Errata: Robot Modeling and Control
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This list of errata has been compiled by the MEAM 520 teaching team, expanding on the list available from Seth Hutchinson. Please send any additional errors to Philip Dames.

Chapter 1

Page 29 In the caption for Figure 1.25, change Problem 1-15 to Problem 1-13.

Chapter 2

Page 43 The vectors $x_1, x_2, x_3$ should be $x_0^1, x_0^2, x_0^3$, respectively.

Page 49 In the paragraph immediately before Example 2.5, change “We first rotate the frame $o_2 x_2 y_2 z_2$” to “We first rotate the frame $o_1 x_1 y_1 z_1$.”

Page 50 In Equation (2.18) the (1,2) element of the matrix $R_{z, \theta}$ should be $-s_{\theta}$.

Page 62 In Equation (2.67) the (3,2) element of the matrix $H_1^0$ should be $s_z$.

Chapter 3

Page 82 In the fourth line from the top, “If $z_{i-1}$ and $z_i$ are not coplanar . . .” the first subscript should be “If $z_{i-1}$ . . .”

Page 82 In section (iii), “The most natural choice . . .” should be “The only choice . . .” Delete the sentence “However, any convenient point along the axis $z_i$ suffices.”

Page 86 In the first line, “. . . could just as well be placed at joint 2” should read “. . . could just as well be placed at joint 1.”

Page 87 In Figure 3.8, joint 5 is shown at $\theta_5 = -90^\circ$. The end part of the wrist should be straight up to match the given DH parameters. The wrist is drawn correctly later in the chapter.

Page 87 The (3,2) element of $A_5$ should be $+1$.

Page 91 In the expressions for $r_{11}$, the term $-d_2$ should be $-s_1$. 
Page 92  In Figure 3.11, Frame $x_0y_0z_0$ should be drawn at the shoulder joint of the robot arm, moved up along $z_0$ to match the given DH parameters in Table 3.5. Alternatively, you can add $d_1$ as a constant parameter in the first step of the DH transformations and adjust the matrices $A_1, T_1^0$.

Page 99  In Figure 3.14, $\theta_1$ should be $\theta_1$.

Page 109 In Equation (3.70), $T_4^1$ should be $T_4^0$.

Page 109 In Equation (3.75), $\sqrt{1-c_2}$ should be $\sqrt{1-c_2^2}$.

Chapter 4

Page 130  In Equation (4.46), the summation $\sum_{i=1}^n$ should be $\sum_{i=1}^n$.

Page 135  In the second sentence, the reference to Equation (4.62) should be Equation (4.63).

Page 140  In the sentence before Equation (4.85), $R = R_{z,\psi}R_{y,\theta}R_{z,\phi}$ should be $R = R_{z,\phi}R_{y,\theta}R_{z,\psi}$.

Page 143  In the second line after Equation (4.90), “that the all possible” should be “that all possible”.

Page 144  In the middle of the first paragraph, $\theta_4$ should be $\theta_5$.

Page 144  In Equation (4.99) the sign of the determinant should be switched.

Page 153  In Equation (4.121), $\xi^T(JJ^T)^{-1}\xi^T$ should be $\xi^T(JJ^T)^{-1}\xi$.

Page 154  After Equation (4.124), $\lambda_1 \geq \lambda_2 \ldots \leq \lambda_m$ should be $\lambda_1 \geq \lambda_2 \ldots \geq \lambda_m$.

Page 158  In problem 4-7, $\phi = \frac{\pi}{4}$ should be $\phi = \frac{\pi}{2}$.

Page 159  In problem 4-10, the word “acts” should be “facts”.

Page 159  In problem 4-13, $R = R_{z,\psi}R_{y,\theta}R_{z,\phi}$ should be $R = R_{z,\phi}R_{y,\theta}R_{z,\psi}$.

Chapter 5

Page 170  In Equation (5.2), $\zeta$ should be $\zeta_i$.

Page 175  After Equation (5.8), “includes” should be “includes”.

Page 177  In the first equation, the term $(a_x \sin \theta a_y \cos \theta)$ should be $(a_x \sin \theta + a_y \cos \theta)$.

Page 178  In Example 5.7, the word “repuslive” should be “repulsive”.

Page 187  In the next-to-last paragraph, “near by” should be “nearby”.

Page 197  In Equation (5.28), $q(t_0)$ should be $q(t)$.

Appendix A
In the Law of Cosines, change $c b^2$ to $b^2$ to give $c^2 = a^2 + b^2 - 2ab \cos \theta$. 