

國立清華大學課程大綱

科號 Course Number	KMS521400	學分 Credit	3	人數限制 Class Size	30
中文名稱 Course Title	數學雙語教學的課程設計 (至少60%英文授課)				
英文名稱 Course English Title	Curricular Design of Bilingual Teaching in Mathematics (至少60%英文授課)				
任課教師 Instructor	林碧珍				
上課時間 Time	星期一 13:10-16:00	上課教室 Room	9313		
<p>課程簡述(必填) (最多 500 個中文字)</p> <p>The aim of this course is to learn English as a communication tool for teaching mathematics, for meeting the need of the 2030 national policy of English education. The course contents includes: what means of bilingual mathematics teaching, CLIL teaching, three kinds of language in mathematics teaching, cultural issues of mathematics bilingual teaching, framework of lesson plans, the rubrics of assessing bilingual teaching, and to demonstrate the examples of bilingual teaching in mathematics.</p>					
<p>請輸入課程內容「中文暨英文關鍵字」至少 5 個</p> <p>雙語教學 · 多模態 · CLIL教學法 · 課堂互動語言 · Bilingual Teaching, Multimodality, Content and Language Integrated Learning, Languages of Interaction</p>					
<p>課程大綱 Detailed Course Syllabus</p> <p>● 課程說明(Course Description)</p> <p>The bilingual teaching in mathematics is practice integrated into theory. The course content consists of three parts: the first part is the cognitive aspect, understanding the meaning of bilingual teaching in mathematics, and the theoretical perspective of mathematics bilingual teaching by watching videos. The second part is to appreciate and criticize the examples of bilingual teaching in mathematics lesson plans and teaching cases. The third part is practice-oriented. Selecting a mathematics topic integrating the bilingual CLIL teaching designs a 40-minute class</p>					

teaching activity. Creating a mathematics bilingual teaching with 15-minutes is required.

● 參考書籍(References)

1. Chang, C. C., & Silalahi, S. M. (2017). A review and content analysis of mathematics textbooks in educational research. *Problems of Education in the 21st Century*, 75(3), 235.
2. Coyle, D. (2005). *CLIL planning tools for teachers*. Nottingham, UK: University of Nottingham.
3. Coyle, D. (2007). Content and language integrated learning: Towards a connected research agenda for CLIL pedagogies. *International Journal of Bilingual Education and Bilingualism*, 10(5), 543-562. doi: 10.2167/beb459.0
4. 教育部 (2018)。教育部推動雙語國家計畫。檢自 https://www.edu.tw/News_Content.aspx?n=D33B55D537402BAA&s=FB233D7EC45FFB37
5. 鄒文莉、黃怡萍主編(2022)。臺灣雙語教學資源書：全球在地化課程設計與教學實踐。台北市：書林。<https://emipd.tw/beitdownload>
6. 國立成功大學外語中心團隊(2021)。教育部國中小雙語教學在職教師增能學分班教學資源手冊。
7. 鄒文莉、高實玫、陳慧琴 (2018)。學科內容與語言整合教學的核心精神。鄒文莉、高實玫 (主編)，*CLIL 教學資源書—探索學科內容與語言整合教學* (pp. 9-20)。臺北：書林。
8. 陳慧琴、呂翠玲、許嫻華、鄒文莉 (2018)。CLIL 在數學領域的運用。載於 鄒文莉、高實玫 主編。 *CLIL 教學資源書：探索學科內容與語言整合教學* 頁 181-198。臺北：書林。
9. 呂妍慧、袁媛(2020)。數學領域雙語教育之教學模式初探。 *臺灣數學教育期刊*，7(1)，1-26。
10. 呂妍慧、袁媛 (2020)。數學雙語師資培育之實踐與省思。 *臺灣教育評論月刊*，9 (10)，47-51。
11. 自編上課教材(上課提供)。
12. 國外影片及數學雙語教學示例分別於課堂中提供。

● 教學進度(Syllabus)

週期		教學內容	備註
Week 1	09/12	<ul style="list-style-type: none"> ● Introduction of syllabus ● Bilingual teaching policy and implementation in Taiwan 	
Week 2	09/19	<ul style="list-style-type: none"> ● What is bilingual teaching and why? ● What is Content and Language Integrated Learning (CLIL) ● Watching video 	
Week 3	09/26	<ul style="list-style-type: none"> ● What is 4C++? How to use in designing a mathematics lesson? ● Watching video 	
第四週	10/03	<ul style="list-style-type: none"> ● Scaffolding Strategies for Bilingual Teaching ● Watching video 	
第五週	10/10	<ul style="list-style-type: none"> ● Holiday 	
第六週	10/17	<ul style="list-style-type: none"> ● Multimodal or mathematical representation learning strategies in mathematics task design ● Watching video 	
第七週	10/24	<ul style="list-style-type: none"> ● Three types of classroom discourse languages ● Analysis of three types of Classroom Language in mathematics teaching ● Watching video 	
第八週	10/31	<ul style="list-style-type: none"> ● Watching video ● Exemplar of lesson plan of bilingual teaching in mathematics(3rd grade, looking for patterns) 	
第九週	11/07	<ul style="list-style-type: none"> ● What is tanslanguage? ● Exemplar of bilingual teaching in mathematics(3rd grade, which one is more or less?) ● Watching video 	

第十週	11/14	● Frame of lesson plan for bilingual teaching in mathematics	
第十一週	11/21	● Framework and rubrics of assessing bilingual teaching in mathematics	
第十二週	11/28	● Exemplar of lesson plan of bilingual teaching in mathematics(3 rd grade, circle)	
第十三週	12/05	● Draft version of designing a lesson plan of bilingual teaching(Group work)	
第十四週	12/12	● Revising version of designing a lesson plan of bilingual teaching(Group work)	
第十五週	12/19	● Preparing for performing a micro-teaching mathematics bilingual teaching(Group work)	
第十六週	12/26	● Performing a bilingual micro-teaching in mathematics(15-minutes) (Group work)	

● 成績考核(Evaluation)

1. Attendance: no more than 3 times. Scores will be deducted for exceeding.
2. Participation (25%)
3. Oral report (25%)
4. All assignments required (50%) : lesson plan and bilingual micro-teaching in mathematics.