



教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	科學課程設計與發展		學年/學期 Academic Year/Semester	114/1	
課程名稱(英文) Course Name in English	Curriculum Design and Development in Science Education				
科目代碼 Course Code	SCE_71980	系級 Department & Year	博士	開課單位 Course-Offering Department	教育與潛能開發學系
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0		
授課教師 Instructor	/陳世文				
先修課程 Prerequisite					
課程描述 Course Description					
<p>This course is essential for researchers and practitioners in the field of science education. It aims to introduce fundamental concepts of curriculum, the psychological and philosophical foundations of curriculum theory, as well as the design and development of science curricula. Through practical outdoor education course design activities, students are provided with opportunities and experiences in hands-on curriculum design. This helps them gain a clear understanding of the concepts related to science curriculum design and development, and cultivates their ability to practically design science curricula for their future teaching or research endeavors.</p>					
課程目標 Course Objectives					
<ol style="list-style-type: none"> 1. 瞭解課程的定義、基本理念、理論基礎。 2. 熟悉各種課程設計發展的模式與種類。 3. 瞭解現行自然科學課程內涵及與課程相關之時勢議題。 4. 科學課程發展與設計之實作，培養課程設計之能力。 5. 培養小組合作、分組報告、表達溝通與分享之能力。 					
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives	
A	具備科學教育專業理論發展與實踐之素養。To possess the capacity to develop and practice theories in science education			●	
B	具備科學教育獨立研究素養。To possess the ability of independent study focusing on science education			○	
C	具備科學教育的創新與問題解決素養。To possess creativity in science education and the ability of problem solving			○	
D	具備國際學術交流之素養。To possess the ability of international academic exchanges			○	
E	具備科學教學專業素養。To possess the ability and professional knowledge in science education			●	
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated					
授課進度表 Teaching Schedule & Content					
週次 Week	內容 Subject/Topics			備註 Remarks	
1	Curriculum introduction			discussion and illustration	

2	課程基本概念、課程哲學觀 The basic ideas about the curriculum / Philosophical foundation of curriculum	Presentation and discussion Chapter 1 & 2 of the textbook
3	課程的歷史與心理學基礎 Historical and Psychological foundations of curriculum	Presentation and discussion Chapter 3 & 4 of the textbook
4	課程設計與發展 Curriculum design and development	Presentation and discussion Chapter 6 & 7 of the textbook
5	國慶日 National Day (Holiday)	-
6	課程實施與評量 Curriculum implementation and evaluation	Presentation and discussion Chapter 8 & 9 of the textbook
7	台灣光復節 Taiwan Restoration Day (Holiday)	-
8	科學課程分析：美國、英國 The analysis of scientific curriculum: US, UK	Investigation and presentation
9	期中考試週 Midterm Exam	-
10	科學課程分析：美國、英國 The analysis of scientific curriculum: US, UK	Investigation and presentation
11	科學課程分析：越南、臺灣 The analysis of scientific curriculum: VN, TW	Investigation and presentation
12	科學課程分析：日本、南韓 The analysis of scientific curriculum: JP, KR	Investigation and presentation
13	科學課程設計與實踐 1 Scientific curriculum design and practice 1	present your own curriculum design and demonstration, group discussion
14	臺灣科學教育年會（彰師大） ASET conference (NCUE)	-
15	科學課程設計與實踐 2 Scientific curriculum design and practice 2	present your own curriculum design and demonstration, group discussion
16	課程省思與回饋 Course reflection and feedback	group discussion and interaction
17	自主學習週 Self-directed learning	-
18	期末考試週 Final Exam	-

教學策略 Teaching Strategies

- 課堂講授 Lecture 分組討論 Group Discussion 參觀實習 Field Trip
 其他 Miscellaneous:

教學創新自評 Teaching Self-Evaluation

創新教學 (Innovative Teaching)

- 問題導向學習 (PBL) 團體合作學習 (TBL) 解決導向學習 (SBL)
 翻轉教室 Flipped Classroom 磨課師 Moocs

社會責任 (Social Responsibility)

- 在地實踐 Community Practice 產學合作 Industry-Academia Cooperation

跨域合作 (Transdisciplinary Projects)

- 跨界教學 Transdisciplinary Teaching 跨院系教學 Inter-collegiate Teaching
 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績(含出缺席) General Performance (Attendance Record)	20%			✓	✓				
期中考成績 Midterm Exam	30%		✓	✓					
期末考成績 Final Exam	30%	✓		✓					
作業成績 Homework and/or Assignments	20%						✓		
其他 Miscellaneous (_____)									

評量方式補充說明

Grading & Assessments Supplemental instructions

教科書與參考書目(書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Ornstein, A. C., & Hunkins, F. P. (2017). Curriculum: Foundations, principles, and issues. Pearson Higher Ed.

課程教材網址(含線上教學資訊, 教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information.
Personal website can be listed here.)

其他補充說明 (Supplemental instructions)