

Subject	Mathematics for formal economic modeling and analysis	Subject	Mathematics for formal economic modeling and analysis		
Instructor	BAI YU,LI YANJUN	Instructor	BAI YU		
Day・Period	Tue.1Period				
Eligible Participants	3・4				
Course Numbering	EAL-ECM328E				
Credit(s)	2Credits				
Course of Media Class					
Main Subjects					
Object and Summary of Class	This course is designed to equip students with the essential mathematical tools necessary for formal economic analysis. It will focus on calculus, linear algebra, and advanced methods such as dynamic optimization, all of which are crucial for analyzing and understanding advanced economic models. Kindly note that this course is primarily designed for master's students. If undergraduate students wish to enroll, they should have a strong foundation in calculus, as well as proficiency in listening, speaking, reading, and writing in English.				
Goal of Study	To learn how to apply mathematical techniques in formal economic analysis. To develop the ability to utilize mathematical tools to address a range of economic problems.				
Contents and Progress Schedule of the Class	<p>Calculus:</p> <p>Differentiation and integration Multivariable calculus: partial derivatives, optimization Applications of calculus in economic theory: utility maximization, cost minimization</p> <p>Linear Algebra:</p> <p>Vectors, matrices, and systems of linear equations Eigenvalues and eigenvectors</p> <p>Other Advanced Mathematical Topics for Economics:</p> <p>Log-linearization Dynamic Optimization And other related topics</p>				
Practical business					
Language Used in Course	English				
Evaluation Method	Homework assignments: 40% Midterm exam (closed-book): 30% Final exam (closed-book): 30%				
Textbook and References					
書名	著者名	出版社	出版年	ISBN/ISSN	資料種別
Specific references will be provided during the class.					
U R L					
Preparation and Review	Please kindly email me to confirm the time at bai.yu.c2@tohoku.ac.jp.				
Attached File					
In Addition					

Last Update	
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One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside of class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.