

ENG3490 WEEK1

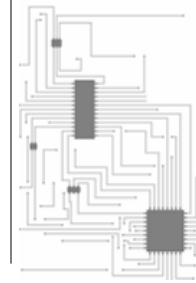


1. Course Requirements

2. Introduction

Ref [1]: pp. 1-16;

Ref [2]: pp. 1-11;



Teaching Team



- Instructor: Radu Muresan, PhD, PEng.
 - Email: rmuresan@uoguelph.ca
 - Web: <http://www.soe.uoguelph.ca/webfiles/rmuresan/>
 - Lectures: Tu & Th: 10:00 am – 11:20 am
 - Office hours: Th: 1 pm – 3 pm;
- Lab Coordinator:
 - Cole Tarry (ctarry@uoguelph.ca)
- TA
 - Matthew Mayhew:
 - Email: mmayhewo@uoguelph.ca
 - Office hours: TBA



Marking Scheme

- Labs: 38%; (lab sections ...)
 - Lab 1, 2, 3 = 8%;
 - Lab 4 = 14%
 - demo = 6%; report = 8%
- PLC Project: 12% (Topic must be chosen by March 1st)
- Midterm: 20% or 15%
- Final Exam: 30% or 35%
- Final Course Mark Calculation:
 - Labs 38% + Project 12% + the best of {(Midterm 20% + Final Exam 30%); (Midterm 15% + Final Exam 35%)}
- NOTE: In order to pass the course you must:
 - Perform all the labs (get passing marks),
 - Write both exams (midterm and final) and pass at least one
 - If NOT: the final mark is the average of the exams (50% weight each)



Marks and Group Work

- All marks (except the final exam mark) must be contested within 3 working days from the submission date otherwise they will be finalized as submitted
- For all group work the students must complete one WORK EVALUATION FORM
 - The group marks will not be finalized without the evaluation form
 - The evaluation form can be downloaded from the course's webpage



Exam Dates

- Midterm (tentative):
 - March 4th, 2007 (Tuesday)
 - Time: 10:00 am to 11:20 am
 - Room: MACK 121
- Final Exam:
 - April xx, 2008
 - Time: xxxx
 - Room: xxxx
- Questions???



Course Outline (Tentative)

- REFERENCE BOOKS:
 - [1] Mechatronics 3rd Edition by W. Bolton, Prentice Hall 2003.
 - [2] David G. Alciatore, Michael B. Hstand: Introduction to Mechatronics and Measurement Systems, 3/E, McGrawHill, 2007.
 - [3] Frank D. Petruzella, Programmable Logic Controllers, 3/E, McGrawHill, 2005.



Course Outline (Tentative)

- Part 1: Introduction + Review of Electric Circuits
- Part 2: Sensors;
- Part 3: Actuators;
- Part 4: Data Acquisition;
- Part 5: PLCs, Basics of PLC Programming, PLC Wiring Diagrams, PLC Components;
- Part 6: Modeling, System Response, and Feedback Systems for Mechatronics;
- Part 7: Mechatronic Systems - Control Architectures



What Is Mechatronics?

- Mechatronics: integration of mechanical and electronic components coordinated by a control architecture.
- Disciplines important in the design of mechatronics:
 - mechanics
 - electronics
 - control
 - computer engineering

