

# Self Driving Car Engineer Nanodegree

## Weekly Outline

	Week #	Material to Cover
Term 1	First Day	<ul style="list-style-type: none"> <li>Welcome!</li> <li>Join Study Group</li> <li>Check-out Knowledge</li> </ul>
	Week 1	<ul style="list-style-type: none"> <li>Workspaces</li> <li>Computer Vision Fundamentals</li> </ul>
	Week 1	Project 1: Finding Lane Lines Dec 11
	Week 2	<ul style="list-style-type: none"> <li>Camera Calibration</li> <li>Gradients and Color Spaces</li> <li>Advanced Computer Vision</li> </ul> Dec 18
	Week 3	Project 2: Advanced Lane Finding Dec 25
	Week 4	<ul style="list-style-type: none"> <li>Neural Networks</li> </ul> Jan 1
	Week 5	<ul style="list-style-type: none"> <li>TensorFlow</li> </ul> Jan 8
	Week 6	<ul style="list-style-type: none"> <li>Deep Neural Networks</li> <li>Convolutional Neural Networks</li> <li>LeNet for Traffic Signs</li> </ul> Jan 15
	Week 7	Project 3: Traffic Sign Classifier Jan 22
	Week 8	<ul style="list-style-type: none"> <li>Keras</li> <li>Transfer Learning</li> </ul> Jan 29
	Week 9	Project 4: Behavioral Cloning Feb 5
	Week 10	<ul style="list-style-type: none"> <li>Sensors</li> <li>Kalman Filters</li> </ul> Feb 12
	Week 11	<ul style="list-style-type: none"> <li>C++ Checkpoint</li> </ul> Feb 19
	Week 12	<ul style="list-style-type: none"> <li>Extended Kalman Filters</li> </ul> Feb 26
	Week 13	Project 5: Extended Kalman Filter Mar 5
	End of Term	
	Term Break	<ul style="list-style-type: none"> <li>Github Lesson</li> <li>Geometry and Trigonometry Refresher</li> </ul>

	Week #	Material to Cover
Term 2	First Day	<ul style="list-style-type: none"> <li>Welcome!</li> </ul>
	Week 1	<ul style="list-style-type: none"> <li>Intro to Localization</li> <li>Markov Localization</li> <li>Motion Models</li> </ul>
	Week 2	<ul style="list-style-type: none"> <li>Particle Filters</li> <li>Implementation of a Particle Filter</li> </ul>
	Week 3	<b>Project 1: Kidnapped Vehicle Project</b>
	Week 4	<ul style="list-style-type: none"> <li>Search</li> <li>Prediction</li> </ul>
	Week 5	<ul style="list-style-type: none"> <li>Behavior Planning</li> </ul>
	Week 6	<ul style="list-style-type: none"> <li>Trajectory Generation</li> </ul>
	Week 7	<b>Project 2: Highway Driving</b>
	Week 8	<ul style="list-style-type: none"> <li>PID Control</li> <li>Github Lesson (in Term 1)</li> </ul>
	Week 9	<b>Project 3: PID Controller Project</b> <b>Project 4: LinkedIn Profile Project</b> <b>Project 5: Github Profile Project</b>
	Week 10	<ul style="list-style-type: none"> <li>Autonomous Vehicle Architecture</li> <li>Intro to ROS</li> </ul>
	Week 11	<ul style="list-style-type: none"> <li>Packages and Catkin Workspaces</li> <li>Writing ROS Nodes</li> </ul>
	Week 12	<b>Project 6: Program an Autonomous Vehicle</b>
	Week 13	<b>Project 6: Program an Autonomous Vehicle (Continued)</b>
	End of Term	Graduate!