



## 教學計劃表 Syllabus

|                                                                        |                                                                                                                                     |                             |    |                                    |                                                                                         |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----|------------------------------------|-----------------------------------------------------------------------------------------|
| 課程名稱(中文)<br>Course Name in Chinese                                     | 有機化學(一)                                                                                                                             |                             |    | 學年/學期<br>Academic Year/Semester    | 114/1                                                                                   |
| 課程名稱(英文)<br>Course Name in English                                     | Organic Chemistry (I)                                                                                                               |                             |    |                                    |                                                                                         |
| 科目代碼<br>Course Code                                                    | CHEM21400                                                                                                                           | 系級<br>Department & Year     | 學二 | 開課單位<br>Course-Offering Department | 化學系                                                                                     |
| 修別<br>Type                                                             | 學程 Program                                                                                                                          | 學分數/時間<br>Credit(s)/Hour(s) |    | 2.0/2.0                            |                                                                                         |
| 授課教師<br>Instructor                                                     | /陳國庭                                                                                                                                |                             |    |                                    |                                                                                         |
| 先修課程<br>Prerequisite                                                   |                                                                                                                                     |                             |    |                                    |                                                                                         |
| 課程描述 Course Description                                                |                                                                                                                                     |                             |    |                                    |                                                                                         |
| 有系統的介紹有機分子的結構及官能基，並講解基礎相關的有機反應機制及概念。                                   |                                                                                                                                     |                             |    |                                    |                                                                                         |
| 課程目標 Course Objectives                                                 |                                                                                                                                     |                             |    |                                    |                                                                                         |
| 透過有系統的介紹，各有機分子的形成及各基的特性及其化學反應，讓學生能充分了解有機化學與日常生活及健康的密切關係。               |                                                                                                                                     |                             |    |                                    |                                                                                         |
| 系專業能力<br>Basic Learning Outcomes                                       |                                                                                                                                     |                             |    |                                    | 課程目標與系專業能力相關性<br>Correlation between Course Objectives and Dept.'s Education Objectives |
| A                                                                      | 具備生命科學相關學科之基礎知識。Having the basic knowledge of life science.                                                                         |                             |    |                                    | ●                                                                                       |
| B                                                                      | 具備邏輯分析與解決問題的能力。Having the capabilities of logical analysis and problem solving.                                                     |                             |    |                                    | ○                                                                                       |
| C                                                                      | 具備資料整合、數據分析與書面及口頭報告之能力。Having the capabilities of data integration and analysis, and the skills of written and poster presentation. |                             |    |                                    | ○                                                                                       |
| D                                                                      | 具備終生學習的能力。Having the capability of lifelong learning.                                                                               |                             |    |                                    |                                                                                         |
| 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                                                                      | Introduction                                                                                                                        |                             |    |                                    |                                                                                         |
| 2                                                                      | Review of General Chemistry & Molecular Representations                                                                             |                             |    |                                    |                                                                                         |
| 3                                                                      | Review of General Chemistry & Molecular Representations                                                                             |                             |    |                                    |                                                                                         |
| 4                                                                      | Review of General Chemistry & Molecular Representations                                                                             |                             |    |                                    |                                                                                         |
| 5                                                                      | Acids & Bases                                                                                                                       |                             |    |                                    |                                                                                         |
| 6                                                                      | Acids & Bases                                                                                                                       |                             |    |                                    |                                                                                         |
| 7                                                                      | Alkanes and Cycloalkanes                                                                                                            |                             |    |                                    |                                                                                         |
| 8                                                                      | Alkanes and Cycloalkanes                                                                                                            |                             |    |                                    |                                                                                         |

|    |                                           |  |
|----|-------------------------------------------|--|
| 9  | 期中考試週 Midterm Exam                        |  |
| 10 | Stereochemistry                           |  |
| 11 | Stereochemistry                           |  |
| 12 | Chemical Reactivity and Mechanisms        |  |
| 13 | Nucleophilic Substitution and Elimination |  |
| 14 | Nucleophilic Substitution and Elimination |  |
| 15 | Nucleophilic Substitution and Elimination |  |
| 16 | Nucleophilic Substitution and Elimination |  |
| 17 | 期末考試週 Final Exam                          |  |
| 18 | 自主學習                                      |  |

### 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:

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| 學期成績計算及多元評量方式 Grading & Assessments                                                                                                                                                                                                                                                                |                    |                    |          |          |          |          |          |          |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|----------|----------|----------|----------|----------|----------|----|
| 配分項目<br>Items                                                                                                                                                                                                                                                                                      | 配分比例<br>Percentage | 多元評量方式 Assessments |          |          |          |          |          |          |    |
|                                                                                                                                                                                                                                                                                                    |                    | 測驗<br>會考           | 實作<br>觀察 | 口頭<br>發表 | 專題<br>研究 | 創作<br>展演 | 卷宗<br>評量 | 證照<br>檢定 | 其他 |
| 平時成績(含出席)<br>General Performance<br>(Attendance Record)                                                                                                                                                                                                                                            | 20%                |                    |          |          |          |          |          |          |    |
| 期中考成績 Midterm Exam                                                                                                                                                                                                                                                                                 | 30%                |                    |          |          |          |          |          |          |    |
| 期末考成績 Final Exam                                                                                                                                                                                                                                                                                   | 40%                |                    |          |          |          |          |          |          |    |
| 作業成績 Homework and/or<br>Assignments                                                                                                                                                                                                                                                                |                    |                    |          |          |          |          |          |          |    |
| 其他 Miscellaneous<br>(出席)                                                                                                                                                                                                                                                                           | 10%                |                    |          |          |          |          |          |          |    |
| 評量方式補充說明<br>Grading & Assessments Supplemental instructions                                                                                                                                                                                                                                        |                    |                    |          |          |          |          |          |          |    |
| 教科書與參考書目(書名、作者、書局、代理商、說明)<br>Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)<br>Organic Chemistry, David R. Klein, Wiley(R), Global edition.                                                                                                                         |                    |                    |          |          |          |          |          |          |    |
| 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)<br>Teaching Aids & Teacher's Website(Including online teaching information.<br>Personal website can be listed here.)<br>相關課程資訊,請見東華e學苑佈告欄。<br><a href="http://www.elearn.ndhu.edu.tw/moodle/">http://www.elearn.ndhu.edu.tw/moodle/</a><br>線上課程連結,將以學校e-mail寄發通知。 |                    |                    |          |          |          |          |          |          |    |
| 其他補充說明 (Supplemental instructions)                                                                                                                                                                                                                                                                 |                    |                    |          |          |          |          |          |          |    |