



B.E. International Program

Faculty of Economics, Thammasat University



Course Outline

TU 152 Fundamental Mathematics

Semester 1/2013 (August 13 – November 30, 2013)

Number of credits	3 credits
Lecture Time	(Section 046401) Tuesdays and Thursdays, 08.00 – 09.30 AM (Section 046402) Tuesdays and Thursdays, 09.30 – 11.00 AM
Lecture Venue	Room 206, 2 nd floor, Faculty of Economics Thammasat University, Tha Prachan campus
Instructor	Assistant Professor Dr. Supranee Lisawadi
E-Mail	supranee_tu@hotmail.com

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 - none

Recommended Text and Materials:

Epp, S.S. **Discrete Mathematics with Applications**, 4th Edition, Brooks/Cole Cengage Learning, 2011.

Ferland, K., **Discrete Mathematics: An Introduction to Proofs and Combinatorics**, Houghton Mifflin Company, 2009

Stewart J., **Calculus**, 7th Edition, Brooks/Cole Cengage Learning, 2012.

Haeussler, E. F., Jr., et al., **Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences**, 13th Edition, New Jersey: Prentice Hall, 2011.

Course Evaluation:

Midterm Examination	40%	(October 1, 2013; 8.00AM – 9.30AM)
Final Examination	40%	(December 6, 2013; 9.00AM – noon)
Term Project & Class Activities	10%	
Quizzes	10%	

Course Schedule:

Session/Date	Topic	Activities/Text & Materials/Media
#1: 13-08-13 15-08-13	Course Overview Chapter 1: Speaking Mathematically	Discussion Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition)
#2: 20-08-13 22-08-13	Chapter 2: The Logic of Compound Statements	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice Quiz
#3: 27-08-13 29-08-13	Chapter 3: The Logic of Quantified Statement	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice
#4: 03-09-13 05-09-13	Chapter 4: Elementary Number Theory and Methods of Proof	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice
#5: 10-09-13 12-09-13	Chapter 5: Sequences, Mathematical Induction, and Recursion	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice Quiz
#6: 17-09-13 19-09-13	Chapter 6: Set Theory	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice

Session/Date	Topic	Activities/Text & Materials/Media
#7: 24-09-13 26-09-13	Chapter 7: Functions	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice
#8: 08-10-13 10-10-13	Chapter 8: Relations	Lecture (Epp, S.S., <i>Discrete Mathematics with Applications</i> , 4 th Edition) Discussion Practice Quiz
#9: 15-10-13 17-10-13	Chapter 1: Functions and Limits	Lecture (Stewart, J., <i>Calculus</i> , 7 th Edition) Discussion Practice Quiz
#10: 22-10-13 24-10-13	Chapter 2: Derivatives	Lecture (Stewart, J., <i>Calculus</i> , 7 th Edition) Discussion Practice Quiz
#11: 29-10-13 31-10-13	Chapter 3: Applications of Differentiation	Lecture (Stewart, J., <i>Calculus</i> , 7 th Edition) Discussion Practice Quiz
#12: 05-11-13 07-11-13	Chapter 3: Applications of Differentiation	Lecture (Stewart, J., <i>Calculus</i> , 7 th Edition) Discussion Practice Quiz
#13: 12-11-13 14-11-13	Partial Fraction Decomposition	Lecture (Instructor's handouts) Discussion Practice Quiz
#14: 19-11-13 21-11-13	Partial Fraction Decomposition	Lecture (Instructor's handouts) Discussion Practice Quiz
#15: 26-11-13 28-11-13	Review	Project presentation

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

Students need to find interesting article (from book, internet, etc.) that shows how Mathematics can make life better. Each group needs to write up a summary of what you read and submit your report on November 26, 2013.

2. Math for accounting, or finance, or marketing

Same group of students write up a report explaining how contents in this class can be applied in either accounting, or finance, or marketing. This can include examples of uses, etc. The work must be submitted on November 26, 2013.

Important Dates

Class begins	August 13, 2013
Adding and Dropping Course	August 13 – 27, 2013
Midterm Exam	October 1, 2013; 8.00 – 9.30 AM
Course Withdrawal with “W”	October 16 – 21, 2013
Last day of classes	November 30, 2013
Final Exam	December 6, 2013 ; 9.00 AM - noon
