

專業能力指標與課程對應表（地科系碩士班）

105.09

備註：藍色字體為大碩合開課程 黑色字體為碩士班課程 紫色字體為碩博合開課程

能力層面	I 知識／認知	II 職能導向	III 個人特質	IV 價值／倫理
指標	7 能兼具地質、地球物理、天文、大氣和海洋等地球科學各領域之基礎知識。 8 瞭解地球科學基本內涵，具備跨領域的知能和分析與應用之能力。 9 具備應用地球科學探究方法的基本技能，能整合地球系統、人類與環境和永續經營等相關議題。 10 具備理性思維與邏輯判斷之能力。 11 具備批判性思考之能力。 12 瞭解地球科學的發展史及與其它學科的關聯與互動。	1 具備資料統整與邏輯推演之能力。 2 具備語文表達與溝通之能力。 3 具備與同儕分工與團隊合作之能力。 4 具備操作地科儀器、野外考察、探勘和戶外觀測之能力。 5 具備進修與學習專業科學新知之能力。 6 具備電腦應用、網路學習與搜尋之能力。	6 能以理性、科學與周延專注的態度尋求問題解答。 7 能獨立思考與自我省思。 8 有開闊的胸襟，不拘成見，勇於接受科技新知與理論。 9 富同情心，具備有效溝通協調之能力。 10 具備生涯規劃之能力、並能持續自主學習與進修。	5 秉持誠實不造假的精神。 6 具有堅定的科學信念與豐富的人文素養。 7 具有抱持懷疑的求知態度。 8 能珍惜地球資源，尊重智慧財產權。

能力指標 項目		I 知識／認知						II 職能導向						III 個人特質					IV 價值／倫理			
選修課程		I-1	I-2	I-3	I-4	I-5	I-6	II-1	II-2	II-3	II-4	II-5	II-6	III-1	III-2	III-3	III-4	III-5	IV-1	IV-2	IV-3	IV-4
地質組																						
基礎	地球化學	●	●		●		●	●	●		●			●	●		●	●	●		●	
	地體動力學	●			●			●	●		●	●	●	●	●	●		●	●		●	●
	穩定同位素地質學	●	●	●	●			●	●		●	●	●	●	●	●	●	●	●			●
	實驗岩石學	●			●			●	●		●			●	●		●		●			●
進階	岩石學(含實習)	●			●			●	●		●			●	●		●	●	●			●
	礦物學(含實習)	●			●			●			●	●		●					●	●	●	●
	野外地質學(含實習)	●			●			●	●		●			●	●		●	●	●			●
	構造地質學(含實習)	●		●	●	●		●			●	●		●	●				●	●	●	●
	經濟地質學	●	●	●	●			●				●		●			●		●	●		●
	行星地質學	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	
	高等野外地質調查技術	●	●		●			●		●	●	●		●		●			●			
	沉積與地層學	●	●		●			●			●	●		●					●	●		●
	大陸及超大陸的演變	●	●	●																		
	地質調查	●		●	●			●			●			●	●		●		●	●	●	●

能力指標 項目		I 知識／認知						II 職能導向						III 個人特質					IV 價值／倫理			
		I-1	I-2	I-3	I-4	I-5	I-6	II-1	II-2	II-3	II-4	II-5	II-6	III-1	III-2	III-3	III-4	III-5	IV-1	IV-2	IV-3	IV-4
選修課程																						
地質組																						
進 階	區域地質學		●	●	●	●		●	●		●	●	●	●	●	●	●	●	●		●	●
	岩理學方法	●	●		●			●	●		●	●		●	●			●	●			●
	地球科學與考古學		●	●	●		●	●	●		●	●	●	●	●	●	●	●	●			●
	近代宇宙學導論	●	●		●	●	●	●	●			●	●	●	●	●	●		●		●	●
	應變分析		●		●	●		●	●		●	●	●	●	●	●	●		●		●	●
	地質科學論文寫作		●		●	●		●	●			●	●	●	●	●			●			●
	顯微構造地質學		●		●	●		●	●		●	●	●	●	●	●		●	●		●	●
	岩心－電測整合分析	●			●			●	●		●			●	●		●	●	●			●
	高等石油地質學							●	●	●	●											
	高等海洋地質學							●	●	●	●											
	岩石圈應力場		●		●	●	●	●	●		●		●	●				●	●			●
大氣組																						
基 礎	氣候學	●	●	●	●			●	●			●	●	●	●	●	●		●	●		●
	高等天氣學		●		●	●		●	●	●		●	●	●	●	●	●		●	●		●
	地球物理流體力學		●		●	●		●	●	●		●	●	●	●	●	●		●	●		●
進 階 選 修	數值天氣預報	●	●		●	●		●	●			●	●	●	●	●		●	●		●	
	氣象統計	●	●					●	●			●	●	●	●	●	●		●	●	●	●
	熱帶氣象學	●			●			●	●	●		●		●					●	●		●
	天氣學	●			●			●				●	●	●					●	●		●
	大氣動力學（二）	●	●		●			●				●	●	●					●	●		●
	邊界層氣象學	●	●		●			●	●			●	●	●	●	●		●	●		●	
	中尺度氣象學	●	●		●			●	●			●	●	●	●	●	●		●		●	●
	氣候研究統計分析方法		●		●	●		●	●			●	●	●	●	●	●		●		●	●
	東亞氣候特論		●	●	●	●		●	●	●		●	●	●	●	●		●	●		●	●
	氣候變遷		●	●	●	●		●	●	●		●	●	●	●	●	●		●	●	●	●
	大氣科學研究方法	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	
	季風動力特論		●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●		●	●
	數值天氣預報特論		●	●			●		●	●		●	●	●	●	●	●		●			●

能力指標 項目		I 知識／認知						II 職能導向						III 個人特質					IV 價值／倫理			
選修課程		I-1	I-2	I-3	I-4	I-5	I-6	II-1	II-2	II-3	II-4	II-5	II-6	III-1	III-2	III-3	III-4	III-5	IV-1	IV-2	IV-3	IV-4
天文組																						
基礎	高等天文物理		●		●	●		●	●			●	●	●	●	●		●	●		●	●
	高等天文觀測	●	●		●	●		●	●	●	●	●	●	●	●	●	●	●	●		●	●
進階	電波天文學	●	●		●			●				●	●	●	●	●		●	●		●	●
	活躍星系	●	●		●			●	●			●	●	●	●	●	●		●		●	●
	疏散星團	●			●	●		●			●	●	●	●	●	●			●		●	●
	銀河結構與運動	●	●		●	●		●	●			●	●	●	●	●			●		●	●
	星際介質	●	●		●	●		●				●	●	●	●	●			●		●	●
	近代宇宙學導論	●	●		●	●	●	●	●			●	●	●	●	●	●		●		●	●
	現代天文技術	●	●		●	●		●	●	●	●	●	●	●	●	●		●	●		●	●
	高能天文物理學		●		●	●		●				●	●	●	●	●	●	●	●		●	●
地球物理組																						
基礎	高等地球物理學	●	●		●	●		●	●	●	●		●	●	●		●		●		●	●
進階	時序分析	●	●		●			●				●	●	●					●			●
	地震地體構造學	●	●		●			●				●		●					●	●		●
	古地磁學	●	●		●			●				●		●					●	●		●
	地球科學資料處理	●	●		●			●				●	●	●					●			●
	地球物理方法	●	●		●			●				●	●	●		●			●		●	●
	全球強震特論	●			●			●				●	●	●	●	●			●	●		●
	理論地球物理學		●		●	●		●	●			●	●	●	●	●	●	●	●		●	●
	震測地層學	●			●			●			●	●		●	●	●			●		●	
	震測地層學實習	●			●			●			●	●	●	●	●	●			●			●
	工程地球物理學		●	●	●			●	●		●	●		●	●	●			●			●
	重磁學		●		●			●			●	●	●	●	●	●	●		●			●
	重磁學實習		●		●			●			●	●	●	●	●	●	●		●			●
	地震地磁學（一）	●	●		●			●	●				●		●	●			●		●	●
	地震地磁學（二）	●	●		●			●	●				●		●	●			●		●	●
	逆推理論	●	●		●			●				●	●	●	●	●			●		●	●
	高等地熱學	●	●		●			●				●	●	●	●		●		●		●	●
地震特論	●	●		●			●				●	●	●	●	●			●	●		●	
斷層帶動力學	●	●						●				●		●							●	

能力指標 項目		I 知識／認知						II 職能導向						III 個人特質					IV 價值／倫理			
		I-1	I-2	I-3	I-4	I-5	I-6	II-1	II-2	II-3	II-4	II-5	II-6	III-1	III-2	III-3	III-4	III-5	IV-1	IV-2	IV-3	IV-4
選修課程																						
海洋組																						
基礎	海洋化學概論	●	●	●	●	●		●	●	●		●	●	●	●	●	●	●	●	●	●	
	物理海洋學	●	●	●	●	●	●	●	●	●		●	●	●	●	●		●	●	●	●	
進階	洋流學	●	●	●	●	●		●	●		●	●	●	●	●	●	●	●	●	●	●	
	新興海洋科學發展趨勢	●			●	●		●	●			●		●	●					●	●	
	海洋物理學概論	●	●		●			●	●	●			●	●				●	●	●	●	
	海洋數值模式	●	●	●	●	●		●	●	●		●	●	●	●	●	●	●	●	●	●	
	海洋衛星資料分析（一）	●	●	●	●	●		●	●	●	●	●	●	●	●	●		●	●	●	●	
	海洋動力學	●	●	●	●	●		●	●	●		●	●	●	●	●	●	●	●	●	●	
	數值方法在海洋之應用	●	●	●	●	●		●				●	●	●	●			●	●	●	●	
	氣候與海洋變動	●	●		●	●						●		●	●	●				●		
	海洋環境教育			●	●	●	●	●	●												●	
	海洋化學特論——海洋二氧化碳與全球變遷	●	●		●	●		●	●	●	●	●		●	●	●	●		●	●	●	●
科教相關																						
	科學發展史觀				●	●	●					●			●	●				●		
	認知與教學				●	●	●	●	●	●		●	●	●	●	●		●		●	●	