# Setup and Introduction to ROS

**Overview:**

The purpose of this lab is to get the ROS system we will be using installed and working on your computer. You will be working through some ROS tutorials and getting to know the ROS environment.

**General Instructions:**

In this class we will use ROS Noetic, which is supported on Ubuntu 20.04. [Other versions of ROS will require other versions of Ubuntu, make sure that you check this if you decide to try a different ROS version, or if you have a more recent Ubuntu version].

**Pre-Installation:**

ROS works best with Ubuntu Linux but can also work with other operating systems through various virtualization frameworks. Here are some options for getting ROS to work with non-Linux operating systems:

1. Install a virtual machine to run Ubuntu Linux
    a. VirtualBox https://www.virtualbox.org/
    b. UTM https://mac.getutm.app/
    c. VMWare Fusion https://www.vmware.com/products/fusion.html
2. Windows Subsystem for Linux https://jack-kawell.com/2020/06/12/ros-wsl2/
3. RoboStack https://robostack.github.io/GettingStarted.html

**Part I: Installing/Learning ROS**

We will be working with ROS Noetic this semester. To get it installed, go to

wiki.ros.org/noetic/Installation/Ubuntu

for detailed instructions. Follow the given steps for your operating system. Install the Desktop-Full Install.

Once you have completed your ROS installation, please work through the Beginner Level Core ROS tutorials. There is a place in the tutorials where you have to pick a build system. We will be using the catkin build option. We will also be primarily using Python this semester, so you can just do those options when given both C++ and Python versions of a tutorial.

The tutorials can be found at

wiki.ros.org/ROS/Tutorials