

EE3109 2018/19 Semester B Errata

1. L02b Post-Lecture Notes, Slide 12: $\frac{\partial \mathbf{D}}{\partial t}$ should be changed to $\frac{\partial \mathbf{E}}{\partial t}$.
2. Ditto for L03a Post-Lecture Notes, Slide 8.
3. L04 Post-Lecture Notes, Slide 17: All appearances of $\frac{1}{j\omega\mu}$ should be changed to $-\frac{1}{j\omega\mu}$.
4. L07 Post-Lecture Notes, Slide 14: There was a numerical error in the calculation of k_1 , which affected k_2 as well. This has since been corrected.
5. L07 Post-Lecture Notes, Slide 20: In the first paragraph, the plane of incidence is the x-z plane not the x-y plane.
6. L07 Post-Lecture Notes, Slides 20, 21, 27. In the figure showing oblique incidence, reflection and transmission of a TM-polarized wave, the reflected $\mathbf{H}$ should point into, not out of, the page.
7. T01 S, Q2: $\frac{\partial A_z}{\partial z} = -3x^3yz^2$, $\nabla \cdot \mathbf{A} = 3xy^2z^2 - 3x^3yz^2$. (After substitution, the final answer in the solution is correct.
8. T01 S, Q5: Final answer should read: $E = 0.6e^{-j56^\circ} e^{j(-3x+4y)}$.
9. T01 S, Q6: After the word "Hence, ..." the three appearances of $e^{-j\theta}$ should be replaced with $e^{j\theta}$. Due to this change, the last line should read $\theta = -1.27$ rad.
10. T02 S, Q7b: The equation for $\tilde{\mathbf{J}}_d$ should read: $\tilde{\mathbf{J}}_d = j\omega\tilde{\mathbf{D}} = (-\hat{\mathbf{x}}j12 \sin 2z - \hat{\mathbf{z}}0.6\cos 2z)e^{-j0.1x}$. Thereafter, in the final solution for the time domain function $\mathbf{J}_d$, there should not be a negative sign in front of $\hat{\mathbf{x}}$.
11. T09 Q, Q4: The characteristic impedance should be 50 Ω , not 50 W.
12. T10 S, Q5b: The numerical value of S was corrected.
13. T10 S, Q6: The solution was for a different question. This is now replaced with the correct solution.
14. T10S Q7c: In the final calculation an incorrect value was substituted for P_R . It is now corrected.
15. A01 S, Q2. The solution was amended and clarified. The answer remains unchanged.
16. A03 S, Q2: A typo was corrected. The Taylor series is $\sqrt{1+x} \cong 1 + \frac{x}{2}$ for $x \ll 1$.

17. A03 S, Q3: The expression for Z_0 is corrected to $Z_0 = \frac{\eta_0}{2\pi} \ln\left(\frac{a}{b}\right)$. The ratio of a/b changes correspondingly.
18. Test 1 Solution: A change (highlighted in blue) has been made in the answer for Q3e.
19. Test 2 Solution: The solution in Q2(c) is modified. In the previous edition it was shown that $Z_0 = 50 \Omega$. Now Z_0 is left as a variable.