



# B.E. International Program

## Faculty of Economics, Thammasat University



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### Course Outline

#### TU 152 Fundamental Mathematics

Semester 1/2012 (August 14 – December 1, 2012)

**Number of credits:** 3 credits

**Lecture Time:** (Section 046401) Tuesdays and Thursdays, 08.00 – 09.30 hrs.  
(Section 046402) Tuesdays and Thursdays, 09.30am – 11.00 hrs

**Lecture Venue:** (Section 046401) Room 303, Faculty of Economics  
(Section 046402) Room 303, Faculty of Economics

**Instructor:** Dr. Supranee Lisawadi

Office: -

E-mail: [supranee\\_tu@hotmail.com](mailto:supranee_tu@hotmail.com)

Office hours: Tuesdays and Thursdays, 7.00 – 8.00 hrs and  
11.00 – 12.00 hrs or by appointment

#### Course Description:

Logical rule for proving; methods of proofs, arguments, mathematical induction, proofs of theorems of inequalities and absolute values, inequalities solving, functions, type of functions, applications of functions, curve sketching, partial fractions decomposition, solving of simple systems of linear equations.

**Prerequisites:** -

#### Recommended Text and Materials:

Haeussler Jr., E. F., Paul, R. S., and Wood, R. J. (2011) *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences*, 13<sup>th</sup> Edition, New Jersey: Prentice Hall.

## Teaching Plan:

### Course Schedule:

Week	Sessions	Topic	Reading Assignments	Homework Assignments	
1	14 , 16 August 2012	Introduction to fundamental mathematics	-	TBA	
		Logical Rules for Proving; methods of proofs, arguments, mathematical induction	-		
2	21 , 23 August 2012	Applications and More Algebra	Chapter 1		
3	28, 30* August 2012	Functions	Chapter 2		
4	4, 6 September 2012				
5	11, 13 September 2012				Graph
6	18, 20 September 2012	Lines and Parabola	Chapter 3		
7	25, 27 September 2012	System			
<b>Midterm Exam Week</b>					
8	9, 11 October 2012	Exponential Functions	Chapter 4		
9	16, 18 October 2012	Limits and Continuity	Chapter 10		
10	23*, 25 October 2012	Differentiation	Chapter 11		
11	30 October 2012, 1 November 2012	Curve Sketching	Chapter 13		
12	6, 8 November 2012				
13	13, 15 November 2012				
14	20, 22 November 2012	Partial Fraction Decomposition	Handout		
15	27, 29 November 2012				

**Note: \* Holiday (Make-up classes will be announced later)**

## Course Evaluation:

Midterm Examination	30%	(October 2, 2012, 08.00 – 09.30 hrs)
Final Examination	40%	(December 13, 2012, 09.00 – 12.00 hrs)
Term Project	10%	
Quizzes/ Assignments	20%	

## Class Assignment and Quiz:

The assignments and quizzes are accounted for 20%. Members of group will be changed for each quiz. There will be a quiz and assignment regularly during the term. The quiz might or might not be announced in advance. The system for quizzes and assignments are set as indicated in “Fundamental Mathematics Premier League”.

## Class Rules:

- The class will start no later than 15 minutes. Those who come after this period will consider late.
- No talking during the class. If you have any questions, please raise your hand. Consulting with each other is not allowed during teaching time since it might interrupt the others who pay attention to the class. However, you are allowed to consult with your friends during the tutorial sessions.
- Please pay attention to the class; any other activities (such as playing game, reading cartoons, etc.) during the class time are not permitted.
- Late assignments and quizzes will not be accepted in any circumstances.
- Leave the room immediately when you finish the quiz. There will be a quiz after the session. Student who finishes the quiz early is allowed to leave the room. You are expected to leave the room immediately after you submit the quiz.
- Check your score regularly and report an error if there is any. Students are responsible for monitoring their own scores, you must report an error within one week after the score is announced, otherwise the score will not be changed in any circumstance.
- Quizzes cannot be retaken in any circumstances.
- Do not copy assignments and quizzes from others. If there is an evidence of cheating, the whole class will receive a score of zero for that particular assignment or quiz.

- You cannot check your answers with your friends before submitting a quiz. Failing to do so will lead to point deduction, which is up to 50%.

### **Fundamental Mathematics Premier League (FMPL):**

Fundamental Mathematics Premier League is a project that will encourage students to gain mathematical knowledge by taking quizzes and doing assignments during the term. The total score for this project accounts for 20%. There are the rules for the game as follows:

1. Students will be put into a team which consists of 3-4 members. This group will be changed every week.
2. There will be many quizzes during the term. Normally the quiz will be held right after the end of each chapter. This can even be on the same day as that content is taught. Thus students must pay attention during the class.
3. Each team is allowed to consult within the team during the quiz. Consulting with other teams will be subjected to point deduction.
4. If there is a missing team member, the remainders of the team have to write the quiz all by themselves. Students who miss the quiz will receive a score of zero on that particular quiz.
5. Each team needs to return the quiz within time limit, which will be announced before the quiz begins. Failing to do so will lead to point deduction.

### **Term project:**

Students in a group of 5-6 need to submit and present the term projects, which consists of

1. Math in everyday life (2.5%)  
Students need to find interesting article (from book, internet, etc.) that shows how Mathematics can make life better. Each group needs to write up the 2-page summary of what you read and submit your report on 22 November 2012.
2. Math for economics (2.5%)  
Same group of students write up 2-page report explaining how contents in this class can be applied in economics. This can include examples of uses, etc. The work must be submitted on 22 November 2012.
3. Class participation (5%)  
Since there is time limit in class, students can participate via social media (Facebook). Each student can add me as a friend in Facebook and join group TU152 Term 1/2012 BE. Everyone is

encouraged to post topics related to Mathematics for discussion. Same group of students (in work 1 and 2), can share your opinion (please indicate which group and section you belong to). Only opinions that receive my “like” will get credit for your valuable participation.

### **Grading Scale:**

<b>Letter Grade</b>	<b>Suggested Percentage Grade</b>
00 – 49	F
50 – 54	D
55 – 59	D+
60 – 69	C
70 – 79	C+
80 – 84	B
85 – 89	B+
90 – 100	A

### **Academic Calendar 1/2012:**

Classes Begin	August 14, 2012
Adding and Dropping Courses W/O Record	August 14 – 28, 2012
Payment	August 14 – 28, 2012
<i>Thammasat Graduation Ceremony*</i>	<i>August 30, 2012</i>
Midterm Examination Period	October 1 – 6, 2012
Course Withdrawal With “W”	October 17 – 22, 2012
<i>King Chulalongkorn's Day*</i>	<i>October 23, 2012</i>
Last Day of Classes	December 1, 2012
<i>H.M. The King's Birthday*</i>	<i>December 5, 2012</i>
Final Examination Period	December 3 – 20, 2012
<i>Constitution Day*</i>	<i>December 10, 2012</i>

**Note: \* Holiday**