

W13: [B] CIM 3.1.2B RoboCell [ER-4u] Teach Position**Introduction**

In the previous activity you learned how to record a **robot** position. Sometimes it is necessary to fine tune a position for increased accuracy. This can be easily accomplished through the use of another programming method called *teach positions*.

In this activity you will learn the different teaching positions involved in the operation of a robot. You will modify existing positions to increase accuracy.

Equipment

Computer with intelitek® RoboCell software

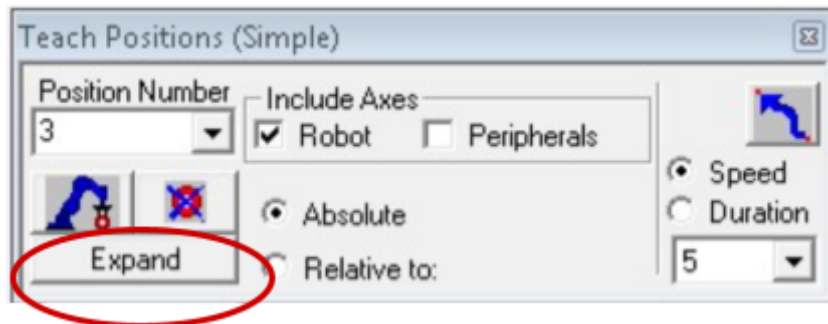
- **YouTube Video Resource:**
- https://www.youtube.com/watch?v=p3_Wc-bvWEs&list=PLJuwb3xnlvclFigEg127kl_ObaNgBkWjG&ab_channel=Chris%26JimCIM

Procedure

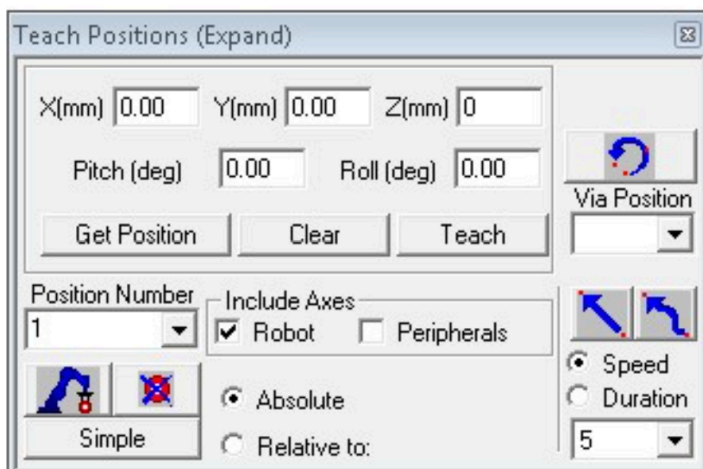
1. Open the program you created in the previous activity.
2. Click **Save Project As** and save the project as "LastName_312B".
3. Use the coordinates in the chart below to modify the previously created robot positions.

Positions	1	11	2	12
X	400	400	300	300
Y	0	0	0	0
Z	17.5	100	17.5	100
Pitch	-90	-90	-90	-90
Roll	0	0	0	0

A. Open the Teach Positions dialog box in its (Simple) form.



B. Click the **Expand** button to enter position coordinate information as shown below.



C. Enter a robot position:

- i. Select the desired position in the Position Number box.
- ii. Click **Get Position**.
- iii. Enter the desired numbers in the following boxes: X(mm), Y(mm), Z(mm), Pitch (deg), Roll (deg)
- b. After entering the correct coordinates, click **Teach**. Execute the program to confirm accuracy. Make corrections as needed.

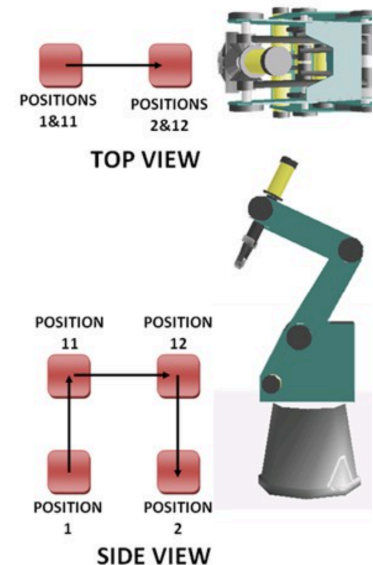


Figure 2. Robot Position Multiviews

4. Modify the table with new coordinates and show that you are able to teach the new position to the robot. The **new positions should be bold and in red ink**. Update the table below. Must include Y position changes.

Record the new positions on this table.

Positions	1	11	2	12
X	400	400	300	300
Y	0	0	0	0
Z	17.5	100	17.5	100
Pitch	-90	-90	-90	-90
Roll	0	0	0	0

5. Submit your program file.

Insert Code to program RoboCell. Make sure to Remark the following
 Remark: Last Name, First Name
 Remark: 3.1.2B Teach Position
 Remark: Date

Remark: Jeide, Matthew
 Remark: 3.1.2B Teach Position
 Remark: 11/07/2025
 Go Linear to Position 99 Fast
 Open Gripper
 Go Linear to Position 1 Fast
 Close Gripper
 Go Linear to Position 11 Fast
 Go Linear to Position 12 Fast
 Go Linear to Position 2 Fast
 Open Gripper
 Go Linear to Position 99 Fast

#	Coor.	Axis 1	Axis 2	Axis 3	Axis 4	Axis 5	Axis 7	Axis 8	Type
		X (mm)	Y (mm)	Z (mm)	Pitch (deg)	Roll (deg)	mm/deg	mm/deg	
1	Joint	0.00	10.88	30.05	49.07	0.00			Abs. (XYZ)
	XYZ	400.00	0.00	17.50	-90.00	0.00			
2	Joint	0.00	-6.47	79.53	16.94	0.00			Abs. (XYZ)
	XYZ	300.00	0.00	17.50	-90.00	0.00			
11	Joint	0.00	-10.68	51.66	49.01	0.00			Abs. (XYZ)
	XYZ	400.00	0.00	100.00	-90.00	0.00			
12	Joint	0.00	-26.71	93.64	23.06	0.00			Abs. (XYZ)
	XYZ	300.00	0.00	100.00	-90.00	0.00			
99	Joint	0.00	-120.28	95.02	88.81	0.00			Abs. (Joint)
	XYZ	169.03	0.00	504.33	-63.55	0.00			

6. E-Portfolio video with updated code.

E-Portfolio Published link with video file. Use the Snipping Tool to record. Then upload the file to your Google Drive to upload on your Portfolio.

<https://m-jeide.github.io/eng-portfolio/CIM/Robocell>

Conclusion

Answer in complete sentences each of the questions below.

1. Describe situations where either the teach or record robot positions method is preferred.

Situations where teach is preferable is when precision is not as needed as timely coding, while record is significantly more precise at the cost of coding time.