UNLV ME729 – Advanced Robotics – Spring 2018 (last updated 1/15/18)

Week	Topic	
1 (01/22/18)	Lecture	Course Intro (class is short; show syllabus, grading, etc)
2 (01/29/18)	Lecture Lab	Homogeneous Transformation LEGO 2-DOF planar manipulator construction
3 (02/05/18)	Lecture Lab	Forward Kinematics LEGO 2-DOF planar manipulator - joint space to Cartesian space
4 (02/12/18)	Lecture Project	Inverse Kinematics LEGO 2-DOF planar manipulator - Cartesian space to joint space
5 (02/19/18)	Washington Birthday – UNLV Holiday	
6 (02/26/18)	Lecture Lab	Singularity and Motion Trajectories LEGO 2-DOF planar manipulator – trajectory generation
7 (03/05/18)	Project #1 Presentations and Demonstrations Lecture	 Actuators and Sensors
8 (03/12/18)	**Mid-term**	
9 (03/19/18)	Lecture Project	Robot Dynamics LEGO 2-DOF manipulator variant (offset between Z0 and Z1)
10 (03/26/18)	Spring Break Begins	
11 (04/02/18)	Project #2 Presentations and Demonstrations Lecture Lab	 PID and Linear Control Matlab and Simulink simulation
12 (04/09/18)	Lecture Lab Project	Force Control Matlab and Simulink simulation Wall contact control of LEGO 2-DOF manipulator with a force sensor
13 (04/16/18)	Lecture Lab	Computed-Torque Control Matlab and Simulink simulation
14 (04/23/18)	Project #3 Presentations and Demonstrations Lecture	 Introduction to useful software tools
15 (04/30/18)	Study Week Begins	
16 (05/07/18)	**Final**	