

**ECE4OI6**

**Engineering Design**

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**[http://www.ece.mcmaster.ca/faculty/bakr/ECE4OI6/ECE4OI6\\_Main\\_2012.htm](http://www.ece.mcmaster.ca/faculty/bakr/ECE4OI6/ECE4OI6_Main_2012.htm)**

## Info About Myself

B.Sc. in Electronics and Communication Engineering, Cairo University, Cairo, Egypt with Distinction (honors), 1992

M.Sc. in Engineering Mathematics (Optimization), Cairo University, 1996

Ph.D. in Computer Aided Design (CAD) of Microwave Circuits, McMaster University, 2000

P.Eng., Ontario, 2003

Author/CoAuthor of over 200 Journal and Conference papers, two book chapters, one book, and two patents

## Info About Myself (Cont'd)

Research Areas: Optimization methods, computer-aided design and modeling of microwave circuits, neural networks applications, computational electromagnetics, bioelectromagnetism, and Photonics

### Awards/Scholarships:

TRIO Student Internship in OSA, inc. 1997

Ontario Graduate Scholarship (OGS) 1998-2000,

NSERC PostDoctoral Fellowship 2000-2001,

Premier's Research Excellence Award (PREA) 2003-2009, and

McMaster Tenure 2007

Sabbatical Leave with Research In Motion (RIM), 2008-2009

NSERC DAS Award, 2011

## Teaching Experience

Teaching Assistant in Engineering Mathematics (Cairo University), 1992-1996

Teaching Assistant in Electrical Engineering (McMaster University) 1996-1999

Assistant Professor in the Department of Electrical and Computer Engineering, McMaster University since 2002:

ECE 750 Advanced Engineering Electromagnetics

ECE 2EI4 Electronic Devices and Circuits

ECE 3TP4 Signals and Systems

ECE 757 Numerical Techniques in Electromagnetics

ECE 2EI5 Electronic Devices and Circuits

ECE 3FI4 Theory and Applications in Electromagnetics

## Teaching Experience (Cont'd)

ECE 2FH3 Electromagnetics I

ECE 2CI5 Introduction To Electrical Engineering

ECE 3FK4 Electromagnetics II

ECE 760 Nonlinear Optimization for Electrical Engineers,  
(sponsored by RIM), now ECE 733

ECE4OI6 Engineering Design (Three Times)

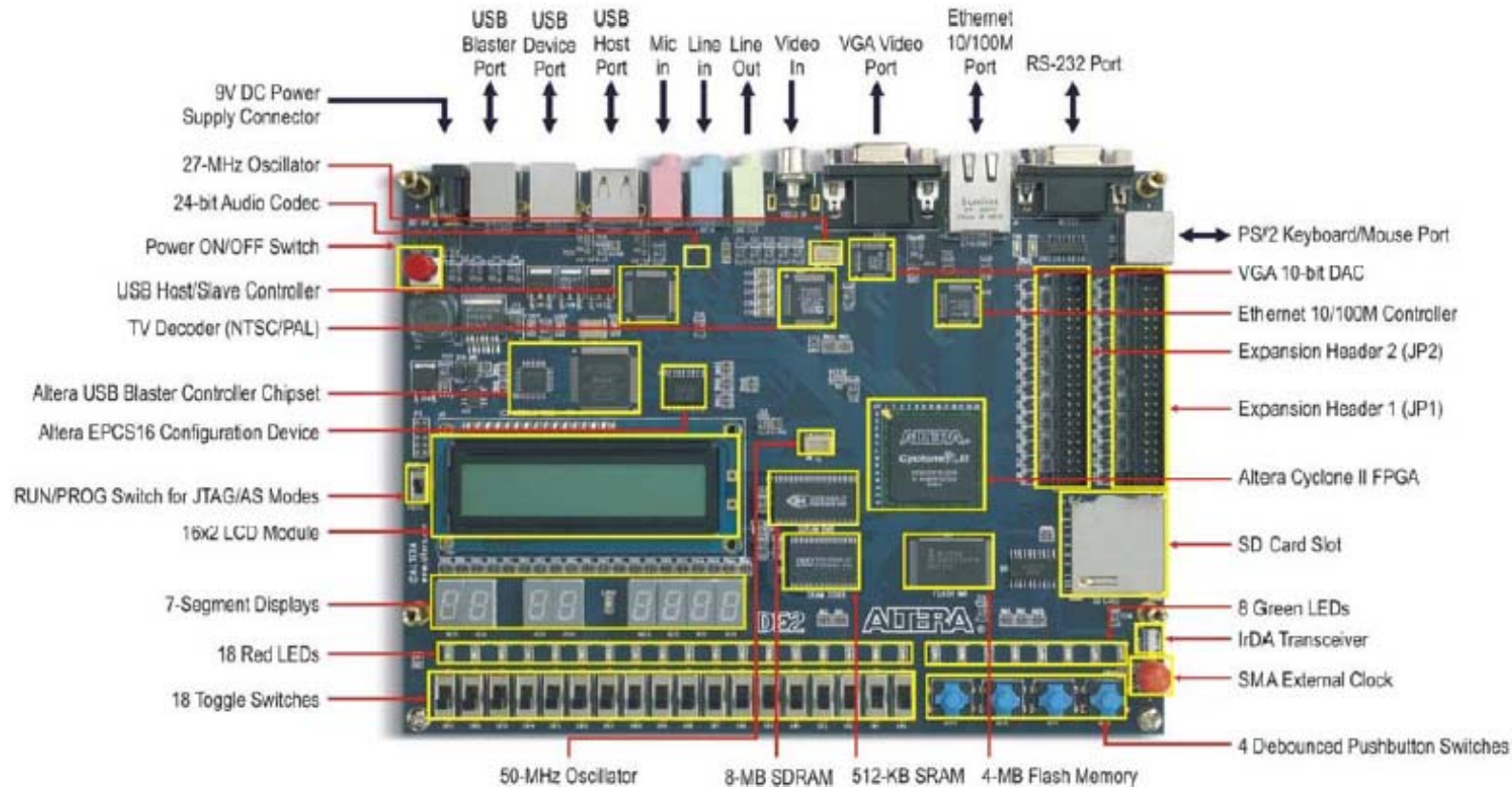
Developer of a number of coursewares for several courses

Supervisor/Co-supervisor to a number of graduate students

Associate Editor of a number of journals and co-organizer of a number of workshops and technical sessions.

# Course Overview

## Altera's DE2 Board



## Course Overview

**CLASSES:** Tuesday, Thursday, and Friday 11:30-12:20 T13/107

**Tutorials:** Mondays 9:30 am - 10:20 pm T13/107

Classes and Tutorials will be mainly used for presentations by groups or by guests

## General Comments

This course is all about you! I am just here to give advice!

You should form groups of 4 (5 in exceptional cases)

I do not suggest the idea of your project!

Within two weeks, you should form your groups.

Expectations should be known!



## General Comments

around October 6th, each group will make a presentation explaining in detail what they plan to do, why they plan to do it, how important it is, review of relevant literature and previous work, etc.

Divide your project into three levels, Bronze, Silver, and Gold. Bronze is the bare minimum to pass this course. Silver requires doing extra work that will bring you to the A range. Gold is for the A+ range.

I will meet with each group once every other week starting from mid October

## General Comments

Meeting Milestones 10%

Project Proposal (presentation and report) 10%

Progress Demonstration/Presentation 1 20% (First week of December)

Progress Demonstration/Presentation 2 20% (Mid February)

Final Project (report, presentation, demonstration, poster)  
40% (April)

(late reports penalized at rate of 20%/day, no extension for demos)

## General Comments

You will have access to the lab at ITB 156 at time slots to be announced.

TAs will have lab hours to help you.

Osman Ahmed ([mohammos@univmail.cis.mcmaster.ca](mailto:mohammos@univmail.cis.mcmaster.ca))

No Food, drinks, or soldering inside the lab. You may use the IEEE branch office during soldering.

No Guarantee of significant reimbursements!. Some components (capacitors, resistors, and breadboards) can be requested from our lab technician Steve Spencer.

## General Comments

For the poster day, you should dress formally and bring your own power extension

You should have all your components. Do not depend on borrowing any of the lab boards.

Awards for the top 3 best projects of each stream. Last year we gave awards to 9 projects.

Industry will be there during the poster day.

Our students were on Discovery Channel, Canada AM, and many other channels.

## General Comments

Webpage will be up and running soon.

Movement between sections is allowed **ONLY** if the majority of the students of one group are already in another section.

All 2 instructors reserve the right to move groups to distribute the load evenly.

I try to help you look at your best on the Poster Day!