ME2110: Creative Decisions and Design

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ME2110 course details

- **Lecture**
  - MW, 3:00 – 3:50 PM, IC103
- **Websites**
  - http://2110.me.gatech.edu
  - Canvas
- **Studio Instructors:**
  - L. Degertekin (D, E)
  - K. Kalitzaidou (H)
  - K. Mehaffey (B)
  - R. Neu (G)
  - H. Rashidi (N)
  - R. Simmons (F)
  - D. Smith (K, O)
  - J. Streator (J)
- **Studio**
  - 2h 45m long
  - Various timings by section
  - IDEA Classroom (MRDC2101)
  - IDEA Laboratory (MRDC2101)
- **Head TAs:**

  Kyle Saleeby Ivan Ren
- **Studio TAs:**

  Jaime Berez Omar Elsayed
  Shiyu Feng Elliott Jost
  Patrick Jung Lance Lu
  Eddie Nguyen Austen Thien

Course Objectives

To learn:

- fundamental procedures for solving engineering design problems
- the essential details of analyzing, synthesizing, and implementing design solutions with flexibility, adaptability, and creativity
- the techniques which allow an engineer to tackle new, unsolved, open-ended problems
- by doing through team and individual projects and assignments

Characteristics of Design

- Multi-stage - hierarchical decomposition
- Large quantities of data - modularized
- Support design tools - analysis, optimization, simulation, etc. - in various design phases
- Uncertain design path
- Alternatives, revisions, versions
- Iterative and cyclic
- Teamwork - interactions between designers
- Multidisciplinary
- Dynamic

ME2110: Creative Decisions and Design

This course is about:

- understanding alternatives
- problem solving
- organization
- writing
- presenting
- fabrication

Professionalism

- projects
- reports
- attendance

Suggestions for this course

Do

- be in class on time
- be in studio on time
- pay attention
- use the tools that are presented
- read the book
- give professional presentations
- act professionally
- follow procedures (safety)
- clean-up in studio
- report damaged equipment
- have fun

Don't

- miss class
- turn in hand written reports
- turn in unprofessional reports
- close your minds to the alternatives
- bring food into studio
- leave a mess in studio

Your Grade

Canvas Assessments	5%
Homework	15%
Class Participation	10%
Studio Preparedness	5%
Tower Project	5%
Introductory Project/Presentation	10%
Major Project	50%
Problem Understanding Report/Presentation	*5%*
Evaluation Report/Presentation	*10%*
Final Report/Presentation	*15%*
Machine Performance/Competitions	*15%*
Design Review	*5%*
Safety Briefing and IDEA User Agreement	P/F
Give at Least One Oral Presentation	P/F
Mechatronics and Machining Training	P/F
Individual Competition	P/F

Attendance

You must attend all studios:

- attendance will be taken
- missing a studio results in a 0 for that studio grade
- missing a studio assignment results in a letter grade reduction

You must attend all lectures:

- attendance will be taken at 3:00 PM
- being late (arriving between 3:00 and 3:15) is 0.5 of a missing lecture
- we will be using a seating chart
- missing lectures (rounded down) will result in a final grade penalty
    - 2-3 missed lectures = 1 letter grade reduction
    - 4-5 missed lectures = 2 letter grade reduction
    - 6-7 missed lectures = 3 letter grade reduction
    - 8-9 missed lectures = 4 letter grade reduction.

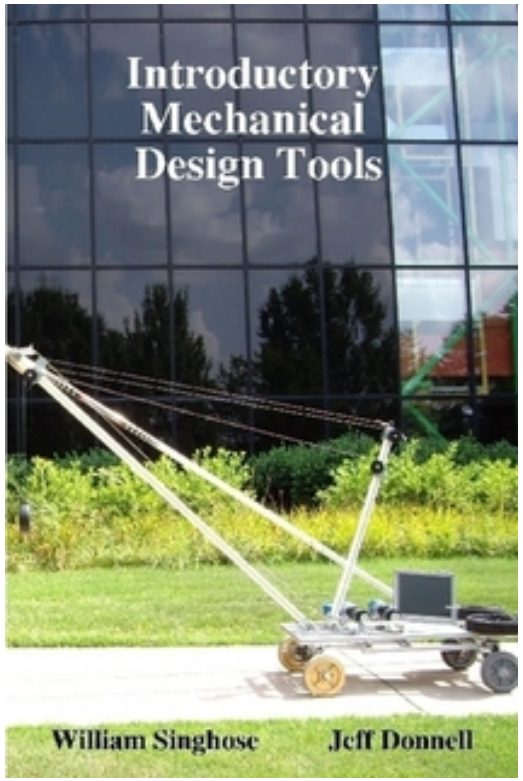
Course Materials

National Instruments myRIO
(and LabVIEW)

Lab Virtual Instrument Engineering Workbench (LabVIEW)

Reconfigurable IO Modules (RIO)

Course Text



Critical Information

Studios (labs) are being held this week

Do not miss your studio section

Competition date Friday, 05 April 5 PM

Final reports / presentations the week of 12 April

Some Advice

Get to know your TA and instructor

Know where you are going

Keep on top of the assignments and reports

Learn your material, it is valuable ($$$)

Learn to tell your story, this course can help you in the future

You learn more from failure than from success

- Fail early / fail often / understand your failure mode

Prototypes

- Build / run / fatigue