CORRECTIONS OF KNOWN ERRATA AS OF NOVEMBER 20, 2000

Page 22: The space Ψ should be defined as the collection of *nonempty* compact subsets of $\mathcal{X}$.

Page 32, Problem 15: Change to read "Show that if Y is of degenerate type and $Y \neq 0$ a.s., then ...".

Page 32, Problem 17: Delete words at beginning of second sentence, so it reads "Prove that if $a > 0$ ..."

Page 34, Problem 23: The second sentence should begin "The distribution function ...".

Page 35, Problem 31: $\lfloor X \rfloor$ should be $\lfloor nX \rfloor$.

Page 36, Example 1: Insert $d\theta$ into the last iterated integral.

Page 43, Lemma 4: Replace $E(Y) \leq E(Z)$ by $E(X) \leq E(Y)$.

Page 58, Problem 33: Delete the words "Use Proposition 19 to".

Page 55: Delete comma after θ_n in first line.

Page 61, Problem 5: The last sentence should include the assumption that $0 < \sigma < \infty$.

Page 63, Problem 11: Assume that $\infty > \sigma > 0$.

Page 67, Problem 22: The covariance matrix should be denoted by $\mathbf{\Sigma}$.

Page 67, proof of Theorem 11: In the last two lines, switch $\mathbf{\Sigma}$ and $\mathbf{\Upsilon}$.

Page 72, middle display: Replace x^n by x^k in the formula that implicitly defines $s(n, k)$.

Page 72, Problem 30: The reference '5.1' refers to Table 5.1.

Page 78, (6.2): The summand should be $P(A_m)$.

Page 80, last line: Replace C_n by C_m.

Page 82, proof of Corollary 9: Replace $a_{m,n}$ by $a_{j,n}$.

Page 103, first display in proof: Replace $\sup_{1 \leq j \leq n} f_j$ by $\sup_{1 \leq k \leq n} f_k$ in both places.

Page 105, middle of page: The fact that ν is σ-finite does not follow from Problem 19 of Chapter 6, but instead from the easily proved fact that any countable sum of mutually singular σ-finite measures is σ-finite.

Page 108, Problem 10: Eliminate the second sentence.

Page 109, line 4: When c is chosen, it should satisfy $P(\{\omega\colon |X(\omega)| = c\}) = 0$, so that the application of the Bounded Convergence Theorem a few lines later is valid. It is possible to choose c in this matter because a distribution function on $\mathbb{R}$ can have at most countably many discontinuities.

Page 110, line 8 of Section 8.3: Chapter 5 instead of Chapter 4.

Page 127, Problem 17: To make the first half of the problem correct, either the $\overline{\mathbb{R}}$ needs to be changed to an $\mathbb{R}$, or the $\mathbb{R}$ needs to be changed to an $\overline{\mathbb{R}}$.

Page 130, second display of proof: Replace x_k by a_k.

Page 130, 4 lines above Theorem 10: Replace A_i by $A_{i,n}$.

Page 135, Proposition 14: Replace dx_2 by dx_1 in second integral.

Page 136, second line: Replace Z by X.

Page 148, Definition 1: Replace $(\mathbb{R}, \mathcal{B})$ by the phrase "$(\mathbb{R}^d, \mathcal{B})$, respectively $(\mathbb{R}^+, \mathcal{B})$".

Page 150, four lines from bottom: Replace $dQ_2/d\lambda$ by $dQ_2/d\lambda^d$.

Page 153, Problem 18: Replace the second Z_1 by Z_2.

Page 159, Problem 35: Insert the word "least" after the first "at".

Page 165, last line: Replace $Y = (X_k, X_{k+1}, \dots)$, by $Y = (X_{k+1}, X_{k+2}, \dots)$.

Page 169, third paragraph of Example 3: Replace $k \in \mathbb{Z}^+$ by $k \in \{1, 2, 3, \dots\}$. Then to handle the case $k = 0$, note that N is a.s. finite (by the Law of Large Numbers), and subtract the probabilities obtained for $k > 0$ from 1.

Page 173, Problem 20: To make the problem nontrivial, the stopping times N_1 and N_2 should be required to be finite a.s.

Page 175, Corollary 11: Insert "0," after the left parenthesis in the display.

Page 195, Problem 20: Replace P_p by Q_p.

Page 195, first display: Replace X_k by Y_k.

Page 196, line 4: Replace "occurrence of E" by "occurrence of A".

Page 196, Corollary 18: "Any $\overline{\mathbb{R}}$-valued random variable ..." (Note that the result generalizes to Borel-space-valued random variables. See Chapter 21.)

Page 197, Problem 26: Replace the first "the Kolmogorov 0-1 Law" by "Corollary 18".

Page 197, third display: Replace $[S_n > ca_n]$ by $\{\omega\colon S_n(\omega) > ca_n\}$. Similar changes are needed in Problem 30 on Page 198. The $[\cdots]$ notation is not introduced until Part 3.

Page 361, Theorem 21: In the second line, change $\mathbb{R}$ to $\mathbb{R}^d$.

Page 377, Problem 6: For trivial reasons, the result is false for $c = 1$.

Page 386, (19.17): Replace $T_b(x) \le x$ by $T_b(x) \le t$.

Page 395, 3 lines before display: Replace 0 by $\mathbf{0}$.

Page 402, 1 line before Problem 15: Replace n by m.

Page 405, proof of Proposition 2: Replace $E(XI_B)$ by $E(ZI_B)$.

Page 409, 5 lines from bottom: Replace $E(A_n \mid \mathcal{G})$ by $P(A_n \mid \mathcal{G})$.

Page 433, near bottom: Replace R by R_0.

Page 444, sentence before Proposition 2: Add the words "and the Conditional Fubini Theorem (see Problem 4)" to the end of the sentence.

Page 445, Problem 7: Assume that the event $[(X_1, X_2) = (Y, -Y)]$ is independent of Y.

Page 414, third line above Proposition 12: The line should read "a conditional probability of $X^{-1}(h^{-1}(C))$ given $\mathcal{G}$, so"

Page 425, three lines from bottom: Replace $E \in \mathcal{H}$ by $E \in \mathcal{K}$.

Page 448, 9 lines from the bottom: The first appearance of φ should be φ_n.

Page 450, (23.5): Replace I by J.

Page 460, (24.4): For the equivalence of (24.4) and the previous displayed in-

equality, one needs to assume that $E(|X_n|) < \infty$ for all n.

Page 464, third sentence of Example 3: Delete "Proposition 4 of Chapter 21, and in the display, replace the subscript j by k.

Page 468, right side of (24.6): Insert $B_m \cap$ after semicolon in second term.

Page 476, line preceding Remark 1: Replace "equality" by "inequality".

Page 476, first display in proof of Theorem 15: Replace σ^2 by $\mathrm{Var}(S_1)$.

Page 482, Problem 44: Assume that f has finite integral with respect to λ.

Page 501, line 7: The term $P[X_0 = x_0, \ldots, X_k = x_k]$ belongs inside the sum.

Page 501, lines 8 and 9: Replace "For such k we have by Problem 27 that" by "Hence, Problem 27 implies that for $0 \leq k < n$,"

Page 558, Example 5: The sequence defined here is not Gaussian. In order to make it Gaussian, assume that each Z_i has the distribution of a random variable of the form $\sqrt{X_1^2 + X_2^2}$, where X_1, X_2 are independent random variables, each having the standard normal distribution. This distribution is sometimes called a "Rayleigh distribution".

Page 559, (28.9): Replace left side by $\lim_n [M_n - (0 \vee M_n)] I_A$.

Page 573, Problem 35: Delete "Z is standard normal,". (This error is related to the error on page 558.)

Page 588, Lemma 11: An additional assumption is needed that μ assigns measure 0 to each one-point set.

Page 625, Proposition 8: Append "with transition semigroup (T_t)" to the end of condition (i).

Page 635, 5 lines after (31.10): A factor of c is missing in the numerator.

Page 637, first sentence of last paragraph: T_∞ should be U_∞.

Page 654, Problem 13: This problem should only be done for the contact process in Example 2. The statement is not true for the contact process with threshhold birth rates, and a stronger statement is to be proved in Problem 12 for the contact process with sexual reproduction.

Page 660, first sentence following displayed formula: Insert "and $d_x > 0$" between "$r = 1$" and the comma.

Page 665, last display in proof: The limit should be taken as both ε and η decrease to 0.

Page 667, Theorem 4: In the integral, dt should be du.

Page 668, Example 1: In the first line of the display, the index for the limit should be n rather than k.

Page 672, (33.18): The qualification a.s. should be attached to the formula.

Page 674: The parenthetical remark at end of second paragraph should read "(with the Markov and Cauchy-Schwarz Inequalities being used in place of the Kolomogorov Inequality)". The idea is to first use the Markov Inequality with $f(x) = x^2$ to bound the probability by a term involving the second moment of the Riemann integral, and then to use the Cauchy-Schwarz Inequality to bring the square inside of the Riemann integral.

Page 697: Replace "subset" by "superset" in the definition of closure.

Page 702: Eliminate the erroneous Theorem 10 and Problem 21.

Page 723, Concerning Chapter 1: Martin Gardner is spelled incorrectly.

Page 731, Concerning Chapter 24: For the proof of Theorem 26 of Chapter 24, credit should be given to Dubins and Savage in *Inequalities for Stochastic Processes (How to Gamble if You Must)*.