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) Contributions table
3) **Video presentation** (screen recording of the robot simulation and its movement)
4) Source code in a zip file

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.