

UNLV ME 729 – Robotics 2 – Spring 2025 (last updated 01/11/25)

Week	Topic	
Week 1 01/27/25	Lecture Lab Homework	Lesson A: Introduction Computer to Computer Communications (RS-485) ASCII Communications
Week 2 02/03/25	Lecture Lab Homework	Lesson B Smart Servos (XL-320) – Dynamixel Wizard XL-320 position and velocity characteristics
Week 3 02/10/25	Lecture Lab Homework	Lesson C Smart Servo (XL-320) – Firmware Programming (LED) LED related exercises
Week 4 02/17/25	UNLV Holiday – Presidents Day	
Week 5 02/24/25	Lecture Lab Homework	Denavit-Hartenberg Notation Smart Servo (XL-320) – Write: Wheel and Joint Modes - DH derivations and related Write exercises
Week 6 03/03/25	Lecture Lab Homework	Forward Kinematics 2-DOF Planar Manipulator: Forward Kinematics Forward kinematics and related Position exercises
Week 7 03/10/24	Lecture Lab Homework	Inverse Kinematics 2-DOF Planar Manipulator: Inverse Kinematics IK derivations and FK related exercises
Week 8 03/17/25	UNLV Holiday – Spring Break begins	
Week 9 03/24/25	Mid-Term (Practical and Hands-On)	
Week 10 03/31/25	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 04/07/25	Lecture Jacobians Lab Smart Servo (XL-320) Read Position Homework Jacobians and Read Position exercises
Week 12 04/14/25	<p style="text-align: center;">Project 1 Demo and Report Due</p> Lecture Computer Vision 1 Lab Image Processing Homework Image processing exercises
Week 13 04/21/25	Lecture Computer Vision 2 Lab Tracking Homework Visual servoing exercises Project Part 2 Visually servoed Tracking
Week 14 04/28/25	Project Work Day
Week 15 05/05/25	<p style="text-align: center;">Study Week Begins</p> <p style="text-align: center;">Project 2 Demo and Report Due</p>
Week 16 05/12/25	Finals Begin