ECE 111 - Intro to Electrical and Computer Eng

Spring 2025   -   www.BisonAcademy.com

Course Information:

Instructor: Jacob Glower
Class Times   Tu 9:30am, Offerdahl West (ECE) 123
Recitation: Th 9:30am, Offerdahl West (ECE) 123 (bring your laptop if you have one)
Office: t.b.d.
Office Hours   t.b.d.
Text: none
On-Line Reference: www.BisonAcademy.com
                       www.electronics-tutorials.ws/index.html
HW Solutions: Due the following Monday at midnight
                         - Submit on Blackboard for ECE 111

Bulletin Description:

Introduction to electrical and computer engineering problem solving, design and professional issues. 3 lectures.
Prereq: MATH 103.

Course Objectives:

By the end of the semester, students should:

- Know what courses he/she needs to take to graduate in Electrical or Computer engineering,
- Be able to solve problems from various areas of ECE using Matlab, and
- Be able to use functions of Matlab, including plotting, creating m-files, and writing scripts

Hy-Flex Model for Spring 2025

Students are welcome to take this course however they like:

- In-Person: Students are welcome to addend class at the designated class time and location.
- Live-Stream: Students are also welcome to live-steam the class. A link with how to connect will be sent out at the start of the semester on BlackBoard and to your NDSU email address.
- On-Line: Students are also welcome to take the class on-line and fit lectures into their own schedule.

Everyone is welcome to use the on-line resoruces as well. These include

- Each day's lecture,
- Detailed lecture notes for each day,
- YouTube videos for each lecture,
- Daily handouts,
- YouTube discussions going over the handouts,
- Homework sets, and
- Solutions to previous homework sets (which are usually similar to this semester's homework)

It's completely your choice how you take the class.

That being said, in-person does work better than online. Statistics from Fall 2021 show that

- The overall average was 7% (almost a letter grade) higher for students who signed up for the in-person version of the class than the online version.
- Coure evaluations were a letter grade higher for people who took the course in-person vs. live-stream or online.

This is only a sample size of one and this wasn't a random sample - so it's hard to draw any conclusions from this data. But, it does suggest that in-person instruction is better than live-stream or online. Regardless, it's your choice how you take the class.

Required Student Resources:

- Calculator capable of complex numbers
    HP42 calculator recommended (free app on your cell phone: search free42)
    HP Prime calculator recommend when cell phones are not allowed ($140 on Amazon)
    Most ECE students use TI84 Plus ($100 from Amazon)
- Matlab
    Available on all computers in Engineering
    Also available for personal use (download instruction under ECE 111 / Resources

Evaluation Procedures and Grading Criteria

Grades will be the average of the following:

Homework	Final Exam
100%	none

Grades are rounded to the nearest 1%, with your final grade being

F	D	C	B	A
59% or less	60% - 69%	70% - 79%	80% - 89%	90% or more

Note: The objective of this course is to expose you to areas of ECE and get you familiar with Matlab. If you do the homework and projects, I expect you will have no problem getting an A or B.

Matlab Homework & ECE Overview

During lecture time (Tuesday), class will be held in CME Auditorium. Here, we will present a typical problem you will see in different core classes you'll take in ECE along with how to solve this type of problem in Matlab. The nice thing about Matlab is you can solve many problems using numerical methods (i.e. you don't have to completely understand the theory or mathematics behind the problem to find a solution.) These you'll get when you take the course. Here, the objective is to get you familiar with Matlab (mostly) and to gain some understanding of what you'll be taking before you graduate.

Each week, there will be a homework assignment using Matlab. These are due on the following Monday. During class time on the following Tuesday as solutions will be gone over in class.

- Matlab homework is to be done individually: one solution per student
- Please submit these as electronic files on BlackBoard (saves paper).

Legal Stuff:

Attendance: According to NDSU Policy 333 (www.ndsu.edu/fileadmin/policy/333.pdf), attendance in classes is expected. Students are responsible for the material covered in class and in assignments regardless of their attendance. Note that all lecture notes, homework sets, and solutions are available on-line at www.BisonAcademy.com

Students with Special Needs: Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor and contact the Disability Services Office (www.ndsu.edu/disabilityservices) as soon as possible.

Academic Honesty: The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

Academic Honesty Defined: All written and oral presentations must "respect the intellectual rights of others. Statements lifted verbatim from publications must be cited as quotations. Ideas, summaries or paraphrased material, and other information taken from the literature must be properly referenced" (Guidelines for the Presentation of Disquisitions, NDSU Graduate School).

ECE Honor Code: On my honor I will not give nor receive unauthorized assistance in completing assignments and work submitted for review or assessment. Furthermore, I understand the requirements in the College of Engineering Honor System and accept the responsibility I have to complete all my work with complete integrity.

Veterans and Student Soldiers: Veterans and student soldiers with special circumstances or who are activated are encouraged to notify the instructor in advance.