國立屏東科技大學 動物用疫苗國際學位專班 博士班課程規劃表(111學年度)

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| --- | --- | --- | --- |
| 學年 | 第一學年 | 第二學年 | 學分小計 |
| 學期 | 第一學期 | 第二學期 | 第一學期 | 第二學期 |
| 類別 | 科目 | 永久碼 | 學分/時數 | 科目 | 永久碼 | 學分/時數 | 科目 | 永久碼 | 學分/時數 | 科目 | 永久碼 | 學分/時數 |
| 必修 | 專題討論 | 30039 | 1/2 | 專題討論 | 30039 | 1/2 | 專題討論博士論文 | 3003930048 | 1/212/12 | 專題討論 | 30039 | 1/2 |  |
| 小計 |  |  | 1/2 |  |  | 1/2 |  |  | 13/14 |  |  | 1/2 | 16 |
| 選修 | 傳染病之致病機制酵素與蛋白質工程學進階免疫學專題研究(1)疫苗學期刊論文寫作與投稿儀器分析與操作疫苗應用生物資訊學生物技術與生技產業 | 408955511930173407172049330546234363072120184 | 3/32/22/22/22/22/22/22/23/3 | 進階反芻獸疫苗開發進階豬用疫苗開發進階魚用疫苗開發專題研究(2)佐劑學動物疫苗製程特論動物疫苗製程實習疫苗免疫學疫苗開發應用統計實務 | 552133050155202407182031823384305454048430733 | 2/22/22/22/22/22/21/22/22/2 | 免疫評估技術疫苗工程學專題研究(3)進階禽類疫苗開發進階寵物疫苗開發動物用疫苗檢驗標準及技術動物細胞培養疫苗生產技術進階病毒學 | 4028720492301852327823279307193072223838 | 2/22/22/22/22/22/22/22/2 | 產業實務疫苗研發海外實務專題研究(4)生物性佐劑生物安全與防疫系統進階生物技術與生技產業疫苗蛋白質結構分析及模擬 | 30205305003018623438234352343730833 | 2/22/22/22/22/23/33/3 |  |
| 小計 |  | 20/20 |  | 17/18 |  | 16/16 |  | 16/16 | 69 |

備註：學生畢業總修習學分數 **33** 學分 (**16**學分必修課程、**17**學分選修課程)

International Ph.D program in Animal Vaccine Technology

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| --- | --- | --- | --- |
| Academic Year | First Year | Second Year | CreditSubtotal |
| Term | First Term | Second Term | First Term | Second Term |
| Category | subject | Credit/time | subject | Credit/time | subject | Credit/time | subject | Credit/time |
| Required Course | Seminar | 1/2 | Seminar | 1/2 | SeminarDissertation | 1/212/12 | Seminar | 1/2 |  |
| Subtotal |  | 1/2 |  | 1/2 |  | 13/14 |  | 1/2 | 16 |
| Selective Course | Pathogenesis of Infectious DiseasesEnzyme and Protein EngineeringAdvance ImmunologySpecial Topics(1)VaccinologyManuscript preparation and submissionBioinformatics in Vaccine DevelopmentInstrumental analysis and operation Biotechnology and Bioindustry | 3/32/22/2 2/22/22/22/22/23/3 | Advanced Ruminant Vaccine DevelopmentAdvanced Porcine Vaccine DevelopmentAdvanced Fish Vaccine DevelopmentSpecial Topics(2)AdjunvatsAdvance Animal Vaccine ProductionPractical in vaccine productionImmunology of VaccineThe basic and practice of statistics in vaccine development | 2/22/22/22/22/22/21/22/22/2 | Immunological Evaluation TechniquesVaccine EngineeringSpecial Topics(3)Advanced Avian Vaccine DevelopmentAdvanced Companion Animal Vaccine DevelopmenStandards and techniques on vaccines for veterinary useAnimal Cell Culture for Vaccine ProductionAdvance Virology | 2/22/22/22/22/22/22/22/2 | Industry InternshipOverseas Internship in Vaccine ResearchSpecial Topics(4)Biosecurity and Epidemic Prevention SystemBiological adjuvantsAdjuvance Biotechnology and BioindustryProtein structure analysis and modeling for vaccine | 2/22/22/22/22/23/33/3 |  |
| Subtotal |  | 20/20 |  | 17/18 |  | 16/16 |  | 16/16 | 69 |

PS：1.Students must have 33 credits for graduation (16 in required courses and 17 in electives)