



TAYLOR'S UNIVERSITY

Wisdom • Integrity • Excellence

EEE60204

ROBOTICS, DYNAMICS AND CONTROL

Group Assignment (30 %)

DATE: 25 February 2025

MODULE COORDINATOR: Dr Steven Eu Kok Seng

NAME	ID	SIGNATURE

**Instructions:**

1. Your submitted copy (Microsoft Word document) should include this cover page and all your answer sheets with detailed calculations.
2. Your report should not be more than 20 pages with font style of Times New Roman, font size of 12, and 1.5-spacing.
3. The assignment submission deadline is **19 March 2025, 5 PM.**
4. Marks of 5% per day will be deducted from the total mark obtained for late submissions
5. This assignment contributes 30% to the final

Return of student marked assessment tasks. Please check (√) the necessary column.

√	Electronically to the individual student via the University learning management system
	Collect during class, only by the student
	Collection from the school or a staff member upon presentation of their student ID card
	Collection from module coordinator, lecturer or tutor by prior arrangement

\* For online assessment such as forum, quiz, test, survey and etc., return of students marked assessment tasks are published in TIMES.

**Deliverables:**

- 1) Group Report
- 2) **Video presentation** (screen recording of the robot simulation and its movement)
- 3) Contributions table

Name	Student ID	Work done	Contribution percentage	Signature

**Report Outline:****Section A: Introduction**

1. Outline the objectives of utilizing ROS 2 MoveIt 2.
2. Discuss the advantages and disadvantages of ROS 2 MoveIt 2.

**Section B: Task Planning**

1. Define the work envelope, specifying the range of X and Y coordinates.
2. Determine the initial placement of objects.
3. Establish the pattern for output placements.

**Section C: Coding**

- Explain the logical flow of the code.
- Implement object addition.
- Perform grasping operations.
- Execute object placement.

**Section D: Analysis of Robotic Arm Path Planning**

1. Examine all possible movement paths.
2. Justify the selection of the optimal path.

**Section E: Obstacle Avoidance (Optional)**

- Assess path planning strategies when obstacles are introduced.

**Section F: Conclusion**

- Summarize the work and propose future improvements.