

• MODULE 5 WEEK 1 •

MATLAB & Simulink:

An introduction

Hello!

We'll be starting with module 3 of the course. This module deals with modelling on MATLAB and Simulink.

MATLAB is a multi-paradigm numerical computing environment and proprietary programming language developed by MathWorks. MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages.

Simulink is a MATLAB-based graphical programming environment for modeling, simulating and analyzing multi domain dynamical systems. Its primary interface is a graphical block diagramming tool and a customizable set of block libraries.

As to why we need to learn MATLAB and Simulink, it's because we have to plot the trajectories of robots keeping in mind the kinematics involved in it. In a way, this module is more of an advanced version of module 2.

Instead of writing chapters, we'll keep uploading video tutorials and additional materials required for our final project regularly. For now, keep following this doc, as all updates would be posted here.

There are a few assignments to be done, deadlines for which will be different.

Assignment 5.1:

The 1st task of this week would be doing the MATLAB and Simulink Onramp courses. You can access these courses [here](#).

These onramp courses will help you get acquainted with MATLAB and Simulink. They also contain a few small projects.

Submission for this assignment would be a screenshot of the certificates of completion of these courses. Deadline is 10.06.2020

Also, those who don't have access to MATLAB & Simulink, and have instead downloaded GNU Octave, Scilab or Xcos, you may follow the given playlists for a better understanding.

For GNU Octave:

<https://www.youtube.com/playlist?list=PL1A2CSdiySGJ6oZe6XB-TTCFuHc5Fs1P0>

For Scilab:

<https://www.scilab.org/tutorials/xcos-beginners-%E2%80%93-tutorial>

For Xcos:

<https://www.scilab.org/tutorials/xcos-beginners-%E2%80%93-tutorial>