

INTERNATIONAL UNIVERSITY OF JAPAN  
Graduate School of International Relations

Academic Year: 2016/2017

Term: Fall

Course	Course code	Course title	
	DCC5216 (A)	Mathematics for Economics and Management (A)	
	DCC5210 (B)	Mathematics for Economics and Management (B)	
	DCC5311 (C)	Mathematics for Economics and Management (C)	
Name of Instructor	Atsushi Chino		Credit Number: 2 for (A), and 1 for (B) & (C)
Instructor's contact Information	Office#	Office Hours	E-mail:
	329	TBD	<a href="mailto:achino@iuj.ac.jp">achino@iuj.ac.jp</a>
Class Schedule Day / Time	TBD		
<p><b>Course Description:</b> Mathematics for Economics and Management (A) is an intermediate course in calculus which covers topics such as functions, limits, derivatives, integration, and optimization. The course will be useful to understand course materials in various subjects in social science such as business, economics, public management and/or political science. Mathematics for Economics and Management (B) ((C)) covers the first (last) 5 weeks of Mathematics for Economics and Management (A).</p>			
<p><b>Learning Objectives:</b> The objective of the course is to equip students with a variety of fundamental mathematical tools that are useful in analyzing economic and social issues.</p>			
<p><b>Career Relevance:</b> This course will be relevant for students who are pursuing careers in public and/or private sectors.</p>			
<p><b>Course Context or Rationalization:</b> Students will acquire fundamental analytical tools, which will be useful for understanding technical materials in any courses offered in GSIR/GSIM.</p>			
<p><b>Delivery Methods:</b> The course will cover selected topics of the required textbook and the material will be presented in the two weekly lectures. In addition, I will assign several problem sets which will closely follow the lecture material. I encourage you to work in a group to solve for problem sets, and you can turn in your answers either individually or in a group of up to four people. If you turn in your answers in a group, please list the names of all group members at the top of the 1st page of your answers. Please bring an electronic calculator to</p>			

classes and exams. All my class slides and materials will be made available to you after each class at my network course folder.

**Assessment:**

1. Grades for the Mathematics for Economics and Management (A) will be based on Exam 1 (40%), Exam 2 (40%), and problem sets (20%). Exam 1 will be held in the last class of the first 5 weeks. Exam 2 will take place in the final exam week and cover only the materials presented after Exam 1. There will be no make-up exam.
2. Grades for the Mathematics for Economics and Management (B) will be based on Exam 1 (80%) and problem sets (20%).
3. Grades for the Mathematics for Economics and Management (C) will be based on Exam 2 (80%) and problem sets (20%).

**Prerequisite:** None

<b>Textbook(s)</b>	Required: College Mathematics for Business, Economics, Life Sciences and Social Sciences (13e) by Barnett, Ziegler, and Byleen, Pearson Education, 2015, ISBN13: 9781292057668, Paperback, Global Edition.
--------------------	--

<b>Class Outline</b>	<ol style="list-style-type: none"> <li>1. Review: Linear Equations and Inequalities</li> <li>2. Functions and Graphs: Elementary Functions</li> <li>3. Functions and Graphs: Quadratic and Polynomial Functions</li> <li>4. Functions and Graphs: Exponential and Logarithmic Functions</li> <li>5. Introduction to Limits</li> <li>6. Limits and Continuity</li> <li>7. Derivative: Differentiation</li> <li>8. Derivative: Basic Differentiation Properties</li> <li>9. Derivative: Chain Rule and Implicit Differentiation</li> <li>10. Exam 1</li> <li>11. Derivative: First and Second Derivatives</li> <li>12. Derivative: Maxima and Minima</li> <li>13. Derivative: Constrained Optimization</li> <li>14. Integration: Indefinite Integral</li> <li>15. Integration: Definite Integral</li> <li>16. Integration: Integration by substitution and Integration by parts</li> <li>17. Multivariable Calculus: Functions of Several Variables</li> <li>18. Multivariable Calculus: Partial Derivatives</li> <li>19. Multivariable Calculus: Maxima and Minima</li> <li>20. Multivariable Calculus: Maxima and Minima Using Lagrange Multipliers</li> </ol>
----------------------	--

<b>Others (if any)</b>	Exam 2 will take place in the final exam week.
------------------------	--