

國立高雄科技大學 水圈學院水產科技產業博士班 109 學年度入學 課程結構規劃表
2020 Curricula for the Ph.D. Program of Aquatic Science and Technology, College of Hydrosphere Science

課程類別 Course Category			一年級 1 st Academic Year						二年級 2 nd Academic Year						三年級 3 rd Academic Year					
			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
			課程名稱 Course Name	學分 數 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 數 Credi ts	時數 Hou rs	課程名稱 Course Name	學分 數 Credi ts	時數 Hou rs	課程名稱 Course Name	學分 數 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 數 Credi ts	時數 Hours	課程名稱 Course Name	學分 數 Cred its	時數 Hou rs
Required	必修	應修學分數 13 學分 Total Number of Credits Needed 13	專題討論（一） Special Topics (1)	1	2	專題討論（二） Special Topics (2)	1	2	專題討論（三） Special Topics (3)	1	2	專題討論（四） Special Topics (4)	1	2	主題式產業實習（一） Industrial theme type practice (1)	3	註 4	論文	6	6
		應修學分數 21 學分 Number of Credits Needed 21	水產科技專論 Special expound on fishery Science and technology	2	2	水產科技專論 Special expound on fishery Science and technology	2	2	水產科技專論 Special expound on fishery Science and technology	2	2	水產科技專論 Special expound on fishery Science and technology	2	2	水產科技專論 Special expound on fishery Science and technology	2	2	水產科技專論 Special expound on fishery Science and technology	2	2
專業課程 Professional Courses	選修 Elective		海洋創意產品個案研究 The cases study of Marine creative products	2	2	海洋創意產品個案研究 The cases study of Marine creative products	2	2	海洋創意產品個案研究 The cases study of Marine creative products	2	2	海洋創意產品個案研究 The cases study of Marine creative products	2	2	海洋創意產品個案研究 The cases study of Marine creative products	2	2	海洋創意產品個案研究 The cases study of Marine creative products	2	2
			前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2	前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2	前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2	前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2	前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2	前瞻海洋生物科技研究法 Foresight Research Methodology of Marine Biotechnology	2	2
			魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2	魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2	魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2	魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2	魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2	魚類繁養殖專論 Topic of discussion on fish breeding and propagation	2	2
			定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2	定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2	定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2	定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2	定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2	定置網漁業產業價值鏈專論 Topic of discussion on industrial value chain of set-net fishery	2	2
			食品檢驗分析專論 Food inspection analysis Monograph	2	2	食品檢驗分析專論 Food inspection analysis Monograph	2	2	食品檢驗分析專論 Food inspection analysis Monograph	2	2	食品檢驗分析專論 Food inspection analysis Monograph	2	2	食品檢驗分析專論 Food inspection analysis Monograph	2	2	食品檢驗分析專論 Food inspection analysis Monograph	2	2
			海洋生物基因操作技術 Marine genetic techniques	2	2	海洋生物基因操作技術 Marine genetic techniques	2	2	海洋生物基因操作技術 Marine genetic techniques	2	2	海洋生物基因操作技術 Marine genetic techniques	2	2	海洋生物基因操作技術 Marine genetic techniques	2	2	海洋生物基因操作技術 Marine genetic techniques	2	2
			海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2	海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2	海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2	海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2	海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2	海洋生物進階分子檢測技術 Advanced Marine Molecular Diagnostics Technology	2	2
			水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2	水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2	水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2	水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2	水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2	水產科技產業市場分析與技術鑑價 Fishery technology market analysis and evaluation	2	2
			水產加工專論 Special Topics in seafood Processing	2	2	水產加工專論 Special Topics in seafood Processing	2	2	水產加工專論 Special Topics in seafood Processing	2	2	水產加工專論 Special Topics in seafood Processing	2	2	水產加工專論 Special Topics in seafood Processing	2	2	水產加工專論 Special Topics in seafood Processing	2	2
			食品奈米技術開發 Development of Food Nano-technology	2	2	食品奈米技術開發 Development of Food Nano-technology	2	2	食品奈米技術開發 Development of Food Nano-technology	2	2	食品奈米技術開發 Development of Food Nano-technology	2	2	食品奈米技術開發 Development of Food Nano-technology	2	2	食品奈米技術開發 Development of Food Nano-technology	2	2
			新穎食品加工技術 Novel Food Processing	2	2	新穎食品加工技術 Novel Food Processing	2	2	新穎食品加工技術 Novel Food Processing	2	2	新穎食品加工技術 Novel Food Processing	2	2	新穎食品加工技術 Novel Food Processing	2	2	新穎食品加工技術 Novel Food Processing	2	2
			高等水產化學 Advanced Aquatic Chemistry	2	2	高等水產化學 Advanced Aquatic Chemistry	2	2	高等水產化學 Advanced Aquatic Chemistry	2	2	高等水產化學 Advanced Aquatic Chemistry	2	2	高等水產化學 Advanced Aquatic Chemistry	2	2	高等水產化學 Advanced Aquatic Chemistry	2	2
			食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2	食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2	食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2	食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2	食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2	食品檢驗技術專論 Special Topics in Food Inspection Technology	2	2
			新產品開發實務 Novel Product development practice	2	2	新產品開發實務 Novel Product development practice	2	2	新產品開發實務 Novel Product development practice	2	2	新產品開發實務 Novel Product development practice	2	2	新產品開發實務 Novel Product development practice	2	2	新產品開發實務 Novel Product development practice	2	2
			智慧財產管理與應用 Intellectual Property's Management and Applications	2	2	智慧財產管理與應用 Intellectual Property's Management and Applications	2	2	智慧財產管理與應用 Intellectual Property's Management and Applications	2	2	智慧財產管理與應用 Intellectual Property's Management and Applications	2	2	智慧財產管理與應用 Intellectual Property's Management and Applications	2	2	智慧財產管理與應用 Intellectual Property's Management and Applications	2	2
			海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2	海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2	海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2	海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2	海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2	海洋生物產品創新研發與行銷 Innovation Development and Marketing in Marine organism Product	2	2
			產業化實務專論 Industrialization Practice Monograph	2	2	產業化實務專論 Industrialization Practice Monograph	2	2	產業化實務專論 Industrialization Practice Monograph	2	2	產業化實務專論 Industrialization Practice Monograph	2	2	產業化實務專論 Industrialization Practice Monograph	2	2	產業化實務專論 Industrialization Practice Monograph	2	2
			漁業混獲管理專論 Advanced management in fisheries by-catch	2	2	漁業混獲管理專論 Advanced management in fisheries by-catch	2	2	漁業混獲管理專論 Advanced management in fisheries by-catch	2	2	漁業混獲管理專論 Advanced management in fisheries by-catch	2	2	漁業混獲管理專論 Advanced management in fisheries by-catch	2	2	漁業混獲管理專論 Advanced management in fisheries by-catch	2	2
			定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2	定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2	定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2	定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2	定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2	定置網漁業經營管理專論 Advanced Management on Set Net Fishery	2	2
			水生生態毒物學 Aquatic ecology toxicology	2	2	水生生態毒物學 Aquatic ecology toxicology	2	2	水生生態毒物學 Aquatic ecology toxicology	2	2	水生生態毒物學 Aquatic ecology toxicology	2	2	水生生態毒物學 Aquatic ecology toxicology	2	2	水生生態毒物學 Aquatic ecology toxicology	2	2

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		課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Credi ts	時數 Hou rs	課程名稱 Course Name	學分 Credi ts	時數 Hour s	課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Credi ts	時數 Hours	課程名稱 Course Name	學分 Cred its	時數 Hou rs
專業課程 Professional Courses	應修學分 Total Number of Credits Needed 14	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2	水族國際科研發展與市場開發 International ornamental fish research and market development	2	2
		水族產業實務專論 Advanced ornamental fish industry	2	2	水族產業實務專論 Advanced ornamental fish industry	2	2	水族產業實務專論 Advanced ornamental fish industry	2	2	水族產業實務專論 Advanced ornamental fish industry	2	2	水族產業實務專論 Advanced ornamental fish industry	2	2	水族產業實務專論 Advanced ornamental fish industry	2	2
		水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2	水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2	水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2	水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2	水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2	水產保健食品開發專論 Special Topics in Development of Marine Functional Food	2	2
		進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2	進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2	進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2	進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2	進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2	進階核酸檢驗技術 Advanced Nucleic Acid Detection Technologies	2	2
		國際漁業技術發展研究 International fisheries technology development research	2	2	國際漁業技術發展研究 International fisheries technology development research	2	2	國際漁業技術發展研究 International fisheries technology development research	2	2	國際漁業技術發展研究 International fisheries technology development research	2	2	國際漁業技術發展研究 International fisheries technology development research	2	2	國際漁業技術發展研究 International fisheries technology development research	2	2
		資源保育型漁具設計 Designing fishing gears for protecting resources	2	2	資源保育型漁具設計 Designing fishing gears for protecting resources	2	2	資源保育型漁具設計 Designing fishing gears for protecting resources	2	2	資源保育型漁具設計 Designing fishing gears for protecting resources	2	2	資源保育型漁具設計 Designing fishing gears for protecting resources	2	2	資源保育型漁具設計 Designing fishing gears for protecting resources	2	2
		海洋學專論 Oceanography	2	2	海洋學專論 Oceanography	2	2	海洋學專論 Oceanography	2	2	海洋學專論 Oceanography	2	2	海洋學專論 Oceanography	2	2	海洋學專論 Oceanography	2	2
		演化論 Evolutionary	2	2	演化論 Evolutionary	2	2	演化論 Evolutionary	2	2	演化論 Evolutionary	2	2	演化論 Evolutionary	2	2	演化論 Evolutionary	2	2
		藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2	藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2	藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2	藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2	藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2	藻類之養殖與加工實作 Practice of algae cultivation and processing	2	2
		智財申請與撰寫實務 Intellectual property application and writing practice	2	2	智財申請與撰寫實務 Intellectual property application and writing practice	2	2	智財申請與撰寫實務 Intellectual property application and writing practice	2	2	智財申請與撰寫實務 Intellectual property application and writing practice	2	2	智財申請與撰寫實務 Intellectual property application and writing practice	2	2	智財申請與撰寫實務 Intellectual property application and writing practice	2	2
		水產科技產業個案研究 Case Studies of Fishery Industry	2	2	水產科技產業個案研究 Case Studies of Fishery Industry	2	2	水產科技產業個案研究 Case Studies of Fishery Industry	2	2	水產科技產業個案研究 Case Studies of Fishery Industry	2	2	水產科技產業個案研究 Case Studies of Fishery Industry	2	2	水產科技產業個案研究 Case Studies of Fishery Industry	2	2
		水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2	水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2	水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2	水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2	水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2	水產科技產業經營管理與財務規劃 Aquatic technology industry management and financial planning	2	2
		創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2	創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2	創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2	創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2	創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2	創新研發策略與經營管理 Innovation Strategy of Product Development and Management	2	2
		前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2	前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2	前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2	前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2	前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2	前瞻海洋生物產業技術 Prospective of marine biotechnology industry	2	2
		水產創意產品開發實作 Experiments in Aquatic Food Development	2	2	水產創意產品開發實作 Experiments in Aquatic Food Development	2	2	水產創意產品開發實作 Experiments in Aquatic Food Development	2	2	水產創意產品開發實作 Experiments in Aquatic Food Development	2	2	水產創意產品開發實作 Experiments in Aquatic Food Development	2	2	水產創意產品開發實作 Experiments in Aquatic Food Development	2	2
		創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2	創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2	創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2	創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2	創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2	創業營運實務實習 Practicum in Entrepreneurship and Operation	2	2
		水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2	水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2	水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2	水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2	水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2	水產科技產業管理專論 Management of Aquatic Science and Technology Industry	2	2
		水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2	水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2	水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2	水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2	水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2	水產科技產業經營策略與研討 Special topics and seminars on aquatic business management	2	2
		水產企業管理專論 Advanced fishery business management	2	2	水產企業管理專論 Advanced fishery business management	2	2	水產企業管理專論 Advanced fishery business management	2	2	水產企業管理專論 Advanced fishery business management	2	2	水產企業管理專論 Advanced fishery business management	2	2	水產企業管理專論 Advanced fishery business management	2	2
		餌料生物培育專論 Advanced feed additive	2	2	餌料生物培育專論 Advanced feed additive	2	2	餌料生物培育專論 Advanced feed additive	2	2	餌料生物培育專論 Advanced feed additive	2	2	餌料生物培育專論 Advanced feed additive	2	2	餌料生物培育專論 Advanced feed additive	2	2
		水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2	水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2	水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2	水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2	水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2	水產科技產業成果加值機制 Added-value mechanics of aquatic-technology industry	2	2
		水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2	水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2	水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2	水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2	水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2	水產科技創業營運規劃實務 Operation and planning Practice of aquctic technology applicatio to entreprenurship	2	2
		財務及風險管理 Financial and Risk Management	2	2	財務及風險管理 Financial and Risk Management	2	2	財務及風險管理 Financial and Risk Management	2	2	財務及風險管理 Financial and Risk Management	2	2	財務及風險管理 Financial and Risk Management	2	2	財務及風險管理 Financial and Risk Management	2	2

國立高雄科技大學 水圈學院水產科技產業博士班 109 學年度入學 課程結構規劃表
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課程類別 Course Category			一年級 1 st Academic Year						二年級 2 nd Academic Year						三年級 3 rd Academic Year											
			第一學期 Semester 1				第二學期 Semester 2				第一學期 Semester 1				第二學期 Semester 2				第一學期 Semester 1				第二學期 Semester 2			
			課程名稱 Course Name	學分 數 Cred its	時數 Hou rs		課程名稱 Course Name	學分 數 Cred its	時數 Hou rs		課程名稱 Course Name	學分 數 Cred its	時數 Hour s		課程名稱 Course Name	學分 數 Cred its	時數 Hou rs		課程名稱 Course Name	學分 數 Cred its	時數 Hours		課程名稱 Course Name	學分 數 Cred its	時數 Hou rs	
專業課程 Professional Courses	選修 Elective	應修學分數 14 學分 Total Number of Credits Needed 14			水產科技產業個案實例專討 Seminar on Case Studies of Fishery Industry	2	2		水產科技產業個案實例專討 Seminar on Case Studies of Fishery Industry	2	2		水產科技產業個案實例專討 Seminar on Case Studies of Fishery Industry	2	2		水產科技產業個案實例專討 Seminar on Case Studies of Fishery Industry	2	2		水產科技產業個案實例專討 Seminar on Case Studies of Fishery Industry	2	2			
		漁業自動化專論 Theory of Fishery Automation	2	2		漁業自動化專論 Theory of Fishery Automation	2	2		漁業自動化專論 Theory of Fishery Automation	2	2		漁業自動化專論 Theory of Fishery Automation	2	2		漁業自動化專論 Theory of Fishery Automation	2	2		漁業自動化專論 Theory of Fishery Automation	2	2		
		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		水產養殖產品創新研發與行為 The innovative research and development of aquaculture products.	2	2		
		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		水產養殖經營與管理專論 Advanced management and operation on aquaculture	2	2		
		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		創新水產養殖科技專論 Innovative Aquaculture Science and Technology	2	2		
		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		定置網產學實務專論 Academic-industrial practical training for set-net fishery	2	2		
		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		餌料生物進階操作 Advanced operation in cutureing live feed	2	2		
		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		保健食品產業之科技發展現況與展望 Current and Future Technological Development of Functional Food Industry	2	2		
		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		生態養殖技術專論 Advanced ecological aquaculture technique	2	2		
		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		食品發酵技術專論 Special Topics in Food Fermentation Technology	2	2		
		高等生物統計 Advanced Biostatistics	2	2		高等生物統計 Advanced Biostatistics	2	2		高等生物統計 Advanced Biostatistics	2	2		高等生物統計 Advanced Biostatistics	2	2		高等生物統計 Advanced Biostatistics	2	2		高等生物統計 Advanced Biostatistics	2	2		
		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		高等藻類養殖與加工專論 Advanced algal aquaculture and processing	2	2		
		專利申請與撰寫實務 Patent application and writing practice	2	2		專利申請與撰寫實務 Patent application and writing practice	2	2		專利申請與撰寫實務 Patent application and writing practice	2	2		專利申請與撰寫實務 Patent application and writing practice	2	2		專利申請與撰寫實務 Patent application and writing practice	2	2		專利申請與撰寫實務 Patent application and writing practice	2	2		
		海洋植物生理 Marine Phytophysiology	2	2		海洋植物生理 Marine Phytophysiology	2	2		海洋植物生理 Marine Phytophysiology	2	2		海洋植物生理 Marine Phytophysiology	2	2		海洋植物生理 Marine Phytophysiology	2	2		海洋植物生理 Marine Phytophysiology	2	2		
		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		海洋無脊椎動物發生學 Genesiology of Invertebrate	2	2		
		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		海洋共生藻專論 Topics of Marine Zooxanthella	2	2		
		水產科技研究法專論 Aquatic science and technology research monographs	2	2		水產科技研究法專論 Aquatic science and technology research monographs	2	2		水產科技研究法專論 Aquatic science and technology research monographs	2	2		水產科技研究法專論 Aquatic science and technology research monographs	2	2		水產科技研究法專論 Aquatic science and technology research monographs	2	2		水產科技研究法專論 Aquatic science and technology research monographs	2	2		
		生產經濟專論 Special Topics on Production Economics	2	2		生產經濟專論 Special Topics on Production Economics	2	2		生產經濟專論 Special Topics on Production Economics	2	2		生產經濟專論 Special Topics on Production Economics	2	2		生產經濟專論 Special Topics on Production Economics	2	2		生產經濟專論 Special Topics on Production Economics	2	2		
		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		拖網漁業減少混獲裝置設計 Design research of bycatch reduction devices in trawl fisheries	2	2		
		飼料添加物專論 Monograph on feed additive	2	2		飼料添加物專論 Monograph on feed additive	2	2		飼料添加物專論 Monograph on feed additive	2	2		飼料添加物專論 Monograph on feed additive	2	2		飼料添加物專論 Monograph on feed additive	2	2		飼料添加物專論 Monograph on feed additive	2	2		
		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		臺灣漁業資源管理實務 Taiwan fishery resources management practice	3	3		
		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		底泥監測與評估 Monitoring and Assessment of Sediments	3	3		
		有害廢棄物管理 Hazardous Waste Management	3	3		有害廢棄物管理 Hazardous Waste Management	3	3		有害廢棄物管理 Hazardous Waste Management	3	3		有害廢棄物管理 Hazardous Waste Management	3	3		有害廢棄物管理 Hazardous Waste Management	3	3		有害廢棄物管理 Hazardous Waste Management	3	3		

國立高雄科技大學 水圈學院水產科技產業博士班 109 學年度入學 課程結構規劃表
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課程類別 Course Category		一年級 1 st Academic Year						二年級 2 nd Academic Year						三年級 3 rd Academic Year					
		第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
		課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 Cre dits	時數 Hou rs
專業課程 Professional Courses	應修學分數 14 學分 Total Number of Credits Needed 14	底泥污染與整治 Sediment Contamination and Remediation	3	3	底泥污染與整治 Sediment Contamination and Remediation	3	3	底泥污染與整治 Sediment Contamination and Remediation	3	3	底泥污染與整治 Sediment Contamination and Remediation	3	3	底泥污染與整治 Sediment Contamination and Remediation	3	3	底泥污染與整治 Sediment Contamination and Remediation	3	3
		底泥品質監測 Sediment Quality Monitoring	3	3	底泥品質監測 Sediment Quality Monitoring	3	3	底泥品質監測 Sediment Quality Monitoring	3	3	底泥品質監測 Sediment Quality Monitoring	3	3	底泥品質監測 Sediment Quality Monitoring	3	3	底泥品質監測 Sediment Quality Monitoring	3	3
		環境水化學 Environmental Water Chemistry	3	3	環境水化學 Environmental Water Chemistry	3	3	環境水化學 Environmental Water Chemistry	3	3	環境水化學 Environmental Water Chemistry	3	3	環境水化學 Environmental Water Chemistry	3	3	環境水化學 Environmental Water Chemistry	3	3
		海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3	海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3	海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3	海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3	海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3	海洋環境即時監測實務 Practice on real-time monitoring of marine environment	3	3
		海洋生態工程 Marine Ecological Engineering	3	3	海洋生態工程 Marine Ecological Engineering	3	3	海洋生態工程 Marine Ecological Engineering	3	3	海洋生態工程 Marine Ecological Engineering	3	3	海洋生態工程 Marine Ecological Engineering	3	3	海洋生態工程 Marine Ecological Engineering	3	3
		智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3	智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3	智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3	智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3	智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3	智慧科技與海洋環境監測 Artificial Intelligent and Marine Environmental Monitoring	3	3
		AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3	AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3	AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3	AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3	AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3	AIoT 水產養殖製造行銷 AIoT in Seafood Production Manufacturing and Marketing	3	3
		目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3	目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3	目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3	目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3	目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3	目標導向科研專案管理實務 Objective Orientated Project Management Practice	3	3
		科學計算 Scientific Computing	3	3	科學計算 Scientific Computing	3	3	科學計算 Scientific Computing	3	3	科學計算 Scientific Computing	3	3	科學計算 Scientific Computing	3	3	科學計算 Scientific Computing	3	3
		波浪力學 Wave Mechanics	3	3	波浪力學 Wave Mechanics	3	3	波浪力學 Wave Mechanics	3	3	波浪力學 Wave Mechanics	3	3	波浪力學 Wave Mechanics	3	3	波浪力學 Wave Mechanics	3	3
		R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2	R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2	R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2	R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2	R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2	R 軟體資料分析與統計應用 Data Analysis and the Application of R	2	2
		養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3	養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3	養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3	養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3	養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3	養殖產業風險管理專論 Monograph on risk management of aquaculture industry	3	3
		產業實務講座 Special Topics in Industrial Pollution Prevention	3	3	產業實務講座 Special Topics in Industrial Pollution Prevention	3	3	產業實務講座 Special Topics in Industrial Pollution Prevention	3	3	產業實務講座 Special Topics in Industrial Pollution Prevention	3	3	產業實務講座 Special Topics in Industrial Pollution Prevention	3	3	產業實務講座 Special Topics in Industrial Pollution Prevention	3	3
		污染物宿命與傳輸 Fate and Transport of Pollutants	3	3	污染物宿命與傳輸 Fate and Transport of Pollutants	3	3	污染物宿命與傳輸 Fate and Transport of Pollutants	3	3	污染物宿命與傳輸 Fate and Transport of Pollutants	3	3	污染物宿命與傳輸 Fate and Transport of Pollutants	3	3	污染物宿命與傳輸 Fate and Transport of Pollutants	3	3
		環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3	環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3	環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3	環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3	環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3	環境儀器分析專論 Special Topics of Environmental Instrumental Analysis	3	3
		環境毒理學 Environmental Toxicology	3	3	環境毒理學 Environmental Toxicology	3	3	環境毒理學 Environmental Toxicology	3	3	環境毒理學 Environmental Toxicology	3	3	環境毒理學 Environmental Toxicology	3	3	環境毒理學 Environmental Toxicology	3	3
		環境生物技術 Environmental Biotechnology	3	3	環境生物技術 Environmental Biotechnology	3	3	環境生物技術 Environmental Biotechnology	3	3	環境生物技術 Environmental Biotechnology	3	3	環境生物技術 Environmental Biotechnology	3	3	環境生物技術 Environmental Biotechnology	3	3
		環境有機化學 Environmental Organic Chemistry	3	3	環境有機化學 Environmental Organic Chemistry	3	3	環境有機化學 Environmental Organic Chemistry	3	3	環境有機化學 Environmental Organic Chemistry	3	3	環境有機化學 Environmental Organic Chemistry	3	3	環境有機化學 Environmental Organic Chemistry	3	3
		綠色環保材料 Green Environmental Materials	3	3	綠色環保材料 Green Environmental Materials	3	3	綠色環保材料 Green Environmental Materials	3	3	綠色環保材料 Green Environmental Materials	3	3	綠色環保材料 Green Environmental Materials	3	3	綠色環保材料 Green Environmental Materials	3	3
		水科學與技術 Water Science and Technology	3	3	水科學與技術 Water Science and Technology	3	3	水科學與技術 Water Science and Technology	3	3	水科學與技術 Water Science and Technology	3	3	水科學與技術 Water Science and Technology	3	3	水科學與技術 Water Science and Technology	3	3
		高級氧化處理程序 Advanced Oxidation Processes	3	3	高級氧化處理程序 Advanced Oxidation Processes	3	3	高級氧化處理程序 Advanced Oxidation Processes	3	3	高級氧化處理程序 Advanced Oxidation Processes	3	3	高級氧化處理程序 Advanced Oxidation Processes	3	3	高級氧化處理程序 Advanced Oxidation Processes	3	3
		廢水處理技術 Wastewater Treatment Technologies	3	3	廢水處理技術 Wastewater Treatment Technologies	3	3	廢水處理技術 Wastewater Treatment Technologies	3	3	廢水處理技術 Wastewater Treatment Technologies	3	3	廢水處理技術 Wastewater Treatment Technologies	3	3	廢水處理技術 Wastewater Treatment Technologies	3	3
		海洋污染 Marine Pollution	3	3	海洋污染 Marine Pollution	3	3	海洋污染 Marine Pollution	3	3	海洋污染 Marine Pollution	3	3	海洋污染 Marine Pollution	3	3	海洋污染 Marine Pollution	3	3
		環境分析技術的應用 Application of Environmental Analysis Technology	3	3	環境分析技術的應用 Application of Environmental Analysis Technology	3	3	環境分析技術的應用 Application of Environmental Analysis Technology	3	3	環境分析技術的應用 Application of Environmental Analysis Technology	3	3	環境分析技術的應用 Application of Environmental Analysis Technology	3	3	環境分析技術的應用 Application of Environmental Analysis Technology	3	3
		水質監測與分析 Water Quality Monitoring and Analysis	3	3	水質監測與分析 Water Quality Monitoring and Analysis	3	3	水質監測與分析 Water Quality Monitoring and Analysis	3	3	水質監測與分析 Water Quality Monitoring and Analysis	3	3	水質監測與分析 Water Quality Monitoring and Analysis	3	3	水質監測與分析 Water Quality Monitoring and Analysis	3	3

國立高雄科技大學 水圈學院水產科技產業博士班 109 學年度入學 課程結構規劃表

2020 Curricula for the Ph.D. Program of Aquatic Science and Technology, College of Hydrosphere Science

課程類別 Course Category			一年級 1 st Academic Year						二年級 2 nd Academic Year						三年級 3 rd Academic Year					
			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2			第一學期 Semester 1			第二學期 Semester 2		
			課程名稱 Course Name	學分 數 Cred its	時數 Hou rs	課程名稱 Course Name	學分 數 Cred its	時數 Hou rs	課程名稱 Course Name	學分 數 Cred its	時數 Hour s	課程名稱 Course Name	學分 數 Cre dits	時數 Hou rs	課程名稱 Course Name	學分 數 Cred its	時數 Hours	課程名稱 Course Name	學分 數 Cred its	時數 Hou rs
			漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2	漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2	漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2	漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2	漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2	漁業資源評估專論 Special Topics on Fisheries Stock Assessment	2	2
			食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2	食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2	食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2	食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2	食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2	食品安全認證系統程序專論 Special Certificates for Food Safety System	2	2
			藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3	藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3	藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3	藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3	藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3	藻類與海洋環境專論 Special Topics on Algae and Marine Environment	3	3
															主題式產業實習（二） Industrial theme type practice (2)	3	註 4			
															主題式產業實習（三） Industrial theme type practice (3)	3	註 4			

備註：

- 一、畢業總學分數為 34 學分。
- 二、必修 13 學分，選修 21 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、學院或系所開設之教學實習微學分課程列為畢業學分。
- 五、系所訂定條件（學程、檢定、證照、承認外系學分及其他）：
 - 1、選修課程開課視當學期學生需求狀況決定開授課目。
 - 2、本博士班為實務型博士學位，博士論文以產業個案研究、專利發明、技轉等為導向，並結合產業專家共同指導。
 - 3、跨院、校選修研究所課程至多 6 學分，國際生不在此限。
 - 4、主題式產業實習(一)為必修課程，主題式產業實習(二)與主題式產業實習(三)為選修課程，此三門課程係為校外實習，每實習 320 小時(8 小時／×5 天／週×8 週=320 小時)給予 3 學分，實習時數可加總計算，若校外實習整學期，給予 9 學分，並視同修習主題式產業實習(一)、主題式產業實習(二)、主題式產業實習(三)三門課，主題式產業實習最高認定為 9 學分。

Notes:

- 1. Minimum credit required to graduate: 34.
- 2. Required courses: 13 credits; elective courses: 21 credits.
- 3. 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.
- 4. Teaching internship micro-credit courses offered by colleges or departments are counted as graduation credits.
- 5. College requirements:
 - (1) Elective courses are offered depending on student demand during the semester.
 - (2) This Ph. D. program is a practical doctoral degree. The dissertation is oriented to industrial case studies, patented inventions, and technology transfer and is jointly supervised by industrial experts.
 - (3) Recognition of up to 6 credits of elective graduate courses from other colleges or universities.
 - (4) Research Practical (1) is a required course, Research Practical (2) and Research Practical (3) are elective courses, and these three courses are in-campus internships. 3 credits will be given for every 320 hours of internship (8 hours/×5 days/week× 8 weeks = 320 hours), and the number of hours of internship can be added up to the total number of hours of internship. The maximum number of credits for Industrial theme-type practice is 9 credits.