An Advanced Course in Probability and Stochastic Processes
Errata (Last Update April 30, 2024)

1. P. 40, L. 5: Replace "it" with "is".

2. P. 52, Proof of Theorem 2.38: $x = g^{-1}(z)$ instead of $z = g^{-1}(x)$.

3. P. 67, Theorem 2.66: replace "measurable set" with "measurable space" and $\sigma\{X_t \in \mathbb{T}\}$ with $\sigma\{X_t, t \in \mathbb{T}\}$.

4. P. 74: Last displayed equation in the proof of Theorem 2.83: The middle three expectation symbols $\mathbb{E}$ can be omitted, as the corresponding variables are deterministic.

5. P. 86, Q.6: Remove the displayed equation for $D_{n,i}$. The sentence should simply read "Let $D_{n,i}$ be the ith open interval ...".

6. P.89, Q.6(c): were C_0 is the union of $\{1\}$ and the set of left-endpoints of the $\{D_{n,i}\}$.

7. P. 127, L. -3: $g(1) = 1$ should be $g(0) = 1$.

8. P. 143, L. 6: Replace "Section 6.1" with "Section IX.1".

9. P. 144, L. 3 of Section 4.5.1: Let μ <u>be</u> a probability ....

10. P. 157, L. 3 of Section 5.2: in <u>a</u> betting game

11. P. 166, Example 5.27: Replace $F_j(X_k - X_{k-1})$ with $F_j F_k(X_j - X_{j-1})(X_k - X_{k-1})$ in the second displayed equation. Then, replace the next equation with:

$$\mathbb{E}[F_j F_k(X_j - X_{j-1})(X_k - X_{k-1})] = \mathbb{E}\,\mathbb{E}_{k-1} F_j F_k(X_j - X_{j-1})(X_k - X_{k-1})$$
$$= F_j F_k(X_j - X_{j-1})\,\mathbb{E}_{k-1}(X_k - X_{k-1}) = 0,$$

12. P. 204, third line after "In other words": $\sqrt{t_1}Z_2$ should be $\sqrt{t_1}Z_1$.

13. P. 220, L. 5: "W_{T_x} exists" should be "S_{T_x} exists".

14. P. 308, Q.19: Replace the equation for $D_{n,i}$ with: ... open intervals $D_{n,i}, i = 1, \ldots, 2^n$. Each of these 2^n intervals is of the form $(3k - 2, 3k - 1)/3^{n+1}$ for some $k \in \{1, \ldots, 3^n\}$.

15. P. 309, Q.6(c): Remove "to $(3i - 1)/3^{n+1}$, i.e.,"

16. P. 327, L. -1: Replace δ_k with δ_{x_k}.

17. P. 329, L. 2: continuous function<u>s</u>