

UNLV ME 729 – Robotics 2 – Spring 2022 (last updated 01/07/22)

Week	Topic	
Week 1 01/24/22	Lecture Lab Homework	Lesson A: Introduction Computer to Computer Communications (RS-485) ASCII Communications
Week 2 01/31/22	Lecture Lab Homework	Lesson B Smart Servos (XL-320) – Dynamixel Wizard XL-320 position and velocity characteristics
Week 3 02/07/22	Lecture Lab Homework	Lesson C Smart Servo (XL-320) – Firmware Programming (LED) LED related exercises
Week 4 02/14/22	Lecture Lab Homework	Denavit-Hartenberg Notation Smart Servo (XL-320) – Write: Wheel and Joint Modes - DH derivations and related Write exercises
Week 5 02/21/22	UNLV Holiday – Presidents Day	
Week 6 02/28/22	Lecture Lab Homework	Forward Kinematics 2-DOF Planar Manipulator: Forward Kinematics Forward kinematics and related Position exercises
Week 7 03/07/22	Lecture Lab Homework	Inverse Kinematics 2-DOF Planar Manipulator: Inverse Kinematics IK derivations and FK related exercises
Week 8 03/14/22	UNLV Holiday – Spring Break begins	
Week 9 03/21/22	Mid-Term (Practical and Hands-On)	
Week 10 03/28/22	Lecture Lab Homework Project Part 1	Trajectory Planning 2-DOF Planar Manipulator: Line Trajectories Trajectory Planning Design 3-DOF robot or 2-DOF pan-tilt

Week 11 04/04/22	Lecture Lab Homework	Jacobians Smart Servo (XL-320) Read Position Jacobians and Read Position exercises
Week 12 04/11/22	Project 1 Demo and Report Due	
	Lecture Lab Homework	Computer Vision 1 Image Processing Image processing exercises
Week 13 04/18/22	Lecture Lab Homework Project Part 2	Computer Vision 2 Tracking Visual servoing exercises Visually servoed Tracking
Week 14 04/25/22	Project Work Day	
Week 15 05/02/22	Study Week Begins Project 2 Demo and Report Due	
Week 16 05/09/22	Finals Begin	