Electronic System Design
BEE 2243

Class Introduction

Agenda

Course Information

- Course and Lecturer
- Synopsis
- General objective
- Syllabus
- References
- Assessments

Course & Lecturer

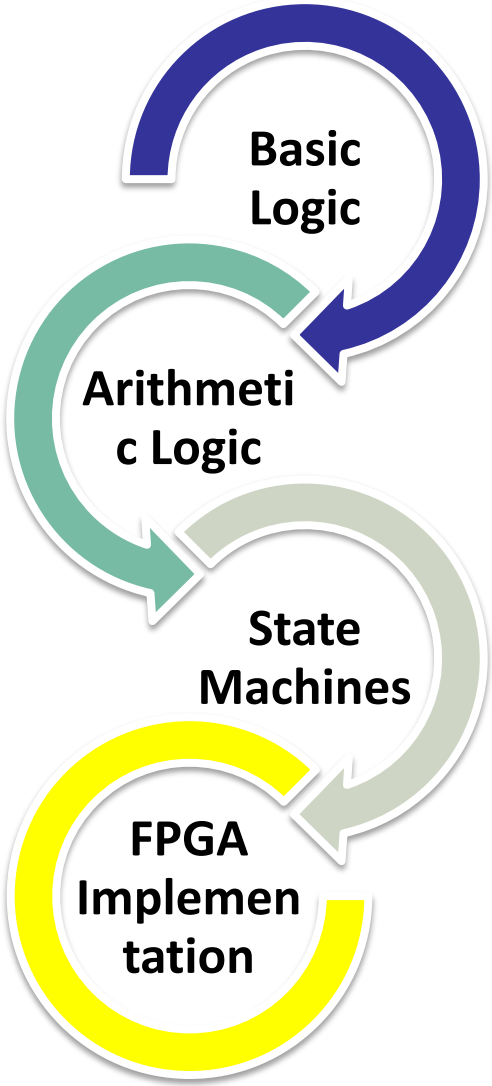
Course:

- BEE 3233: Electronic System Design
- Credit Hour: Lecture – 3 hours,
- Pre-requisite: BEE 1213 (Digital Electronics)

Lecturer:

- Dr. Nurul Hazlina Noordin
- FKEE
- E-mail : hazlina@ump.edu.my
- Website : ee.ump.edu.my/hazlina

Synopsis – Revised Syllabus



1. Implementation technologies

1. Counter
2. Multiplier / Adder

1. Type – mealy moore
2. Multi input output

1. ISE software
2. HDL (Verilog/VHDL)
3. Spartan 3 Implementation

Course Outcome

CO 01: Gain the knowledge and understanding of different technologies to implement electronic computing systems.

CO 02: Demonstrate the principles of designing finite state machines (FSM).

CO 03: Design and implement digital electronic system on FPGA.

CO 04: Work in team and communicate effectively.

CO/PO Mapping

CO/PO Mapping		PO 01	PO 02	PO 03	PO 04	PO 05	PO 06	PO 07	PO 08	PO 09	PO 10	PO 11	PO 12
	CO 01	X											
	CO 02		X										
	CO 03			X									
	CO 04											X	

Program Outcomes

PO1 Engineering Knowledge	PO2 Problem Analysis	PO3 Design of Solutions	PO4 Investigation
PO5 Modern Tool Usage	PO6 Engineering & Society	PO7 Environment & Sustainbality	PO8 Ethics
PO9 Communication	PO10 Teamworking	PO11 Life Long Learning	PO12 Project Management

Engineering Knowledge - Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to the solution of complex engineering problems;

Problem Analysis - Identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences;

Design/Development of Solutions - Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations;

Investigation - Conduct investigation into complex problems using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;

Modern Tool Usage - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations;

The Engineer and Society - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice;

PO5	PO6	PO7	PO8
Modern Tool Usage	Engineering & Society	Environment & Sustainbality	Ethics

Environment and Sustainability - Understand the impact of professional
engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development;

Ethics - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice;

Communication - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions;

Individual and Team Work - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings;

Life Long Learning - Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Project Management and Finance - Project Management and Finance - Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments;

SYLLABUS

http://ee.ump.edu.my/hazlina

> teaching > syllabus

REFERENCES

1. Katz, “Contemporary Logic Design”, 2nd Ed., USA: Prentice nHall.

2. Givone, “Digital Principles and Design”, USA: McGraw-Hill.

3. Marcovitz, “Introduction to logic design”, USA: McGraw-Hill.

4. Mano, ”Logic and computer design fundamentals”, USA: Prentice Hall.

5. Tocci,R.J., “Digital Systems: Principles and Applications”, 9th Ed., USA: Prentice-Hall

ASSESSMENT

Final grade will be calculated as follows;

Quizzes	10%
Laboratory/ Project	30%
Test	20%
Final Examination	40%
Total	100%

CLASS HOURS

Lecture:

- Tues (12.00 pm – 1.50 pm) E20BK1
- Thurs (8.00 am – 9.50 am) E00DK2

Lab:

- Week 7/8

ACADEMIC HONESTY

- Your written assignments, lab and examinations must be your own work.
- Academic Misconduct will not be tolerated.
- To insure that you are aware of what is considered academic misconduct, you should review carefully the definition and examples provided in Student Handbook.

Grading

Passing marks is 40

Grading Timetable

Test

- Test 1 – October 6th, 2016
- Test 2 – December 2nd, 2016

Quiz

- After every important topics.