	Unit 1												
	Objective 1: I am confident that I can draw a kinematic diagram for an actual robot manipulator that is accurate in terms of the directions of the axes and the directions of positive joint variables.			Objective 2: I am confident that I can find the homogeneous transformation matrices from a kinematic diagram.			Objective 3:I am confident that I can use homogeneous transformation matrices to accurately predict the location of the end-effector of an actual robot manipulator			Objective 4: I am confident that I can use homogeneous transformation matrices to find the zero location of an object in the grip of a robot end-effector, and avoid hazardous locations (such as hitting the ground).			
	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	
	5	4	5	4	5	5	4	4	5	4	4	5	
	5	5	5	4	5	5	4	4	4	3	3	3	
	4	5	5	5	5	5	5	5	5	5	5	4	
	5	5	4	5	5	4	5	5	3	5	5	3	
	5	4	5	4	4	5	3	4	5	3	4	5	
	4	5	4	5	5	4	5	5	4	5	5	4	
	4	4	5	4	4	3	3	4	3	3	4	3	
	3	4	3	3	4	3	4	4	5	4	4	3	
	4	4	4	4	4	4							
	5		4	4		5	3		4	4		5	
	5	5	5	4	5	5	5	5	5	4	5	5	
	4	5	4	4	5	5							
	4	5	4	5	4	3	4	5	4	4	4	4	
	5	4	5	4	3	4	4	3	4	3	3	3	
	4	5	5	5	5	5	4	5	5	4	5	5	
	2	5	4	4	5	4	4	4	4	2	2	2	
	5	5	4	5	5	4	4	5	4	4	5	4	
	5	5	5	5	1	5	3	3	3	3	3	3	
	4	5	4	4	4	4	3	3	3	3	3	3	
	4	5	5	4	5	5	3	4	4	4	5	5	
	4	4	4	4	5	4	4	3	3	3	3	3	
	5	5	4	4	5	4	4	5	4	5	5	4	
	5	2	4	4	1	5	2	1	1	3	3	3	
	4	4	4	5	5	4	4	3	3	4	3	3	
		5	5		5	5		5	5		5	5	
	3	5	5	5	5	5	5	5	5	5	5	5	
	3	5	5	4	5	5	5	5	5	5	5	5	
	3	3	4	2	3	3	2	3	3	2	3	3	
	5	4	5	5	3	5	4	3	5	4	3	5	
	5	5	5	5	5	5	5	5	5	5	5	3	
	5	4	4	5	5	4	3	4	3	3	4	3	
	5	5	5	5	5	5	4	4	4	4	4	4	
	5	5	4	4	5	4	4	5	4	4	4	4	
	4	4	5	3	4	5	4	4	4	4	4	4	
													Average confidence
Mean	4.30	4.52	4.47	4.27	4.36	4.41	3.87	4.10	4.00	3.81	4.03	3.84	4.06
St.Dev	0.81	0.71	0.56	0.72	1.08	0.70	0.85	0.98	0.95	0.87	0.91	0.92	

	Unit 2												
	Objective 1: I am confident that I can use pulse-width modulation to set the speed of a DC motor.			Objective 2: I am confident that I can explain the difference between open-loop and feedback control for positioning a robot joint.			Objective 3:I am confident that I can use feedback control (either on/off or PID) to control the position of a robot joint using a DC motor, position sensor, and a microcontroller.			Objective 4: I am confident that I can find good values for PID control by adjusting the gains and watching the response of the joint.			
	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	
	3	5	5	4	5	5	3	5	5	2	5	5	
	3	2	3	3	2	2	2	2	2	2	2	2	
	3	4	4	4	5	5	3	4	4	3	4	4	
	5	5	5	5	5	5	4	5	5	4	5	5	
	4	5	1	5	5	1							
	5	4	5	5	4	5	4	5	5	4	5	5	
	5	5	5	5	5	5							
	5	5	4	5	5	5	5	5	5	5	5	4	
	5	4	4	5	4	4.5	5	3	3.5	4	4	4	
	5	5	5	5	5	5							
	3	4	3	4	5	4	3	4	4	2	3	2	
	4	4	3	4	4	3	3	4	4	5	3	4	
	4	4	5	4	4	5	3	4	4	4	3	3	
	5	5	5	5	5	5	4	5	5	5	5	5	
	2	2	3	1	2	3	2	2	2	4	3	3	
	5	5	5	5	5	5	4	4	4	3	3	3	
	5	5	5	5	5	5	2	3	2	2	2	2	
	5	5	5	5	5	5	4	5	4	4	5	4	
	2	3	3	3	5	5	3	5	4	3	5	4	
	3	5	4	3	5	5	4	5	4	3	5	4	
	4	5	5	4	5	5	4	5	5	3	5	5	
	3	4	4	4	4	4	3	4	4	4	4	4	
	5	5	5	5	5	5	5	5	5	5	5	5	
	5	5	5	5	5	5	4	4	5	4	5	5	
	3		4	5		4	3		4	4		4	
	3	3	3	3	3	3	3	4	3	4	3	3	
	4	5	5	5	5	5	4	5	4	3	4	3	
	1	1	1	2	2	1	1	1	1	1	2	1	
													Average confidence
Mean	3.89	4.22	4.07	4.21	4.41	4.27	3.40	4.08	3.90	3.48	3.96	3.72	3.75
St.Dev	1.17	1.12	1.18	1.07	1.01	1.24	1.00	1.14	1.12	1.08	1.12	1.14	

						Unit 3							
	Objective 1: I am confident that I can use a microcontroller to find the response curve of a sensor, and I can understand what the curve means in terms of errors like nonlinearity and hysteresis.			Objective 2: I am confident that I can explain the difference between an analog value and a digital value, and I can convert between the two.			Objective 3: I am confident that I can use the image from a camera to automatically find the location of an object in the camera frame and in the base-frame of a manipulator.			Objective 4: I am confident that I can explain what a simple reflex agent is and what a utility-based agent is, and I can use the ideas to program a robot to solve a problem or perform a task.			
	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	Confident	Videos	Labs	
	3	5	4	5	5	4	5	5	5	5	5	4	
	3	5	4	5	5	5	4	5	5	4	5	5	
	3	4	4	5	5	5	4	3	5	5	5	4	
	4	4	5	4	4	5	5	3	5				
	4	4	4	5	5	5	4	5	5	3	5	5	
	3	4	4	5	5	5	3	4	4	4	4	4	
	4	5	2	4	5	4	5	5	5	3	3	3	
	4	4	5	4	4	5	3	3	4	4	4	5	
	4	4	4	5	5	5	3	4	4	3	4	4	
	4	5	5	5	5	4	4	5	5	3	5	5	
	3	4	4	5	4	4	3	4	4	4	4	4	
	3	3	3	5	4	4	3	3	3	4	4	4	
	5	5	5	5	5	5	4	4	4	4	4	3	
	4	3.5	4	5	3	3	4	4	4	4	4	4	
	3	2	4	4	4	3	4	3	5	5	4	4	
	3	4	3	4	4	4	4	4	4	3	4	4	
	4	4	4	4	4	4	4	4	4	4	4	4	
	5	3	5	5	4	5	3	4	4	4	4	4	
	2	5	5	3	5	5	3	5	5	2	5	5	
	3	4	3	4	5	5	5	5	5	3	4	5	
													Average confidence
Mean	3.55	4.08	4.05	4.55	4.50	4.45	3.85	4.10	4.45	3.74	4.26	4.21	3.92
St.Dev	0.76	0.80	0.83	0.60	0.61	0.69	0.75	0.79	0.60	0.81	0.56	0.63	
						Overall Least Confident							
						3.40							
						Overall Least Useful							
						3.72							