環境與安全衛生工程系　博士班　113 學年度入學課程結構規劃表(113.02.21)

課程類別			一年級						二年級					
			第一學期			第二學期			第一學期			第二學期		
專業課程			課程名稱	學分數	時數	課程名稱	學分數	時數	課程名稱	學分數	時數	課程名稱	學分數	時數
專業課程	必修	14 學分	論文	6	6	論文	6	6	論文	6	6	論文	6	6
			專題討論(一)	2	2	專題討論(二)	2	2	專題討論(三)	2	2	專題討論(四)	2	2
	選修	一般組	清潔生產與永續發展特論	3	3	危害性物質管理特論	3	3						
			空氣污染控制理論	3	3	氣膠學特論	3	3						
			環境化學動力學特論	3	3	回歸分析特論	3	3						
			厭氧醱酵特論	3	3	有毒氣體控制理論	3	3						
			理化處理程序原理	3	3	環境輸送現象與模擬	3	3						
			半導體廠務系統安全設計	3	3	土壤及地下水整治特論	3	3						
			毒理學特論	3	3	職業衛生學特論	3	3						
			暴露與健康風險評估	3	3	生物偵測特論	3	3						
			製程設備可靠性與風險管理	3	3	安全哲學與原理	3	3						
			生物處理程序特論	3	3	化學程序安全評估與設計	3	3						
			環境生物技術特論	3	3	工程寫作與發表	3	3						
			膜分離程序	3	3	污泥處理與處置	3	3						
			作業環境控制工程	3	3	永續工程特論	3	3						
			環境規劃與管理特論	3	3	先進通風系統的理論與應用	3	3						
			環境電化學特論	3	3	環境系統分析	3	3						
			國際環保發展特論	3	3	安全系統設計專題	3	3						
						高等燃燒與爆炸動力學	3	3						
		外籍生組（全英文授課課程）	膜分離程序	3	3	工程寫作與發表	3	3						
			作業環境控制工程	3	3	環境系統分析	3	3						
			環境規劃與管理特論	3	3	高等燃燒與爆炸動力學	3	3						
						永續工程特論	3	3						

至少 18 學分

備註：

一、畢業總學分數為 32 學分。

二、必修 14 學分，選修 18 學分。

三、學生修讀所屬學院之「學院共同課程」應認列為本系專業課程學分；修讀所屬學院之「學院跨領域課程」或其他學院開課之課程，則認列為外系課程學分。

四、系所訂定條件（學程、檢定、證照、承認外系學分及其他）：相關規定依本系博士班研究生修業規定辦理。

2024 Curricula for the Ph.D. Program in Department of Safety, Health and Environmental Engineering

Course Category				1st Academic Year						2nd Academic Year					
				Semester 1			Semester 2			Semester 1			Semester 2		
				Course Name	Credits	Hours	Course Name	Credits	Hours	Course Name	Credits	Hours	Course Name	Credits	Hours
Departmental Professional Courses	Required		Credits Needed 14	Dissertation	6	6	Dissertation	6	6	Dissertation	6	6	Dissertation	6	6
				Seminar(I)	2	2	Seminar(II)	2	2	Seminar(III)	2	2	Seminar(IV)	2	2
	Elective	General Track	Credits needed 18	Special Topics on Cleaner Production and Sustainable Development	3	3	Special Topics for Hazardous Substnaces Management	3	3						
				Air pollution Control Theory	3	3	Aerosol Science and Technology	3	3						
				Special Topics for Environmental Chemodynamics	3	3	Special Topics for Regression Analysis	3	3						
				Special Topics for Anaerobic Digestion	3	3	Toxic Gas Control Theories	3	3						
				Principles of Physico-chemical Treatment Processes	3	3	Environmental Transfer Phenomena and Simulation	3	3						
				Facility System Safety Design for Semiconductor Related Processes	3	3	Special Topics on Soil and Groundwater Remediation	3	3						
				Special Topics for Hazardous Substances Management	3	3	Special Topic for Occupational Health	3	3						
				Exposure and Health Risk Assessment	3	3	Special Topics of Biological Monitoring	3	3						
				Risk and Reliability Management of the Process Equipment	3	3	Safety Principle & Philosophy	3	3						
				Principles of Biological Treatment Processes	3	3	Safety Assessment And Design for Chemical Processes	3	3						
				Special Topics on Environmental Biotechnology	3	3	Technical Writing and Presentation	3	3						
				Membrane separation process	3	3	Sludge treatment and disposal	3	3						
				Engineering Control for the Working Environment	3	3	Special Topic on Sustainable Engineering	3	3						
				Special topics for environmental planning and management	3	3	Theory and Application of Advanced Ventilation System	3	3						

				Special Topics in Environmental Electrochemistry	3	3	Environmental Systems Analysis	3	3	
				Special Topics for International Environmental Issues	3	3	Special Topics in Safety System Design	3	3	
							Advanced Fire and Explosion Dynamics	3	3	
		International Student Track (All-English Courses)		Membrane separation process.	3	3	Technical Writing and Presentation.	3	3	
				Engineering Control for the Working Environment.	3	3	Environmental Systems Analysis.	3	3	
				Special topics for environmental planning and management.	3	3	Advanced Fire and Explosion Dynamics.	3	3	
							Special Topic on Sustainable Engineering.	3	3	

備註：

一、Minimum credit required to graduate: __32__.

二、Required coursess: __14__ credits; elective courses: _18__ credits.

三、Credits earned by students from the common courses offered by their respective colleges shall be accepted as their affiliated department's professional courses. However, credits earned from interdisciplinary courses offered either by their college or by other colleges will be accepted as credits earned from departments outside their own.

四、Departmental requirements (Ex: programs, certifications, licenses, recognition of external department credits, prerequisite requirements, Credits needed for each teaching division, and other requirements): The relevant regulations shall be handled in accordance with the Ph.D. program's academic requirements of this department.