Course Syllabus
EGCI 201 Discrete Mathematics

1. Program of Study Bachelor of Engineering Program in Computer Engineering (International Program)

2. Course Code/Title EGCI 201Discrete Mathematics

3. Number of Credits 4(4-0-8) Credit (Lecture – Lab-Research)

4. Prerequisites None

5. Type of Course Major Course (Required Major)

6. Session / Academic year

This course will be offered every third trimester, starting with the academic year 2008.

7. Course Conditions Class size will be in the range of 5-40 students.

8. Course Description

Basic set theory, mathematical reasoning, relations, functions, graphs, trees, introduction to number theory.

9. Course Objectives

Introduce students to the theorems, techniques and applications of discrete mathematics. Students will acquire the mathematical maturity needed to undertake more advanced courses of computer engineering. Upon completion of this course, students should be able to: translate statements into symbolic form using logical connectives and quantifiers, use symbolic logic and truth tables to prove the equivalence of statements and determine the validity of an argument and, perform operations with sets, relations, trees, and graphs.

10. Course Outline

Week	Topics	Hours	
		Lecture	**Lab.**
1	Propositional Logic	4	
2	Proofs in Mathematics	4	
3	Basic Structures: Sets, Functions, Sums, and Matrices	4	
4	Mathematical Induction	4	
5	Recursion	4	
	Midterm examination		
6	Number Theory	4	
7	Counting	4	
8	Discrete Probability	4	
9	Relations	4	
10	Graph**s**	4	
11	Tree**s**	4	
	Final examination		
	Total	**44**	

11. Teaching Method

Lecture,and group discussion.

12. Teaching Media

Lecture handouts, transparency notes, multimedia, CAI, etc.

13. Measurement and Evaluation of Student Achievement

Student's achievement will be evaluated according to the faculty and university standard, using the symbols: A, B, B+, C, C+, C, D+, D and F.

Weight:

- Midterm, final exam and quizzes	70 %
- Assignments	30 %
Total	100 %

14. Course Evaluation

14.1 Evaluate as indicated in number 13 above.

14.2 Evaluate student's satisfaction towards teaching and learning of the course using a questionnaire.

15. References

15.1 Kenneth H. Rosen; John G. Michaels (2000). Hand Book of Discrete and Combinatorial Mathematics. CRC PressI Llc.

15.2 Kenneth H. Rosen. Discrete Mathematics: And Its Applications. McGraw-Hill College.

15.3 Ralph P. Grimaldi. Discrete and Combinatorial Mathematics: An Applied Introduction. Addison Wesley.

15.4 Ronald Graham, Donald E. Knuth, Oren Patashnik, Concrete Mathematics.

16. Instructors

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17. Course Coordinator

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