

# EENG 3920 Project VI

Fall 2020

Thursday, 10:00 AM – 12:50 PM

Classroom: NTDP B207 & B288

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**Instructor:** Dr. Shengli Fu

**Office:** NTDP B276

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**Office Hours:** By appointment

## TA Information

Rani D. B. Joseph, ([RaniDeepikaBalavendranJoseph@my.unt.edu](mailto:RaniDeepikaBalavendranJoseph@my.unt.edu))

## Course Description

EENG 3920 is the project design course for electronics courses. Students are required to design electronic communication systems with electronic devices such as MOS transistors, capacitors and resistors. Topics include LC circuits and oscillators, AM modulation, SSB communications, and FM modulation.

**Textbooks:** None

## Prerequisites

EENG 3520 Electronics II (required), ENG 3810 Communication Systems (suggested)

## Course Objectives

At the end of the class, the student should be able to:

- Understand fundamental concepts and circuits used in communication systems;
- Describe principles and theory of various communication techniques such as AM and FM;
- Conduct effective analysis and interpretation of the experiments;
- Demonstrate the ability to identify, analyze, and solve technical problems;
- Creatively apply the course topics to designs;
- Simulate and analyze advance electronics circuits.

## Grading Policies

Attendance and participation: 10%

Quiz: 15%

Homework: 15%

Lab Assignment: 65%

## General Comments

- Students are expected to communicate to the instructor any issue regarding their performance in class ahead of time.

- Cheating and academic dishonesty will not be tolerated. Any student found to have participated in academic dishonesty will receive an F in the class, and may be subject to further disciplinary action. Acts of academic dishonesty include: academic fraud (e.g. changing solutions to appeal a grade), copying or allowing one's work to be copied, fabrication/falsification, plagiarism, sabotage of others' work, substitution (e.g. taking an exam for someone else). For more details, see UNT Policy 18.1.16.
- Late submission (Homework and Project) will not be accepted.
- Students with disabilities should inform the instructor of their needs at the beginning of the semester according to UNT Policy 18.1.14 in order to receive proper attention and accommodations.
- All students are responsible for announcements made in lecture, through Canvas, or via the class email list.

### Class Schedule (tentative)

Week	Date	Topics
1	08/27	Introduction, filter design
2	09/03	Active filtering
3	09/10	Active filtering
4	09/17	Frequency mixing
5	09/24	Frequency mixing
6	10/01	Design of ring oscillator
7	10/08	AM communication system
8	10/15	IR Transmission
9	10/22	IR Reception
10	10/29	Envelop detector
11	11/05	FM system
12	11/12	FM system
13	11/19	FM system
14	11/26	<i>Thanksgiving</i>
15	12/03	Lab report
16	12/10	<i>Final Week</i>