

(Bilingual Teaching Materials and Methods: Mathematics)

National Taiwan Normal University Online Course Curriculum Plan

Guideline: Pursuant to Article 6 of the Implementation Regulations Regarding Distance Learning by Universities, Departments/Programs offering distance learning courses, shall present a course plan and submit it for approval by the university-level academic affairs committee. The course plan referred to in the preceding paragraph shall set forth learning objectives, the target student group, a course outline, teaching methods, interactive student-teacher discussion, grading and course requirements. The course plan shall be posted on the Internet.

1. Course start date: fall semester of 2021 (academic year):

2. Course review submission record:

It is a new digital course or an existing face-to-face course switching to digital format in this semester

It is an existing digital course; the latest University's Course Committee approval was in the ____ semester of ____ (academic year)

Approved by the University's Course Committee and within the 5-year validity period.

The 5-year validity period has expired; a new application is required.

In case of a major change in the original approved course or if the revision ratio exceeds 30%, reapplication is required.

3. Basic Course Information (check ✓ or if applicable)

(1)	Course Chinese Name	雙語數學教材教法 (教)
(2)	Course English Name	Bilingual Teaching Materials and Methods: Mathematics
(3)	Teaching Format	<input type="checkbox"/> Asynchronous Distance Teaching <input checked="" type="checkbox"/> Synchronous Distance Teaching Broadcast University Please fill-in the sign-off university and department for this course: (1) University: National Taiwan Normal University Department: Mathematics
(4)	Instructor Name & Title	Adjunct assistant professor: Dr. Patricia Alexander
(5)	Instructor Source	<input checked="" type="checkbox"/> Appointed by Departments <input type="checkbox"/> Appointed by General Education Center <input type="checkbox"/> Both of Above <input type="checkbox"/> Other
(6)	The Name of the Course Unit (or the college and department name)	The Department of Mathematics
(7)	Course Level	<input checked="" type="checkbox"/> Undergraduate Program <input type="checkbox"/> Master's Program <input type="checkbox"/> Undergraduate-master Program Joint Course <input type="checkbox"/> Undergraduate-postgraduate Joint Course <input type="checkbox"/> PhD Program <input type="checkbox"/> Continuing Education Master's Program
(8)	Program Type	<input checked="" type="checkbox"/> Full-time Program <input type="checkbox"/> Part-time Program <input type="checkbox"/> Other
(9)	Course Type	<input type="checkbox"/> Common Courses <input type="checkbox"/> General Courses <input type="checkbox"/> School Required Courses <input type="checkbox"/> Professional Courses <input checked="" type="checkbox"/> Educational Courses <input type="checkbox"/> Other

(10)	Which Unit Offered This Course?	<input type="checkbox"/> University <input type="checkbox"/> College <input type="checkbox"/> Graduate Institute <input checked="" type="checkbox"/> Department <input type="checkbox"/> Other
(11)	Course Duration	<input checked="" type="checkbox"/> One Semester (half year) <input type="checkbox"/> Two Semesters (one year) <input type="checkbox"/> Other
(12)	Course Attribute	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective <input type="checkbox"/> Other
(13)	Number of Credits	2 credits
(14)	Weekly Face-to-Face Class Hours	<u> 2 </u> hour(s)/week (For asynchronous remote teaching, fill-in the average weekly "face-to-face" hours, which include classroom face-to-face and synchronized remote teaching hours. Divide the total "face-to-face" semester hours by the total number of course weeks.)
(15)	Number of Classes	1
(16)	Estimated Total Number of Students	10
(17)	Fully English-Taught Course	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
(18)	Cooperative Foreign University (Please fill-in the cooperative universities if applicable)	Names of foreign cooperative universities and departments/institutes: _____ <input type="checkbox"/> Domestic Broadcast <input type="checkbox"/> Domestic Sign-off <input type="checkbox"/> Overseas Special Program <input type="checkbox"/> Dual-Degree Program <input type="checkbox"/> Other
(19)	Course Platform URL (must be filled-in for asynchronous teaching)	NTNU online learning platform: https://moodle.ntnu.edu.tw/
(20)	Curriculum Plan URL	http://courseap.itc.ntnu.edu.tw/acadmOpenCourse/index.jsp

4. Course Teaching Design and Implementation Method

(1)	Learning Objectives	<ol style="list-style-type: none"> Understand NCTM standards Apply techniques appropriately Ability to plan and adapt lessons to ensure students remain engaged Present their teaching practice to peers with reference to literature 							
(2)	Target Student Group	Students who are taking IBEC Program-International Mathematics Education or Bilingual Mathematics Education Program or Mathematics Education Program.							
(3)	Prerequisite(s)	<ol style="list-style-type: none"> Differentiated Instruction in Mathematics Inquiry and Practice in Mathematics 							
(4)	<p>Course Content Outline: Please fill in the weekly teaching content and course outline (multiple teaching methods can be selected and filled in, for example: If the weekly face-to-face teaching is 2 hours and asynchronous teaching is 1 hour, write 2 in the "face-to-face" field, write 1 in the "asynchronous" field, and leave the "synchronous" field blank)</p>								
	Week	Topics	Learning Goal (Brief Description)	Teaching Interactive Design (topic discussion, peer review, etc.)	Testing/Evaluation Activities (omit if not designed for the week)	Teaching Method and Hours (fill-in the number of hours, omit if none)			
						Classroom Face-to-Face Teaching	Remote learning		
							Asynch-ronous	Synchr-onized	
	1	Principles of CLIL for Mathematics and STEM	To understand principles of CLIL for Mathematics and STEM						2
	2	Principles of CLIL for Mathematics and STEM	Same as above.	Topic discussion	Online tasks				2
3	Principles of CLIL for Mathematics and STEM	Same as above.	Topic discussion, Group discussion	Assignment				2	
4	International standards and materials up to algebra and basic	To understand international standards and						2	

		geometry.	materials up to algebra and basic geometry.					
5	International standards and materials up to algebra and basic geometry.	Same as above	Topic discussion	Online tasks				2
6	International standards and materials up to algebra and basic geometry.	Same as above	Topic discussion, Group discussion	Assignment				2
7	International standards and materials up to Pre-calculus	To understand international standards and materials up to Pre-calculus						2
8	International standards and materials up to Pre-calculus	Same as above	Topic discussion	Online tasks				2
9	International standards and materials up to Pre-calculus	Same as above	Topic discussion, Group discussion	Assignment				2
10	International standards and materials Calculus	To understand international standards and materials Calculus						2
11	International standards and materials Calculus	Same as above	Topic discussion	Online tasks				2
12	International standards and materials Calculus	Same as above	Topic discussion, Group discussion	Assignment				2
13	Literature case studies and presentations on CLIL for mathematics	To analyze literature case studies and	Group discussion					2

			presentations on CLIL for mathematics						
	14	Literature case studies and presentations on CLIL for mathematics	Same as above	Group discussion	Case study reports				2
	15	Deep case study of applying different techniques to a topic	To design, plan and discuss deep case study of applying different techniques to a topic	Group discussion					2
	16	Deep case study of applying different techniques to a topic	Same as above	Peer review	Presentation				2
	17	Deep case study of applying different techniques to a topic	Same as above	Peer review	Presentation				2
	18	Deep case study of applying different techniques to a topic	Same as above	Peer review	Presentation				2
(5)	Teaching Method	(if included, check <input type="checkbox"/> ; multiple choices allowed) <input checked="" type="checkbox"/> 1. Provide primary and supplementary materials for online courses <input type="checkbox"/> 2. Provide online asynchronous teaching <input checked="" type="checkbox"/> 3. Have online teacher or online assistant <input type="checkbox"/> 4. Provide face-to-face teaching, number: ____ time(s), total hour(s): ____ hour(s) <input checked="" type="checkbox"/> 5. Provide online synchronous face-to-face teaching, number: 18 time(s), total hour(s): 36 hour(s) <input checked="" type="checkbox"/> 6. Provide topic discussion activities <input checked="" type="checkbox"/> 7. Provide cooperative learning activities between students <input type="checkbox"/> 8. Other: (please specify)							
(6)	Learning Management System	Does the content include the following roles and functions (if included, check <input type="checkbox"/> ; multiple choices allowed) 1. For learning management system database management by the system administrator							

		<input checked="" type="checkbox"/> Personal data <input checked="" type="checkbox"/> Course information <input checked="" type="checkbox"/> Other related information management functions 2. Provide the necessary learning management system functions for teachers (teaching assistants) and students <input checked="" type="checkbox"/> Latest News release, browse <input checked="" type="checkbox"/> Textbook content design, viewing, download <input type="checkbox"/> Grade system management & inquiry <input checked="" type="checkbox"/> Perform online testing <input checked="" type="checkbox"/> Release learning information <input checked="" type="checkbox"/> Interactive learning design (chat room or discussion area) <input type="checkbox"/> Function presentation for various teaching activities <input type="checkbox"/> Other related functions (please specify)
(7)	Public Information about Interactive Teaching	Instructor Profile and Published Works (webpage link instructions can be attached): <u>Dr. Patricia Alexander</u> : PhD in Education, Goldsmiths, University of London 2005- Goldsmith College – PGCE Secondary Mathematics Tutor 1997- 2005 London Metropolitan University - Senior Lecturer PGCE/BA, Secondary Mathematics Course Tutor 1997. Highbury Grove School - Assistant Deputy Head (Curriculum) 1990-1994 Visiting Lecturer at London Metropolitan University (part-time secondment) Teachers working with children with Special Educational Needs in Mathematics 1990-1991 Advisory Teacher Secondment - Haringey Curriculum Support Group for Teachers to develop resources for children from multicultural background 1987-1991 Northumberland Park School - Deputy Head of Mathematics 1987. Northumberland Park School - Teacher of Mathematics, posts of responsibility
		Instructor E-mail: Dr. Patricia Alexander patricia.alexander19@gmail.com
		Online Office Hours (at least 1 hour per week): Friday 19:30-20:30
		Teaching Assistant's Name/E-mail (omit if inapplicable): TBA

		Other(omit if inapplicable):
(8)	Course Material Production	(if included, check <input type="checkbox"/> ; multiple choices allowed) <input checked="" type="checkbox"/> 1.Provides appropriate reminders of key points <input checked="" type="checkbox"/> 2.Provides teaching-related examples <input checked="" type="checkbox"/> 3.Provides teaching-related exercises and reflective activities <input checked="" type="checkbox"/> 4.Provides supplementary teaching materials or online resources <input checked="" type="checkbox"/> 5.Provides instructions for self-directed learning <input checked="" type="checkbox"/> 6.Unit goals are consistent with course goals <input type="checkbox"/> 7.Other:
(9)	Assignment Submission Method	(if included, check <input type="checkbox"/> ; multiple choices allowed) <input checked="" type="checkbox"/> 1.Provides online assignment content description <input type="checkbox"/> 2.Online real-time assignment <input checked="" type="checkbox"/> 3.Assignment file upload and download <input type="checkbox"/> 4.Online testing <input type="checkbox"/> 5.Grade inquiry 6.Other:
(10)	Grading Method	※ To comply with the spirit of online course design, you must understand and agree to the contents of the following 3 items, and provide detailed description after checking <input type="checkbox"/> the box for item 3) <input checked="" type="checkbox"/> 1.The course can provide evaluation results and feedback for each learning evaluation <input checked="" type="checkbox"/> 2.The evaluation has taken the students online learning history and participation level into account <input checked="" type="checkbox"/> 3.The percentage of each score is explained in detail below: (testing method and items, and their total score percentage) Assignment 20%, Discussion 15%, Attendances 5%, Presentation 20%, Case study reports 20%, Contribute to online tasks 20%
(11)	Precautions for Class:	The course is the Fully English-Taught Course. Content and Language Integrated Learning (CLIL) combined with international methods for teaching mathematics in English. The graduate student without the education program must contact the department for the issue of course-selecting.
(12)	<u>Observe intellectual property rights in the creation of course content.</u> ※ Pay attention to any infringement of copyright or other rights in the creation of relevant teaching content. ※ If the copyright for any part of the teaching content is owned by others and authorization has been obtained from the rights holder, please indicate the source of the material.	

