

**WELCOME**

**REMIND ME TO RECORD SESSIONS**

**If there is a network drop out, I will return!**

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## **1\_ HW6\_AboutProject\_NASA\_robots**

**Brief description from you about proposed project. Write up and submit with as HW6**

## **2. ROS World 2021 Kimberly NASA Talk**



2\_ROS WORLD  
2021\_Kimberly\_NASA

**Lecture Ch6 in Textbook Meet Baxter A Few Highlights:**

**Pg 239 Baxter's Features – vision, Sonar ring, grippers and ROS**

**Pg 243- 247 Typical 7 DOF arm and coordinates**

**Pg 247-248 Arm control modes**

**Pg 270-271 Python program and API use (Select angles – forward kinematics)**

**Pg 273-283 Getting angles – echo /robot/joint\_states. Use of tf**

**Pg 284-291 MoveIt**

**Pg 294- 298 Real Baxter and joint control with reconfigure of Series Elastic Actuators**

**Pg 298-302 IK**

**Pg 303 YMCA and SMACK**

### **3. Demos for Baxter Chapter 6**

**3\_1 Baxter Sim Pages 252-283**

**3\_2 MoveIt Pages 284-292**

**3\_3 Real Baxter and IK Pages 292-302**

**3\_4\_PY\_YMCAStateMach\_for\_Sim\_py.pdf**

### **4. Baxter – Precise Control of end gripper – Research Paper**

**Robot Manipulator Inverse Kinematics With Particle Swarm Optimization.pdf**

### **5. Baxter Videos**

**BaxterVideos\_CENG 5435\_ Nov\_2\_2021.doc**

#### **1. Let's talk about a Quiz.**

**On the website, there are a number of Lab exercises for D158B.**

**LAB1, LAB2, LAB3**

[Ubuntu Tutorial Exercises](#)

[UbuntuLogin Turtlesim Exercises](#) [HW5 MoreTurtlesim](#)

**Lab2: [TurtleBot Exercises](#) [ControlTurtleBot.py](#) [MoveTBtoGoalPoints.py](#)**

## Lab3: TurtlebotNavigation Gazebo

**NOW TO the BIG SHOW on October 26, 2021**

**5. MAPPING AND NAVIGATION WITH TURTLEBOT3 AND FOXY**

**5\_Mapping\_A\_Room\_AND\_Navigating\_waffle\_pi (003).txt**

**INTRODUCING OUR STAR MIGUEL**



## Previous

Chapter 4 Pg 145-150 The Sensors – cameras and depth

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## IV. On Website: TurtleBot 2 Additional Data!

Chapter 4 [TurtleBot-2-CheatSheet-Mapping](#)

[TurtleBot Mapping References](#)

[ROS NAVSTACK References](#)

[Laser Scan Lidar](#)

[Chapter3 Ch4 ConstructReferences](#)

Lab3: [TurtlebotNavigation Gazebo](#)

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