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| 課程流水號<br>Serial Number                                      | 24022   |
| 課號<br>Course Number   | LS5034  |
| 班次<br>Class   | *   |
| 科目名稱(中文)<br>Course Title(in Chinese)                        | 免疫學   |
| 科目名稱(外文)<br>Course Title(In English or other languages)     | Immunology  |
| 授課老師(中文)<br>Instructor(in Chinese)                          | 金秀蓮   |
| 授課老師(外文)<br>Instructor(In English or other languages)       | Shiow-Lian Catherine Jin  |
| 辦公時間(中文)<br>Office Hour(in Chinese)                         | Monday 2:00-5:00 pm   |
| 辦公時間(外文)<br>Office Hour(In English or other languages)      | Monday 2:00-5:00 pm   |
| 課程目標(中文)<br>Course Objective(in Chinese)                    | 使學生了解免疫學的基本知識及相關研究領域。課程主要包含先天及後天免疫的學理知識，免疫系統中各種細胞/分子的結構、特性及功能，以及臨床上免疫系統與過敏、自體免疫疾病及免疫功能失調的關係等，均為本課程的重點。  |
| 課程目標(外文)<br>Course Objective(In English or other languages) | The main goal of the course is to introduce the basic and advanced knowledge on the cells and molecules of the immune system and how the innate and adaptive immune responses work together in providing defenses against invading microorganisms. Throughout the course the emphasis is upon the human immune system and how its failures and compromises affect the lives of each of us.  |
| 授課內容(中文)<br>Course Description(in Chinese)                  | <ol style="list-style-type: none"> <li>1. Course Introduction; Chap. 1 Elements of the immune system and their roles in defense</li> <li>2. Chap. 2 Innate immunity: the immediate response to infection</li> <li>3. Chap. 3 Innate immunity: the induced response to infection</li> <li>4. Chap. 3 Innate immunity: the induced response to infection</li> <li>5. Chap. 4 Antibody structure and generation of B-cell diversity</li> <li>6. Chap. 5 Antigen recognition by T lymphocytes</li> <li>7. Chap. 5; Chap. 6. The development of B lymphocytes</li> <li>8. Chap. 6. The development of B lymphocytes</li> <li>9. Midterm</li> <li>10. Chap. 7 The development of T lymphocytes</li> </ol> |

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|   | 11. Chap. 7; Chap. 8 T cell-mediated immunity<br>12. Chap. 8 T cell-mediated immunity<br>13. Chap. 9 Immunity mediated by B cells and antibodies<br>14. Chap. 9 Immunity mediated by B cells and antibodies<br>15. Chap. 10 Preventing infection at mucosal surfaces<br>16. Chap. 11 Immunological Memory and Vaccination<br>17. Chap. 13. Failures of the body's defense<br>18. Final  |
| 授課內容(外文)<br>Course Description(In English or other languages)     | 1. Course Introduction; Chap. 1 Elements of the immune system and their roles in defense<br>2. Chap. 2 Innate immunity: the immediate response to infection<br>3. Chap. 3 Innate immunity: the induced response to infection<br>4. Chap. 3 Innate immunity: the induced response to infection<br>5. Chap. 4 Antibody structure and generation of B-cell diversity<br>6. Chap. 5 Antigen recognition by T lymphocytes<br>7. Chap. 5; Chap. 6. The development of B lymphocytes<br>8. Chap. 6. The development of B lymphocytes<br>9. Midterm<br>10. Chap. 7 The development of T lymphocytes<br>11. Chap. 7; Chap. 8 T cell-mediated immunity<br>12. Chap. 8 T cell-mediated immunity<br>13. Chap. 9 Immunity mediated by B cells and antibodies<br>14. Chap. 9 Immunity mediated by B cells and antibodies<br>15. Chap. 10 Preventing infection at mucosal surfaces<br>16. Chap. 11 Immunological Memory and Vaccination<br>17. Chap. 13. Failures of the body's defense<br>18. Final |
| 教科書/參考書(中文)<br>Textbook/References(in Chinese)                    | 教科書: The Immune System, 4th edition, by Peter Parham, Garland Science Publisher<br>參考書: Articles published online or in journals  |
| 教科書/參考書(外文)<br>Textbook/References(In English or other languages) | Textbook: The Immune System, 4th edition, by Peter Parham, Garland Science Publisher<br>References: Articles published online or in journals  |
| 自編教材比例<br>Self-compiled Textbook/References Proportion            |   |
| 授課方式<br>Requirements  | 講授Lecture   |
| 評量配分比重(中文)<br>Grading(in Chinese)                                 | Midterm: 40%<br>Final: 40%<br>Oral and/or written report, participation, attendance 20%   |

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| 評量配分比重(外文)<br>Grading(In English or other languages) | Midterm: 40%<br>Final: 40%<br>Oral and/or written report, participation, attendance 20% |
| 課程所屬學制<br>Educational System                         | 博士班(Doctoral Programme)   |
| 課程領域<br>Course Domain                                | 進階學科<br>生理<br>微生物與免疫<br>醫藥  |
| 跨系課程領域<br>Cross Department Course Domain             |   |

| 系所核心能力<br>Core Competencies of Department | 強度指數<br>Overall Rating | 0<br>不具備<br>Zero | 1<br>非常低<br>Very Low | 2<br>低<br>Low | 3<br>普通<br>Medium | 4<br>高<br>High | 5<br>非常高<br>Very High | 評量方式<br>Corresponding Assessments   |
|---|------------------------|------------------|----------------------|---------------|-------------------|----------------|-----------------------|---|
| 高等生物專業知識<br>Advanced Biological Sciences  |                        | ●                | ●                    | ●             | ●                 | ●              | ●                     | <input checked="" type="checkbox"/> 紙筆測驗/會考<br>(Test/Exam)<br><input type="checkbox"/> 作業練習(Assignments)<br><input type="checkbox"/> 口頭報告/口試<br>(Presentation/Oral Exam)<br><input type="checkbox"/> 專題研究報告(書面)<br>(Research Report(printed on paper))<br><input type="checkbox"/> 實作/實驗<br>(Practices/Experiments)<br><input checked="" type="checkbox"/> 出席/課堂表現<br>(Attendance/Performance)<br><input type="checkbox"/> 學習檔案評量(Portfolios Assessment)<br><input type="checkbox"/> 自我評量/同儕互評(Self Assessment/ Peer Assessment)<br><input type="checkbox"/> 作品/創作展演<br>(Products/Creative Performance)<br><input type="checkbox"/> 其他(Others)<br><input type="checkbox"/> 無(No assessment) |

| 系所核心能力<br>Core Competencies<br>of Department        | 強度指數<br>Overall Rating |                          |               |                   |                |                           | 評量方式<br>Corresponding Assessments  |
|---|------------------------|--------------------------|---------------|-------------------|----------------|---------------------------|--|
|   | 0<br>不具<br>備<br>Zero   | 1<br>非常<br>低<br>Very Low | 2<br>低<br>Low | 3<br>普通<br>Medium | 4<br>高<br>High | 5<br>非常<br>高<br>Very High |  |
| 創新及整合研究<br>Innovative and integrative<br>research   | ●                      | ●                        | ●             | ●                 | ●              | ●                         | <input checked="" type="checkbox"/> 紙筆測驗/會考<br>(Test/Exam)<br><input type="checkbox"/> 作業練習(Assignments)<br><input type="checkbox"/> 口頭報告/口試<br>(Presentation/Oral Exam)<br><input type="checkbox"/> 專題研究報告(書面)<br>(Research Report(printed<br>on paper))<br><input type="checkbox"/> 實作/實驗<br>(Practices/Experiments)<br><input checked="" type="checkbox"/> 出席/課堂表現<br>(Attendance/Performance)<br><input type="checkbox"/> 學習檔案評量(Portfolios<br>Assessment)<br><input type="checkbox"/> 自我評量/同儕互評(Self<br>Assessment/ Peer<br>Assessment)<br><input type="checkbox"/> 作品/創作展演<br>(Products/Creative<br>Performance)<br><input type="checkbox"/> 其他(Others)<br><input type="checkbox"/> 無(No assessment) |
| 專業寫作與表達<br>Professional writing and<br>presentation | ●                      | ●                        | ●             | ●                 | ●              | ●                         | <input checked="" type="checkbox"/> 紙筆測驗/會考<br>(Test/Exam)<br><input type="checkbox"/> 作業練習(Assignments)<br><input type="checkbox"/> 口頭報告/口試<br>(Presentation/Oral Exam)<br><input type="checkbox"/> 專題研究報告(書面)<br>(Research Report(printed<br>on paper))<br><input type="checkbox"/> 實作/實驗<br>(Practices/Experiments)<br><input checked="" type="checkbox"/> 出席/課堂表現<br>(Attendance/Performance)<br><input type="checkbox"/> 學習檔案評量(Portfolios<br>Assessment)<br><input type="checkbox"/> 自我評量/同儕互評(Self<br>Assessment/ Peer<br>Assessment)<br><input type="checkbox"/> 作品/創作展演<br>(Products/Creative<br>Performance)<br><input type="checkbox"/> 其他(Others)<br><input type="checkbox"/> 無(No assessment) |

| 系所核心能力<br>Core Competencies<br>of Department | 強度指數<br>Overall Rating |                          |               |                   |                |                           | 評量方式<br>Corresponding Assessments   |
|--|------------------------|--------------------------|---------------|-------------------|----------------|---------------------------|---|
|  | 0<br>不具<br>備<br>Zero   | 1<br>非常<br>低<br>Very Low | 2<br>低<br>Low | 3<br>普通<br>Medium | 4<br>高<br>High | 5<br>非常<br>高<br>Very High |   |
| 國際觀<br>International vision                  | ●                      | ●                        | ●             | ●                 | ●              | ●                         | <input checked="" type="checkbox"/> 紙筆測驗/會考<br>(Test/Exam)<br><input type="checkbox"/> 作業練習(Assignments)<br><input type="checkbox"/> 口頭報告/口試<br>(Presentation/Oral Exam)<br><input type="checkbox"/> 專題研究報告(書面)<br>(Research Report(printed on paper))<br><input type="checkbox"/> 實作/實驗<br>(Practices/Experiments)<br><input checked="" type="checkbox"/> 出席/課堂表現<br>(Attendance/Performance)<br><input type="checkbox"/> 學習檔案評量(Portfolios Assessment)<br><input type="checkbox"/> 自我評量/同儕互評(Self Assessment/ Peer Assessment)<br><input type="checkbox"/> 作品/創作展演<br>(Products/Creative Performance)<br><input type="checkbox"/> 其他(Others)<br><input type="checkbox"/> 無(No assessment) |