課程流水號 Serial Number	24030
課號 Course Number	LS6018
班次 Class	B
科目名稱(中文) Course Title(in Chinese)	專題討論IV
科目名稱(外文) Course Title(In English or other languages)	Seminar IV
授課老師(中文) Instructor(in Chinese)	吳少傑
授課老師(外文) Instructor(In English or other languages)	Shaw-Jye Wu
辦公時間(中文) Office Hour(in Chinese)	週五 15:00 - 17:00
辦公時間(外文) Office Hour(In English or other languages)	Friday 15:00-17:00
課程目標(中文) Course Objective(in Chinese)	訓練學生從教課書的內容之外獨立思考的能力。自己發掘問(議)題、收集資料、吸收整理，然後以報告的方式呈現心得。
課程目標(外文) Course Objective(In English or other languages)	To train student for independent thinking and learning of the broad field of biology.
授課內容(中文) Course Description(in Chinese)	1. Global warming and its effects on living organism 2. Plant heat tolerance 3. Plant sugar sensing 4. MYB transcription factors in plant responses to environmental stress 5. RNA helicase and plant stress acclimation 6. RNA silencing for crop improvement 7. Signal transduction of neuron cells

	8. Water transport and aquaporin 9. Mid-term discussion 10. Microbial remediation 11. Microbial bio-farming 12. Environmental hormone 13. Bio-fuel 14. Detergent and environment 15. Biological clock 16. G protein coupled signal transduction 17. Molecular pain 18. Final conclusion and discussion
授課內容(外文) Course Description(In English or other languages)	1. Global warming and its effects on living organism 2. Plant heat tolerance 3. Plant sugar sensing 4. MYB transcription factors in plant responses to environmental stress 5. RNA helicase and plant stress acclimation 6. RNA silencing for crop improvement 7. Signal transduction of neuron cells 8. Water transport and aquaporin 9. Mid-term discussion 10. Microbial remediation 11. Microbial bio-farming 12. Environmental hormone 13. Bio-fuel 14. Detergent and environment 15. Biological clock 16. G protein coupled signal transduction 17. Molecular pain 18. Final conclusion and discussion
教科書/參考書(中文) Textbook/References(in Chinese)	各相關主題之國際學術期刊
教科書/參考書(外文) Textbook/References(In English or other languages)	Articles from related SCI jouranls.
自編教材比例 Self-compiled Textbook/References Proportion	100%
授課方式 Requirements	講授Lecture 研討Seminar 其他Other

評量配分比重(中文) Grading(in Chinese)	出席率 20% 報告主題深度 60% 課堂討論參與度 20%
評量配分比重(外文) Grading(In English or other languages)	Attendance 20% Quality (depth) of presentation 60% In class discussion 20%
課程所屬學制 Educational System	碩士班(Master Programs)
課程領域 Course Domain	基礎學科
跨系課程領域 Cross Department Course Domain	

強度指數 Overall Rating / 系所核心能力 Core Competencies of Department	0 不具備 Zero	1 非常低 Very Low	2 低 Low	3 普通 Medium	4 高 High	5 非常高 Very High	評量方式 Corresponding Assessments

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

強度指數 Overall Rating / 系所核心能力 Core Competencies of Department	0 不具備 Zero	1 非常低 Very Low	2 低 Low	3 普通 Medium	4 高 High	5 非常高 Very High	評量方式 Corresponding Assessments
科學問題解決 Scientific Problem solving	○	○	○	○	○	○	☐ 紙筆測驗/會考 (Test/Exam) ☐ 作業練習 (Assignments) ☑ 口頭報告/口試 (Presentation/Oral Exam) ☑ 專題研究報告(書面) (Research Report(printed on paper)) ☐ 實作/實驗 (Practices/Experiments) ☑ 出席/課堂表現 (Attendance/Performance) ☐ 學習檔案評量 (Portfolios Assessment) ☑ 自我評量/同儕互評 (Self Assessment/ Peer Assessment) ☐ 作品/創作展演 (Products/Creative Performance) ☑ 其他(Others) ☐ 無(No assessment)

強度指數 Overall Rating / 系所核心能力 Core Competencies of Department	0 不具備 Zero	1 非常低 Very Low	2 低 Low	3 普通 Medium	4 高 High	5 非常高 Very High	評量方式 Corresponding Assessments
生物科學論文寫作 Scientific writing in Biological Sciences	○	○	○	○	○	○	☐ 紙筆測驗/會考 (Test/Exam) ☐ 作業練習 (Assignments) ☑ 口頭報告/口試 (Presentation/Oral Exam) ☐ 專題研究報告(書面) (Research Report(printed on paper)) ☐ 實作/實驗 (Practices/Experiments) ☑ 出席/課堂表現 (Attendance/Performance) ☐ 學習檔案評量 (Portfolios Assessment) ☑ 自我評量/同儕互評 (Self Assessment/ Peer Assessment) ☐ 作品/創作展演 (Products/Creative Performance) ☑ 其他(Others) ☐ 無(No assessment)

強度指數 Overall Rating / 系所核心能力 Core Competencies of Department	0 不具備 Zero	1 非常低 Very Low	2 低 Low	3 普通 Medium	4 高 High	5 非常高 Very High	評量方式 Corresponding Assessments
獨立思考與研究 Independent thinking and research	○	○	○	○	○	○	☐ 紙筆測驗/會考 (Test/Exam) ☐ 作業練習 (Assignments) ☑ 口頭報告/口試 (Presentation/Oral Exam) ☐ 專題研究報告(書面) (Research Report(printed on paper)) ☐ 實作/實驗 (Practices/Experiments) ☑ 出席/課堂表現 (Attendance/Performance) ☐ 學習檔案評量 (Portfolios Assessment) ☑ 自我評量/同儕互評 (Self Assessment/ Peer Assessment) ☐ 作品/創作展演 (Products/Creative Performance) ☑ 其他(Others) ☐ 無(No assessment)

強度指數 Overall Rating / 系所核心能力 Core Competencies of Department	0 不具備 Zero	1 非常低 Very Low	2 低 Low	3 普通 Medium	4 高 High	5 非常高 Very High	評量方式 Corresponding Assessments
專業表達 Professional presentation	○	○	○	○	○	○	☐ 紙筆測驗/會考 (Test/Exam) ☐ 作業練習 (Assignments) ☑ 口頭報告/口試 (Presentation/Oral Exam) ☑ 專題研究報告(書面) (Research Report(printed on paper)) ☐ 實作/實驗 (Practices/Experiments) ☐ 出席/課堂表現 (Attendance/Performance) ☐ 學習檔案評量 (Portfolios Assessment) ☐ 自我評量/同儕互評 (Self Assessment/ Peer Assessment) ☐ 作品/創作展演 (Products/Creative Performance) ☐ 其他(Others) ☐ 無(No assessment)