Philadelphia University
Faculty of Engineering
Department of Computer Engineering
First Semester, 2015/2016

Course Syllabus

Course Title: Discrete Mathematics	**Course code: 630260**
Course Level: second year	**Course prerequisite (s): Logic Circuit (630211)**
Class Time: 8:00-9:00,Sun., Tues., Thu.	**Credit hours: 3**

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Eng. Sultan Al-Rushdan	Lecturer	6715	14:00-16:00	srushdan@philadelphia.edu.jo

Course description:
To introduce the student the concepts of discrete mathematics and its application in real life and in computing. The student will be familiar with the meanings of mathematical operations and will be introduced with mathematical background of computing operations.

Course objectives:
At Completing this module the student should be able to :
-1 Understand and use the concepts of propositional logic and its applications.
-2 Understand the concepts of number theory and Cryptography.
-3 Understand and use the concepts of sets, sequences, sums and matrices.
-4 Understand and use counting operations and its applications.
-5 Understand the concepts of discrete probability.
-6 Understand the concepts of relations .
7- Understand the concepts of graphs and its applications.

Course components
Textook: Discrete Mathematics and its Applications, By: Kenneth H. Rosen, McGraw Hill,2013 7th edition.

Teaching methods:
Classes: three lectures per week
Tutorial: non
Homework: 5 homework assignments

Learning outcomes: upon completing this course, the student should have: -

- **Knowledge and understanding**

- Have an understanding of the main Discrete Mathematics concepts
- Have an understanding of the role of discrete mathematics in computing.
- Have knowledge of some Discrete Mathematics application in real life.

- **Cognitive skills (thinking and analysis)**.

- Develop the ability to analyze problems and solve them.
- Develop the ability to build a logical model of real life problems.

- **Practical and subject specific skills (Transferable Skills).**

- be able to write solve problems regarding discreet Mathematics applications.

Course Intended Learning Outcomes								
A - Knowledge and Understanding								
A1.	A2.	A3.	A4.	A5.	A6.	A7.	A8.	
B - Intellectual Skills								
B1.	B2.	B3.	B4.	B5.	B6.	B7.	B8.	B9.
C - Practical Skills								
C1.	C2.	C3.	C4.	C5.	C6.	C7.	C8.	C9.	C10.
D - Transferable Skills								
D1.	D2.	D3.	D4.	D5.	D6.	D7.		

Assessment instruments

Allocation of Marks	
Assessment Instruments	**Mark**
First examination	**20**
Second examination	**20**
Final examination:	**40**
Reports, research projects, Quizzes, Assignments, Projects	**20**
Total	**100**

Documentation and academic honesty

- Avoiding plagiarism.

Any student caught cheating or copying home work will be punished according the code of conduct and policies used in the faculty of engineering.

Course academic calendar

week	Basic and support material to be covered
(1)	Logics and Proofs
(2)	
(3)	Sets, Functions, Sequences, Sums and Matrices
(4)	Number theory and Cryptography
(5)	
(6) **First exam.**	Induction and Recursion **18-26\11\2015**
(7)	
(8)	Counting
(9)	
(10)	Discrete Probability **27\12\2015-5\1\2016**
(11) **Second exam.**	
(12)	Relations
(13)	
(14)	Graphs
(15)	Trees
(16) **Final Examination**	**30\1-7\2\2015**

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute class/tutorial.

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Course references

Books

References:

- Kolman, Busby, and Ross, "Discrete Mathematical Structure ", 6th edition,Printice Hall 2008.

Websites

https://www.cims.nyu.edu/~regev/teaching/discrete_math_fall_2005/dmbook.
http://ocw.mit.edu/courses/mathematics/18-310-principles-of-discrete-applied-mathematics-fall-2013