

微生物及免疫學研究所碩士班

115 學年度

最低修業年限	一年
應修學分數	至少應修畢 24 學分，其中包含本所訂定之必修科目
應修（應選）課程及符合畢業資格之修課相關規定	本國生 一般生 必修課程 ①下列 a、b、c、d 必修課程四選三： a.高等微生物及免疫學通論-免疫學(2 學分)或免疫學(全英語)(2 學分)(中、英文版二擇一) b.高等微生物及免疫學通論-病毒學(2 學分)或病毒學(全英語)(2 學分)(中、英文版二擇一)、 c.高等微生物及免疫學通論-細菌學(2 學分)或細菌學(全英語)(2 學分)(中、英文版二擇一) 註：上述abc的中、英文版請擇一選修，若中、英二版都選修，其中一門不能計入畢業學分內。 d.現代生物學研究方法(2 學分) ②學術研究倫理(0 學分) 必選課程 ①研究生於修業期限內必選修「微生物及免疫學專題討論」(2 學分)，共需選修 3 次，作為畢業門檻。若指導教授認為有必要，得選修第 4 次。 ②自一年級第二學期起每學期必選修「微生物與免疫學研究」(2 學分)。 ③碩一生必選「生命科學院-生物醫學講座」(1 學分)，至少兩學期。 醫師科學家組 必修課程 ①下列 a、b、c 必修課程三選一： a.高等微生物及免疫學通論-免疫學(2 學分)或免疫學(全英語)(2 學分)(中、英文版二擇一) b.高等微生物及免疫學通論-病毒學(2 學分)或病毒學(全英語)(2 學分)(中、英文版二擇一)、 c.高等微生物及免疫學通論-細菌學(2 學分)或細菌學(全英語)(2 學分)(中、英文版二擇一) 註：上述abc的中、英文版請擇一選修，若中、英二版都選修，其中一門不能計入畢業學分內。 ②醫師科學家碩士專題研究(三)(3 學分) ③醫師科學家碩士專題研究(四)(3 學分) ④學術研究倫理(0 學分) 必選課程 ①於修業期間內需選修「微生物與免疫學專題討論」(2 學分)，共需修 2 次，作為畢業門檻。 外籍生 必修課程： ①下列 a、b、c、d 必修課程四選三： a.免疫學(全英語)(2 學分)

	b.病毒學(全英語)(2 學分) c.細菌學(全英語)(2 學分) d.現代生物學研究方法(中文版)(2 學分)、生醫科學實驗技術(英文版)(2 學分), 二選一 ③學術研究倫理, 0 學分 必選課程: ①研究生於修業期限內必選修「微生物及免疫學專題討論」(2 學分), 共需選修 3 次, 作為畢業門檻。若指導教授認為有必要, 得選修第 4 次。 ②自一年級第二學期起每學期必選修「微生物與免疫學研究」(2 學分)。 ③碩一生必選「生命科學院-生物醫學講座」(1 學分), 至少兩學期。
備註	

Institute of Microbiology & Immunology Master Program

Academic Year 115

Mini. Term of Study	One year
Minimum Credits	To obtain the degree, students must complete at least twenty-four credits, including all required courses.
Curriculum and Regulations	<u>Native students</u> General students Required courses: ① Among the following courses: a, b, c and d. Please choose at least three. a. “Immunology” (2 credits), or “Immunology (in English)” (2 credits), choose one. b. “Virology” (2 credits), or “Virology (in English)” (2 credits), choose one. c. “Bacteriology” (2 credits) or “Bacteriology (in English)” (2 credits), choose one. Note: Among the above courses: a, b, and c, please choose between Chinese class or English class; if choosing both Chinese and English classes, the credit of one class cannot be added in the total required credits for graduation. d. “Research Methods for Modern Microbiology & Immunology” (2 credits) ② “Research ethics” course (0 credit) Required elective courses: ① Master's degree students need to take the " Microbiology and Immunology Seminar " (2 credits), 3 times in total, to be completed within the study period ,as a requirement for graduation. A forth enrollment is required if the advisor thinks that it's necessary. ② After choosing the experimental lab, except the first semester of the first year, Master students must enroll in the course “Microbiology and Immunology Research Progress Report” every semester. ③ 1st year Master students must choose “School of Life Sciences - Biomedical Lecture” (1 credit), at least in 2 semesters. Medical students Required courses: ① Among the following courses: a, b and c, please choose one. a. “Immunology” (2 credits), or “Immunology (in English)” (2 credits), choose one. b. “Virology” (2 credits), or “Virology (in English)” (2 credits), choose one. c. “Bacteriology” (2 credits) or “Bacteriology (in English)” (2 credits), choose one. Note: Among the above courses: a, b, and c, please choose between Chinese class or English class; if choosing both Chinese and English classes, the credit of one class cannot be added in the total required credits for graduation. ② “Medical students Master Research Progress Report (3)” (3 credits) (First semester). ③ “Master Research Progress Report (4)” (3 credits) (Second semester). ④ “Research ethics” course (0 credit) Required elective courses: ① Master's degree students need to take the " Microbiology and Immunology Seminar" (2 credits), 2 times in total, to be completed within the study period, as a requirement for graduation. <u>International students</u> Required courses: ① Among the following courses: a, b, c, and d, please choose at least three. a. “Immunology (in English)” (2 credits), b. “Virology (in English)” (2 credits),

	c. “Bacteriology (in English)” (2 credits) d. “Research Methods for Modern Microbiology & Immunology” (in Chinese) (2 credits) or “Experimental techniques for biomedical science(in English)” (2 credits), choose one. ②“Research ethics” course (0 credit) Required elective courses: ① 1st year Master students must choose “School of Life Sciences - Biomedical Lecture” (1 credit), at least in 2 semesters. ② Master's degree students need to take the " Microbiology and Immunology Seminar" (2 credits), 3 times in total, to be completed within the study period ,as a requirement for graduation. A forth enrollment is required if the advisor thinks that it's necessary. ③ After choosing the experimental lab, except the first semester of the first year, Master students must enroll in the course “Microbiology and Immunology Research Progress Report” every semester.
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微生物及免疫學研究所博士班

115 學年度

最低修業年限	二年
應修學分數	至少應修畢 18 學分，其中包含本所訂定之必修科目
逕博應修學分數	逕修讀博士學位研究生至少應修畢 30 學分
應修（應選）課程及符合畢業資格之修課相關規定	本國生 一般生組 必修課程： ①下列 a、b、c、d 必修課程四選二： a.高等微生物及免疫學通論-免疫學(2 學分)或免疫學(全英語)(2 學分)(中、英文版二擇一) b.高等微生物及免疫學通論-病毒學(2 學分)或病毒學(全英語)(2 學分)(中、英文版二擇一) c.高等微生物及免疫學通論-細菌學(2 學分)或細菌學(全英語)(2 學分)(中、英文版二擇一) 註：上述的中、英文版請擇一選修，若中、英二版都選修，其中一門不能計入畢業學分內。 d.基因體科學(2 學分) ②下列課程三選一： 現代生物學研究方法(2 學分)、進階生化及分子生物學(3 學分)、進階細胞生物學(3 學分) ③學術研究倫理(0 學分) 必選課程： ①博一生必選「生命科學院-生物醫學講座」(1 學分)，至少兩學期。 ②每學期需選修「微生物及免疫學專題討論」(2 學分)，直至博三結束。 ③自博一下學期起，每學年需選修「微生物及免疫學研究」。但當學年若舉行博士學位候選人資格考核，則可免修「微生物及免疫學研究」(2 學分)。 ④修畢及格必修課程後，需修兩學期之「微生物及免疫學實驗教學(一)」(1 學分)及「微生物及免疫學實驗教學(二)」(1 學分)。 ⑤博四、博五生可自由選擇於四年級或五年級舉行公開的全英語進度報告，並於舉行的學期選修「微生物及免疫學研究」(二學分)。 在職生組 必修課程： ①下列 a、b、c 必修課程三選一： a.高等微生物及免疫學通論-免疫學(2 學分)或免疫學(全英語)(2 學分)(中、英文版二擇一) b.高等微生物及免疫學通論-病毒學(2 學分)或病毒學(全英語)(2 學分)(中、英文版二擇一) c.高等微生物及免疫學通論-細菌學(2 學分)或細菌學(全英語)(2 學分)(中、英文版二擇一) 註：上述的中、英文版請擇一選修，若中、英二版都選修，其中一門不能計入畢業學分內。 ②學術研究倫理(0 學分) 必選課程： ①每學期需選修「微生物及免疫學專題討論」(2 學分)，直至博三結束。

- ②自博二起，每學年需選修「微生物及免疫學研究」。但當學年若舉行博士學位候選人資格考核，則可免修「微生物及免疫學研究」(2 學分)。
- ③畢業前需舉行公開演講，並於舉行的學期選修「微生物及免疫學研究」(二學分)。

選修課程：

經指導教授認可之 3 學分(含)以上之課程 (不包括「微生物及免疫學專題討論」、「微生物及免疫學研究」)。

外籍生

必修課程

- ①下列 a、b、c 必修課程三選二：

- a.免疫學(全英語)(2 學分)
- b.病毒學(全英語)(2 學分)
- c.細菌學(全英語)(2 學分)

- ②下列課程二選一

生醫科學實驗技術(英文版)(2 學分)、分子細胞生物概論(英文版)(2 學分)、

- ③學術研究倫理，0 學分

必選課程

- ①博一生必選「生命科學院-生物醫學講座」(1 學分)，至少兩學期。
- ②每學期需選修「微生物及免疫學專題討論」(2 學分)，直至博三結束。
- ③自博一下學期起，每學年需選修「微生物及免疫學研究」。但當學年若舉行博士學位候選人資格考核，則可免修「微生物及免疫學研究」(2 學分)。
- ④修畢及格必修課程後，需修兩學期之「微生物及免疫學教學(全英語)(A)」(1 學分)及「微生物及免疫學教學(全英語)(B)」(1 學分)。
- ⑤博四、博五生可自由選擇於四年級或五年級舉行公開的全英語進度報告，並於舉行的學期選修「微生物及免疫學研究」(二學分)。

Institute of Microbiology & Immunology Ph. D. Program

Academic Year 115

Mini. Term of Study	Two years
Minimum Credits	To obtain the degree, students must complete at least eighteen credits, including all required courses.
Minimum Credits for Direct-Entrance Ph.D.	For master students who directly advance to the Ph.D. program, at least thirty credits must be completed.
Curriculum and Regulations	<u>Native students</u> General students Required courses: ① Among the following courses: a, b, c and d, please choose two courses. a. “Immunology” (2 credits), or “Immunology (in English)” (2 credits), choose one. b. “Virology” (2 credits), or “Virology (in English)” (2 credits), choose one. c. “Bacteriology” (2 credits) or “Bacteriology (in English)” (2 credits), choose one. Note: Among the above courses: a, b, and c, please choose between Chinese class or English class; if choosing both Chinese and English classes, the credit of one class cannot be added in the total required credits for graduation. d. “Genomic Science” (2 credits) ② One of the following courses: e. “Research Methods for Modern Microbiology & Immunology” (2 credits). f. “Advanced Biochemistry and Molecular Biology” (3 credits), g. “Advanced Cell Biology” (3 credits). ※f、g: Institute of Genomic Sciences opened ③ “Research ethics” course (0 credit) Required elective courses: ① 1st year Ph.D. students must choose “School of Life Sciences - Biomedical Lecture” (1 credit), at least in 2 semesters. ② Students must enroll in the elective course “Microbiology and Immunology Seminar” (2 credits) for 6 semesters. ③ Upon commitment to thesis advisor, starting from the second semester of the first year, in every academic year, Ph.D. students must enroll in the course “Microbiology and Immunology Research Progress Report” (2 credits) every first semester of the academic year. However, a waiver of the regulation for the whole academic year is granted to Ph.D. students who have scheduled a Ph.D. candidacy examination in that year. ④ After completing the required compulsory course, students must enroll in the course “Microbiology and Immunology Laboratory Teaching Training (1)” (1 credits) and “Microbiology and Immunology Laboratory Teaching Training (2)” (1 credits) two semesters (2 credits). ⑤ 4th year or 5th year Ph.D. students may choose whether they want to have opening full English review on their fourth year or the fifth year, and they also need to choose “Microbiology and Immunology Research Progress Report” course (2 credit) in the same semester that they have opening review. <u>In-service students</u> Required courses: ① Among the following courses: a, b, c, please choose one course. a. “Immunology” (2 credits), or “Immunology (in English)” (2 credits), choose one. b. “Virology” (2 credits), or “Virology (in English)” (2 credits), choose one. c. “Bacteriology” (2 credits) or “Bacteriology (in English)” (2 credits), choose one. Note: Among the above courses: a, b, and c, please choose between Chinese class or

	English class; if choosing both Chinese and English classes, the credit of one class cannot be added in the total required credits for graduation. ②“Research ethics” course (0 credit) Required elective courses: ①Students must enroll in the elective course “Microbiology and Immunology Seminar” (2 credits) for 6 semesters. ② Upon commitment to thesis advisor, starting from the thied semester of the second year, in every academic year, Ph.D. students must enroll in the course “Microbiology and Immunology Research Progress Report” (2 credits) every first semester of the academic year. However, a waiver of the regulation for the whole academic year is granted to Ph.D. students who have scheduled a Ph.D. candidacy examination in that year. ③ Public lectures are required before graduation, and "Microbiology and Immunology Research Progress Report" (two credits) is required during the semester. Elective courses: Courses approved by the instructor are required at least 3 credits (or more) (excluding “Microbiology and Immunology Seminar” 、 “Microbiology and Immunology Research Progress Report”) <u>International students</u> Required courses: ①Among the following courses: a, b, c, please choose two courses. a. “Immunology (in English)” (2 credits), b. “Virology (in English)” (2 credits), c. “Bacteriology (in English)” (2 credits) ② One of the following courses: e. “Experimental techniques for biomedical science” (2 credits) f. “Molecular Cell Biology” (2 credits) ③“Research ethics” course (0 credit) Required elective courses: ① 1st year Ph.D. students must choose “School of Life Sciences - Biomedical Lecture” (1 credit), at least in 2 semesters. ②Students must enroll in the elective course “Microbiology and Immunology Seminar” (2 credits) for 6 semesters. ③ Upon commitment to thesis advisor, starting from the second semester of the first year, in every academic year, Ph.D. students must enroll in the course “Microbiology and Immunology Research Progress Report” (2 credits) every first semester of the academic year. However, a waiver of the regulation for the whole academic year is granted to Ph.D. students who have scheduled a Ph.D. candidacy examination in that year. ④After completing the required compulsory course, students must enroll in the course “Microbiology and Immunology Lecture Teaching Training in English (A)”(1 credits) and “Microbiology and Immunology Lecture Teaching Training in English (B)”(1 credits) two semesters (2 credits). ⑤4th year or 5th year Ph.D. students may choose whether they want to have opening full English review on their fourth year or the fifth year, and they also need to choose “Microbiology and Immunology Research Progress Report” course (2 credit) in the same semester that they have opening review.
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