	TENTATIVE SCHEDULE FOR Planning and Decision-making in Robotics CLASS			
		Fall 2022		
Date	Day	Topic	HW out	HW due
29-Aug	Mon	Introduction; What is Planning?		
31-Aug	Wed	planning representations: explicit vs. implicit graphs, skeletonization, cell decomposition & lattice-based graphs		
5-Sep	Mon	LABOR DAY - NO CLASS		
7-Sep	Wed	search algorithms: A*, Multi-goal A*, Weighted A*, Backward A*	HW1	
12-Sep	Mon	search algorithms: Heuristic functions, Multi-Heuristic A*		
14-Sep	Wed	interleaving planning and execution: Anytime heuristic search, Incremental heuristic search		
19-Sep	Mon	interleaving planning and execution: Real-time heuristic Search		
21-Sep	Wed	case study: planning for autonomous driving		
26-Sep	Mon	planning representations: PRM for continuous spaces		HW1
28-Sep	Wed	planning representations/search algorithms: RRT, RRT-Connect, RRT*	HW2	
3-Oct	Mon	case study: planning for mobile manipulators and legged robots		
5-Oct	Wed	search algorithms: Markov Property, dependent vs. independent variables, Dominance		
10-Oct	Mon	case study: planning for coverage, mapping and surveillance tasks		
12-Oct	Wed	planning representations: state-space vs. symbolic representation for task planning		HW2
17-Oct	Mon	FALL BREAK - NO CLASS		
19-Oct	Wed	FALL BREAK - NO CLASS		
24-Oct	Mon	search algorithms: planning on symbolic representations	HW3	
26-Oct	Wed	planning under uncertainty: Minimax formulation, Minimax Backward A*		
31-Oct	Mon	planning under uncertainty: Markov Decision Processes, Value Iteration, RTDP		
2-Nov	Wed	final project proposal presentations		
7-Nov	Mon	planning under uncertainty: Markov Decision Processes, Value Iteration, RTDP (cont'd)		HW3
9-Nov	Wed	planning under uncertainty: Partially-Observable Markov Decision Processes		
14-Nov	Mon	planning under uncertainty: Partially-Observable Markov Decision Processes (cont'd)		
16-Nov	Wed	exam		
21-Nov	Mon	TBD		
23-Nov	Wed	THANKSGIVING - NO CLASS		
28-Nov	Mon	multi-robot planning		
30-Nov	Wed	multi-robot planning (cont'd)		
5-Dec	Mon	learning in planning		
7-Dec	Wed	final project presentations		