

# CE4370: Embedded Microprocessors

Class Notes: ADC and DAC

Author: Muhammad Zaid

Lecture Section: 001

Instructor: William Swartz

November 3, 2022

## **Abstract**

This document contains my notes for the class that occurred on 03/09/2020.

# 1 Digital Signal Processing

Main idea is to convert analog signals to digital signals because of how easy it is to process those signals more efficiently.

Advantages of Digital Signal Processing:

- Easy to process
- Easy to store, and more compact
- Easy to transmit
- Reliable
- Can be reproduced more accurately

Data Acquisition is required for Digital Signal Processing.

# 2 Data Acquisition System

Transducers are something like speakers that convert electrical signals to mechanical signals.

## 2.1 Sensors

Devices that measure a quantifiable physical property and convert it to an electrical signal.

noindent A sensor could be a transducer. A type of sensor is a microphone.

### 2.1.1 Transducers

Have some curve that would look at some type of sensor info in comparison to the input, it could be the voltage or the current.

### 2.1.2 Microphone

A microphone is a transducer that converts sound waves into electrical signals.