# ELE476
# Week-1
# Getting Started

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# Outline

Getting started

About Me

Curriculum

Schedule

Motivations

Installation

# About me

BSc, METU, 1998


MSc, AYBU, 2015


PhD, TOBB ETU, …

# Certificates

**Certified Instructor and University Ambassador at NVIDIA**


**GitHub Teacher**

# Work Experience

- ASELSAN
  - Türkiye’s leading defence company
  - Aselsan 47. Rank in “Defense News' Top 100 list”
  - ~15 years
  - March ‘23


aselsan

Türk Silahlı Kuvvetlerini Güçlendirme Vakfı'nın bir Kuruluşudur.

# About Me

- 25 years in software development
- 15+ years in telecom field
- PhD student @ TOBB ETÜ
- Lecturer @ TOBB ETÜ
  - ELE361L since 22-23 Summer
  - ELE495
  - ELE101
  - ELE476

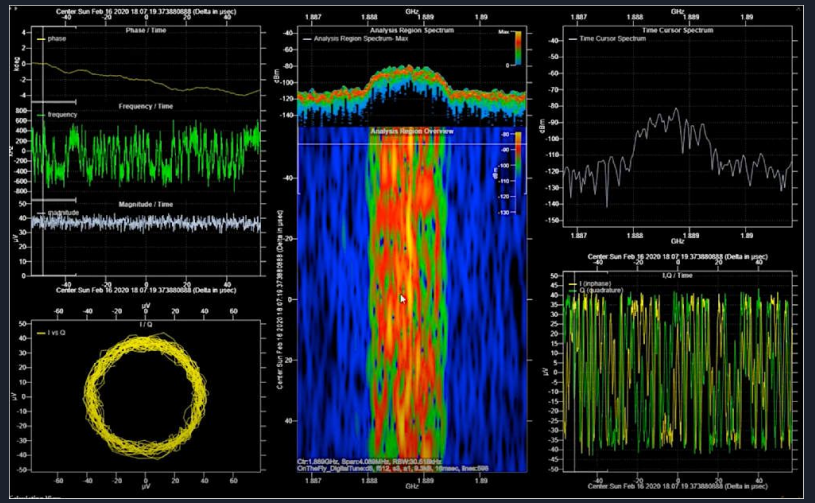
# Embedded Experience - Monitoring Receivers

TI 8-core DSP/SysBIOS

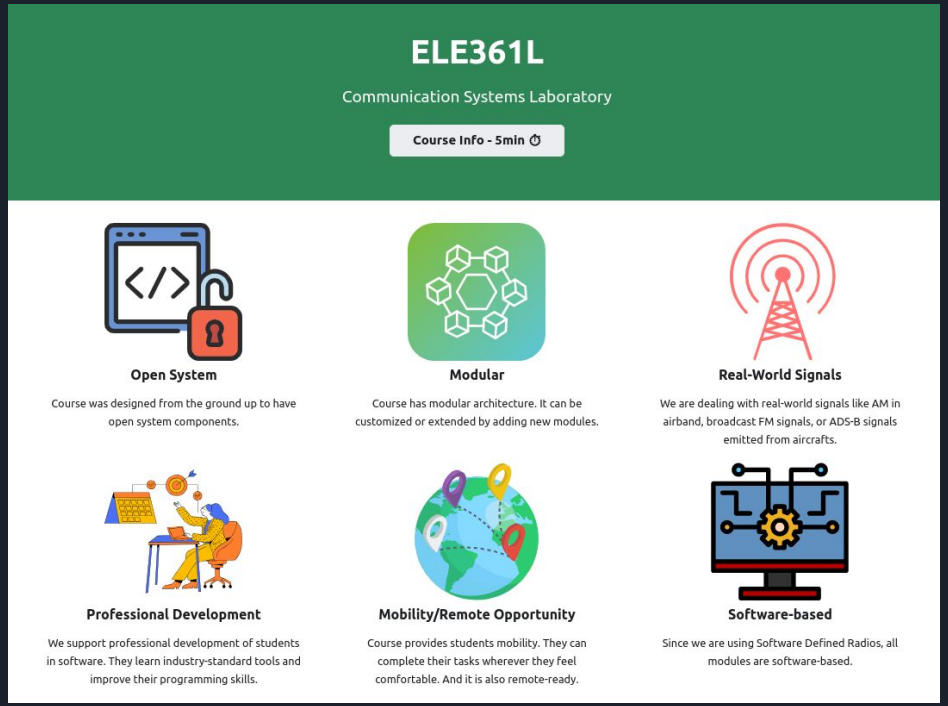
Intel i7/VxWorks

# SIGINT: Signal Analysis Project

- Offline/Online Analysis
- Demodulation/Decoding
- Parameters
  - Center Freq
  - Modulation Type
  - Baud Rate



# ELE361L




https://ele361l.github.io/

# Awards: 9. Başakşehir Innovation Contest

BASAKSEHIR
LIVING
LAB
ISTANBUL

# Awards: 3. AOSB R&D and Innovation Contest

# Events: SDR Academy Friedrichshafen, Germany


# Events: GNU Radio Conference 2023


5-9 September 2023

Talk & Workshop

# Schedule

1. Introduction/git/GitHub
2. GNU Radio Software Radio Toolkit
3. DSP with Python
4. Sampling and Nyquist Theorem
5. Quantization
6. Complex Sampling and Complex Numbers
7. Frequency Domain Translation
8. Aliasing
9. Convolution
10. Digital Filtering
11. Resampling: Decimation and Interpolation
12. Channelization

# Assessment

- Midterm (431) %30
- Project %40
- Project %30

# Key Points to Remember

Some important points about the course

- Always bring your laptop to class
- Every user must have an account on **GitHub**
- Make installments required for the course into your laptop ASAP
- Check your TOBB ETU e-mail for any updates!
- Do not forget to sign in the attendance list!
- Common time for compensation?

# Success Strategies

- Make time
- Assignments and Deadlines
- Understand the technology
- Do Your Work yourself
- Save Your Work!
- Start Early

# Motivations

- Engagement
- Professional Development

# How to use GitHub?

Web interface

https://github.com/

Create an account if not yet!

Do not forget your account info!

Command

https://git-scm.com/downloads

# Install git – Windows

- go to **git-scm.com**
- Run the installer to install git into your PC
- You can choose defaults

# Install git – Linux

$ sudo apt-get install  git

You can open a terminal to use git commands

# Install git – Mac

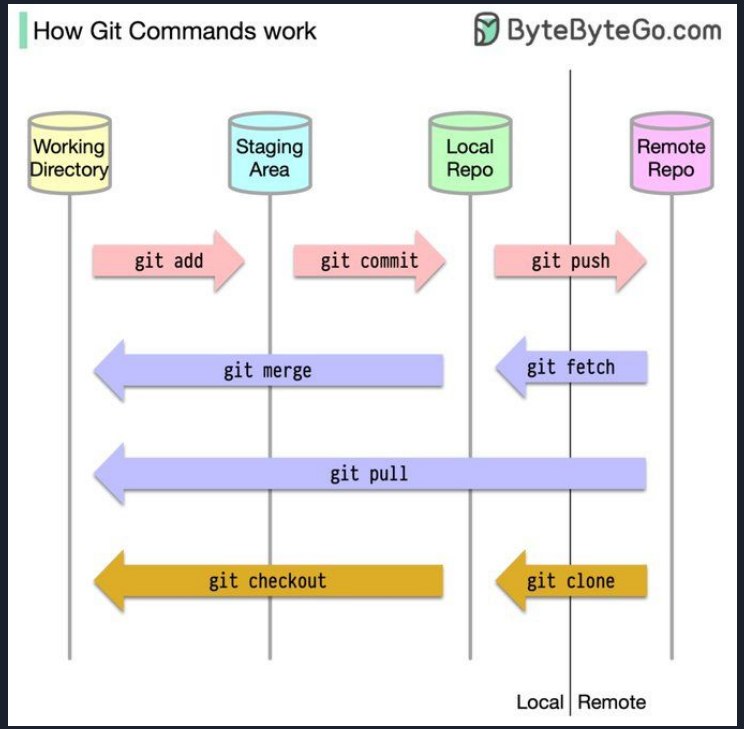
- Install homebrew first
  - /bin/bash -c "$(curl -fsSLhttps://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
- brew install git

You can open a terminal to use git commands

# Git

- Git CMD or Git BASH
- git config needs to be done only once
- Always check with git status first!
- 3-stages
  1. Working directory
     - git clone *your_repo_name*
  2. Staging Area
     - git add .
  3. Repository
     - git commit -m “your message”
- Remote (server) update
  - git push

# Git


How Git Commands work
ByteByteGo.com
Working Directory
Staging Area
Local Repo
Remote Repo
git add
git commit
git push
git merge
git fetch
git pull
git checkout
git clone
Local
Remote

# Clone ELE476 Repository

- Create ELE476 folder under your home folder
- Change to ELE476 folder
- Use git clone command below to create a local copy on your PC
- git clone <Repo_Address>
  - Replace <Repo_Address> with original repo address you have just copied
  - git clone https://github.com/ELE476-2425Summer/GettingStarted.git

Thanks!

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