



The Hashemite University
Faculty of Engineering, Mechatronics Engineering
Robotics Course Syllabus

Course Title:	Robotics	Course Number:	110405442
Department:	Mechatronics Engineering	Designation:	Compulsory
Prerequisite(s):	110405331 and 110406260		
Instructors:	Dr. Mohammed Abu mallouh	Instructor's Office:	3129
Instructor's email:	mmallouh@hu.edu.jo		
Office Hours:	Sunday @ 2:30-3:30 pm Also other time can be arranged		
Time:	3:30-4:45 Every day except Thursday	Class Room:	Online MS teams
Course description:	The purpose of this course is to introduce the student to the basics of modeling, design, planning and control of robotic systems.		
Textbook(s):	John Craig, Introduction to Robotics: Mechanics and Control , Addison Wesley Publishing Company, Inc., 3ed edition.		
Other required material:	<ol style="list-style-type: none"> 1. L. Sciavicco and B. Siciliano, Modeling and Control of Robot Manipulators, Springer, 2000. 2. Mark W. Spong, Seth Hutchinson and M. Vidyasagar, Robot Modeling and Control, John Wiley & Sons, Inc., 2006. 3. Paul, R., P., Robot Manipulator, MIT Press. 1981. 4. Wolfram Stadler, Analytical Robotics and Mechatronics, McGraw-Hill Companies, 1995. 5. H. Asada and E. Slotine, Robot Analysis and Control, Wiley-Interscience, 1986. 		
Topics covered:	<ol style="list-style-type: none"> 1. Introduction 2. Spatial descriptions and transformations 3. Manipulator kinematics 4. Inverse manipulator kinematics 5. Jacobians: Velocities and static forces 6. Manipulator dynamics 		
Grading Plan:	Midterm exam	40 Points	15-8-2021, Sunday @ 3:30-4:45
	Others (HW, Quizzes)	20 Points	TBD
	Final Exam:	40 Points	Will be announced by the registrar

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# hours
1. Ch1 Introduction		3
2. Ch2 Spatial descriptions and transformations		9
3. Ch3 Manipulator kinematics		9
4. Ch4 Inverse manipulator kinematics		9
5. Ch5 Jacobians: Velocities and static forces		9
6. Ch6 Manipulator dynamics		9
Total		48

Course Policy

Attendance is mandatory and absence is allowed up to 15% lectures

Prepared by:	Dr. Mohammed Abu mallouh	Date:	2/7/2021
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