



## Introduction to Self-Driving Cars

- ✓ **Video:** Welcome to the Self-Driving Cars Specialization!  
5 min
- ✓ **Video:** Welcome to the Course  
2 min
- ✓ **Reading:** Course Prerequisites: Knowledge, Hardware & Software  
15 min
- ✓ **Video:** The Story of Autonomous Vehicles  
12 min
- ✓ **Reading:** How to Use Discussion Forums  
15 min
- ✓ **Discussion Prompt:** Get to Know Your Classmates  
30 min
- ✓ **Reading:** Glossary of Terms  
10 min
- ✓ **Reading:** How to Use Supplementary Readings in This Course  
15 min

## Meet the Self-Driving Car Experts

### Driving Taxonomy, Perception, and Driving Decisions

- ✓ **Video:** Lesson 1: Taxonomy of Driving  
12 min
- Reading:** Lesson 1 Supplementary Reading:



## ACC: Adaptive Cruise Control

A cruise control system for vehicles which controls longitudinal speed. ACC can maintain a desired reference speed or adjust its speed accordingly to maintain safe driving distances to other vehicles.

## Ego

A term to express the notion of self, which is used to refer to the vehicle being controlled autonomously, as opposed to other vehicles or objects in the scene. It is most often used in the form ego-vehicle, meaning the self-vehicle.

## FMEA: Failure Mode and Effects Analysis

A bottom up approach of failure analysis which examines individual causes and determines their effects on the higher level system.

## GNSS: Global Navigation Satellite System

A generic term for all satellite systems which provide position estimation. The Global Positioning System (GPS) made by the United States is a type of GNSS. Another example is the Russian made GLONASS (Globalnaya Navigazionnaya Sputnikovaya Sistema).

## HAZOP: Hazard and Operability Study

A variation of FMEA (Failure Mode and Effects Analysis) which uses guide words to brainstorm over sets of possible failures that can arise.

## IMU: Inertial Measurement Unit

A sensor device consisting of an accelerometer and a gyroscope. The IMU is used to measure vehicle acceleration and angular velocity, and its data can be fused with other sensors for state estimation.

## LIDAR: Light Detection and Ranging