

CC413 Numerical Analysis

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laborator y	
CC114	4	7	2	2	0	3

COURSE AIM

Allow students to master the approximation techniques used in numerical solutions that arise in science and engineering problems. Teach students why numerical methods work, what type of errors to expect and when an application might lead to difficulties.

COURSE WEEKLY CONTENTS

- 1 Introduction to Computing
Brief History of The 80x86 Family, Pipelining, Introduction to Assembly
- 2 Programming, and Introduction to Program Segments, Logical address, and Physical address.
- 3 Stack and stack operations, 80x86 Addressing Modes
- 4 Assembly Language Programming
- 5 Arithmetic Instructions and Programs.
- 6 Logic Instructions and Programs
- 7 Midterm Exam
- 8 8088 Microprocessor
- 9 8284 and 8288 Supporting Chips
- 10 8-bit Section of ISA Bus.
- 11 Semi-Conductor Memory Fundamentals
- 12 12th week Assessment
- 13 Memory Address Decoding, IBM PC Memory Map
- 14 8088 Input/Output Instructions, Programming and Interfacing the 8255
- 15 Project Presentation + Revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

- Textbook** Numerical Methods for Engineers with Software and Programming Applications by Steven C. Chapra and Raymond P. Canale, McGraw Hill, latest edition.
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- Other** Numerical Analysis by Faire Burden, PWS, latest edition.
Computer Arithmetic by Earl .E. Swartzlander, IEEE Computer Society Press.
Numerical methods hand book of applicable mathematics by Robert .F. Churchhouse, John Wiley & Sons, latest edition.