

# Mathematics for Information Technology 2

Basic Course Information			
Course Number	0305120	Subject Category	Compulsory IG
Class Format	Lecture	Credit Type and Number of Credits	1
Department	Computer	Student Category	Year 3
Period of Study	Semester 1	Classes per Week	1
Required Materials			
Instructor	Hideaki Kobayashi(Hide)	Saung Hninawint(Oo)	

**Course Objective**  
 This course provides students with further study and practice of Mathematics for information Technology. It covers sets, relations, logic, arith, mathematical induction and difference equations, probability and permutations and combinations.

Evaluation/Unit	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Automaton	Explain pushdown automaton	Understand automaton	Doesn't understand automaton
Regular representation	Making to receive regular representation machine	Understand regular representation	Doesn't understand regular representation

**Relationship with Learning Outcomes**  
**C1) Ability to operate and administer the computer softwares and hardware**  
**C2) Ability to understand the operating system and to develop software to solve specific problems.**

**Teaching Method**  
**Outline:** Learning through the experiments  
**Class Format:** Lab work  
**Please Note :**

Course Plan	Semester 1	Contents and Method of Course	Goals	Related MCC
1st week		What is compute	Explain computation	V-D 7 92
2nd week		Binary number / combinational circuit	Decimal into binary, explain sequential circuit	V-D 3 31 V-D 3 32 V-D 3 34
3rd week		Combinational circuit/ Boolean algebra	Combinational circuits and calculate boolean algebra	V-D 3 35 V-D 3 36 V-D 7 85 V-D 7 87
4th week		Sequential Circuit	Understand Sequential Circuit	V-D 3 44
5th week		holiday		
6th week		Problem formulation	Understand formulation and Problems	V-D 2 19 V-D 2 20
7th week		Automaton	Understand Automaton	V-D 5 85 V-D 5 89 V-D 7 92
8th week		Review Midterm exam		
9th week		Midterm exam		
10th week		Regular representation	Understand representation	V-D 1 3 V-D 2 19
11th week		NFA/DFA	Understanding NFA/DFA	V-D 5 85 V-D 5 89 V-D 7 92
12th week		Transform NFA to DFA	Understanding Transform NFA to DFA	V-D 5 85 V-D 5 89 V-D 7 92
13th week		Minimal form	Understanding Minimal form	V-D 5 85 V-D 5 89 V-D 7 92
14th week		Pushdown automaton 1	Understanding pushdown automaton and context-free grammar	V-D 5 85 V-D 5 89 V-D 7 92
15th week		Pushdown automaton 2	make pushdown automaton	V-D 5 85 V-D 5 89 V-D 7 92
16th week		Turing Machine	Understand and explain Turing Machine	V-D 5 85 V-D 5 89 V-D 7 92
17th week		Review Final Exam		
18th week		Final Exam		
19th week		Wrap-up		
20th week				

Do not

	Examination	Quiz	Mutual Evaluation between students	Report	Portfolio	Other
Basic Ability	25	25				
Technical Ability						
Interdisciplinary Ability						