LAGUARDIA COMMUNITY COLLEGE
CITY UNIVERSITY OF NEW YORK
DEPARTMENT OF MATHEMATICS, ENGINEERING, and COMPUTER SCIENCE

MAC291 – Computer Logic, Design and Implementation II (4 CREDITS/5HOURS)

Catalog Description:
This course continues the topic of MAC291

Using binary notation and Boolean algebra, Flip-Plops, and VLSI the student will analyze switching networks discrete and integrated logic circuits as well be introduce to a very simple microprocessor architecture.
The student should expect to pay for additional materials for this course.

Prerequisites:
MAC291 or MAC295 (No Co-requisites)

Grading Standards:
Written Tests 45%
Class Work and a project 20%
Final Exam 35%
Total 100%

Book: Digital Fundamentals by Floyd, 10th Edition ISBN: 10-0-13-235923-5

Course Syllabus

Week 1 Review on topics of MAC291

Week 2,3 Latches, Flip – Flops, timing diagrams

Week 4 Frequency dividers and timers

Week 5 Asynchronous counters design and implementation

Week 6 Synchronous counters design and implementation

Week 7 Synchronous and Asynchronous Shift registers

Week 8 (ALU) and its circuitry

Week 9 Hamming error correction code design and implementation

Week 10 Architecture and decoding scheme of a very simple computer

Week 11 Simple microprogramming

Week 12 More of simple microprogramming

Week 13
Final Exam