者，請指導教授提出新增主、次專長名稱申請，列出該專長所有建議選修課程，並說明之。

When proposing the Courses and Research Plan, doctoral students can only list their Major and 2nd Major given in the Table below. For the case that Major or 2nd Major does not appear in the table, students have to submit an explanation written by their advisors to justify the choice.

以下 4 個主、次專長，僅限 TIGP 學程學生選擇：

專長名稱 Title of Major	建議選修課程 Suggestion of Courses
奈米物理 Nano Physics (限 TIGP 學程學生)	奈米科技導論 A (TIGP740101) Introduction to Nanotechnology (A)
	奈米科技進階 A (TIGP740201) Advanced Nanotechnology (A)
	“量子力學 一”(TIGP740201) 或 “量子力學 二” “Quantum Mechanism I” or “Quantum Mechanism II”
	熱統計物理 Thermal and Statistical Physics
	“固態物理一 (TIGP7441)” 或 “固態物理二 (TIGP551700)” 或 “固態物理專題：進階與應用 (TIGP744300)”
	“Solid State Physics I” or “Solid State Physics II” or “Special Topics on Solid State Physics: Advances and Applications”
	“奈米光學 (TIGP554900)” 或 “量子光學 (TIGP723500)” “Nano-Optics” or “Quantum Optics”
	計算材料 (TIGP7483) Computational Material Science
	現代實驗技術 - 物理 (2 credits) (TIGP722300) Modern Experimental Techniques-Physics (2 credits)
	“分子物理導論 (TIGP723200)” 或 “當代原子與分子物理導論 (TIGP723400)” 或 “原子與分子物理 (PHYS563000)” “Molecular Physics: From Fundamentals to Practices” or “Introduction to Recent Trends in Atomic and Molecular Physics” or “Atomic And Molecular Physics”
	軟物質科學導論 (ESS 589800) Introduction to Soft Condensed Matter
其他表上未列，但經指導教授簽名推薦有助該生博士論文研究，且與「奈米物理」相關之研究生等級課程，至多可列 2 門。 (同時適用於主專長及次專長) Subject to recommendation (indicated by signature) by the thesis advisor, a student can take at most two graduate level courses not listed above but is related to his/her thesis research and the field of “Nano Physics”. (This rule applies with “Nano Physics” as either the major or the second major field of the student.)	

專長名稱 Title of Major	建議選修課程 Suggestion of Courses
奈米材料與工程 Nano Materials and Engineering (限 TIGP 學程學生)	奈米科技導論 A (TIGP740101)
	Introduction to Nanotechnology (A)
	奈米科技進階 A (TIGP740201)
	Advanced Nanotechnology (A)
	奈米尺度的量測、製作與操控 (TIGP740700)
	Characterization, Fabrication and Manipulation at Nanometer Scale
	奈米電子元件
	Nano Electronics
	前瞻光電元件 (TIGP555000)
	Advanced Optical- and Electrical- Devices
	同步輻射的基礎與應用(TIGP554700) 或 同步輻射與中子散射的基礎與應用(TIGP748400)
Fundamentals and Application of Synchrotron Radiation	
or	
Fundamentals and Application of Synchrotron Radiation and Neutron Scattering	
有機光電材料與元件	
Organic Optoelectronic Materials and Devices	
“愛克斯光繞射及結晶學” 或 “X 光繞射結晶學”	
“X-ray Diffraction and Crystallography” or	
“X-Ray Crystallography”	
奈米生醫材料 (NEMS585000)	
Nano-/Bio-Materials	
奈微米生醫及流體系統 (ESS 584500)	
Nano/Micro Biomedical and Fluidic Systems	
<p>其他表上未列，但經指導教授簽名推薦有助該生博士論文研究，且與「奈米材料與工程」相關之研究生等級課程，至多可列 2 門。 (同時適用於主專長及次專長)</p> <p>Subject to recommendation (indicated by signature) by the thesis advisor, a student can take at most two graduate level courses not listed above but is related to his/her thesis research and the field of “Nano Materials and Engineering”.</p> <p>(This rule applies with “Nano Materials and Engineering” as either the major or the second major field of the student.)</p>	

專長名稱 Title of Major	建議選修課程 Suggestion of Courses
奈米化學 Nano Chemistry (限 TIGP 學程學生)	奈米科技導論 B (TIGP740102)
	Introduction to Nanotechnology (B)
	奈米科技進階 B (TIGP740202)
	Advanced Nanotechnology (B)
	高等材料化學 (TIGP747500)
	Advanced Chemistry of Materials
	高等分析化學一 (TIGP745700)
	Advanced Analytical Chemistry (I)
	高等有機化學 (TIGP745800)
	Advanced Organic Chemistry
	高等無機化學 (TIGP746300)
	Advanced Inorganic Chemistry
	有機金屬化學 (TIGP747600)
	Organometallic Chemistry
	高等物理化學一 (TIGP727100)
Advanced Physical Chemistry (I)	
高等物理化學二 (TIGP727200)	
Advanced Physical Chemistry (II)	
高等物理化學三 (TIGP727300)	
Advanced Physical Chemistry (III)	
現代實驗技術 - 化學 (2 credits) (TIGP722200)	
Modern Experimental Techniques-Chemistry (2 credits)	
<p>其他表上未列，但經指導教授簽名推薦有助該生博士論文研究，且與「奈米化學」相關之研究生等級課程，至多可列 2 門。 (同時適用於主專長及次專長)</p> <p>Subject to recommendation (indicated by signature) by the thesis advisor, a student can take at most two graduate level courses not listed above but is related to his/her thesis research and the field of “Nano Chemistry”.</p> <p>(This rule applies with “Nano Chemistry” as either the major or the second major field of the student.)</p>	

專長名稱 Title of Major	建議選修課程 Suggestion of Courses
奈米生物 Nano Biology (限 TIGP 學程學生)	奈米科技導論 B (TIGP740102) Introduction to Nanotechnology (B) 奈米科技進階 B (TIGP740202) Advanced Nanotechnology (B) 奈米生醫光電導論 Introduction to Nano-biophotonics 生化分析與實驗 (ESS 584700) Bioanalytical Chemistry : Basic Principles and Lab Projects “分子與細胞生物學” 或 “分子與細胞生物學技術與原理” (2 credits) (TIGP765000) “Molecular and Cell Biology” or “Experimental Approaches in Molecular and Cell Biology” 實驗分子生物物理學 (TIGP719400) Experimental Molecular Biophysics 進階統計和生物物理 Advanced Statistical and Biological Physics 進階化學生物學 I 或 II (TIGP717100 or TIGP 718800) Advanced Chemical Biology I or II 細胞與分子免疫學 (2 credits) (TIGP718900) Cellular and Molecular Immunology 分子醫學 (TIGP 719000) Molecular Medicine 發育生物學(2 credits) (TIGP719100) Developmental Biology 發育生物學(2 credits) (TIGP719100) Developmental Biology
<p>其他表上未列，但經指導教授簽名推薦有助該生博士論文研究，且與「奈米生物」相關之研究生等級課程，至多可列 2 門。 (同時適用於主專長及次專長)</p> <p>Subject to recommendation (indicated by signature) by the thesis advisor, a student can take at most two graduate level courses not listed above but is related to his/her thesis research and the field of “Nano Chemistry”.</p> <p>(This rule applies with “Nano Chemistry” as either the major or the second major field of the student.)</p>	