

# RBE 501 Week 1 Assignment

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**Abstract**—This document provides an in-depth solution for Problem 2–38 described in *Robot Modeling and Control* (2<sup>nd</sup> edition) [1]. This is the assignment for the first week in RBE 501 (Robot Dynamics), Spring 2023 at Worcester Polytechnic Institute.

**Index Terms**—robotics, homogeneous transformation, frames

## I. INTRODUCTION

This document is a model and instructions for L<sup>A</sup>T<sub>E</sub>X. Please observe the conference page limits.

## II. MATERIALS AND METHODS

### A. *Maintaining the Integrity of the Specifications*

The IEEEtran class file is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

## REFERENCES

- [1] M. W. Spong, S. Hutchinson, and M. Vidyasagar, “Robot modeling and control,” 2006.