Course Prerequisites

This is an **advanced** course, intended for learners with a background in mechanical engineering, computer and electrical engineering, or robotics.

Knowledge Prerequisites

To succeed in this course, you should have the following knowledge prerequisites:

- intermediate programming experience in Python 3

- familiarity with linear algebra (matrices, vectors, matrix multiplication, rank, eigenvalues and vectors, and inverses)

- statistics (Gaussian probability distributions)

- multivariate calculus

- physics (forces, moments, inertia, Newton's laws)

It's certainly helpful to know how to drive a car, but it's not a hard requirement for this course.

If you don't have these necessary knowledge prerequisites, no sweat. There are excellent Robotics, AI, Deep Learning, Computer Vision, Controls and other courses that you can take on Coursera to prepare you for this Specialization.

If you don't have the necessary Python prerequisites, check out the Python for Everybody Specialization. If you have coding experience in another programming language, you should be able to complete this course (but may need to look up Python syntax as you go).

Hardware & Software Requirements

For the final project in this course, you will develop control code to navigate a self-driving car around a racetrack in the CARLA simulation environment. You will need the following hardware and software specifications in order to effectively run the simulator and complete the final project.

- Desktop PC or gaming laptop, which includes:

- Windows 7 (64-bit or later, Windows 10 preferred) or Linux (Ubuntu 16.04 or later)

- Quad-core Intel or AMD processor, 2.5 GHz or faster

- NVIDIA GeForce 470 GTX or AMD Radeon 6870 HD series card or higher

- 8 GB RAM

- OpenGL 3 or greater (for Linux computers)

MacOS

At this time macOS is not natively supported by CARLA and therefore the CARLA binaries that we provide also do not support macOS. It is recommended to create a dual-boot to either Linux or Windows in order to setup CARLA for the course.

Virtual Machines

Virtual Machines are discouraged as they generally do not have the necessary hardware virtualization to run the Unreal Engine (which CARLA is based on). It is recommended to install Linux or Windows directly as a dual boot in order to setup CARLA for the course.

For more information, please reference the CARLA Installation Guide.

✓ Complete