

**ERRATA FOR THE THIRD PRINTING**  
**as of March 28, 2009**

1. Page 3, lines 3 and 4: the real number  $t$  is nonzero and  $t \geq 0$  should be replaced by  $t > 0$ .
2. Page 41, Exercise 3:  $M_{2 \times 3}(F)$  should be  $M_{3 \times 2}(F)$ .
3. Page 45, line 7:  $(2, 3, -5)$  should be  $(2, -3, 5)$ .
4. Page 60, line 6 (line after the second display):  $P_2(R)$  should be  $P_3(R)$ .
5. Page 127, Exercise 18:  $\mathcal{L}(S, F)$  should be  $\mathcal{F}(S, F)$ .
6. Page 152, line 3: “matrix” should be replaced by “row operation” at the beginning of the line.
7. Page 170, line 10 (fourth display): upper case  $B$  should be lower case  $b$ .
8. Page 184, line 9: “zeros above” should be “zeros below” (in second line of item 5).
9. Page 210, line  $-5$ : Insert “det” before the last matrix.
10. Page 217, bottom matrix: The  $(1, 2)$ -entry of  $M$  should be 3 rather than 4.
11. Page 218, line 4:  $(4)$ , near the end of the line should be  $(3)$ .
12. Page 218, line 16 (middle display): The  $(1, 2)$ -entry of  $P$  should be 3 rather than 4.
13. Page 225, Example 1: Change the first variable in the third equation to  $x_1$ .
14. Page 255, Figure 5.2: Replace every occurrence of  $x$  and  $y$  by  $v$ .
15. Page 255 lines  $-3, -2$ : After “conclusion,” insert “let  $\beta$  be the standard ordered basis for  $\mathbb{R}^2$ , ” and replace “we” with “and.”
16. Page 255 line  $-1$ : Replace  $\det(T_\theta - tI)$  by  $\det([T_\theta]_\beta - tI_2)$ .
17. Page 285, line 15: Replace  $\lambda^n$  by  $\lambda^m$ .
18. Page 296, line 8 (first display): The inequality  $<$  should be  $\leq$ .
19. Page 297, line  $-3$ : Replace “Corollary 2” by “Corollary 1.”
20. Page 300, line  $-17$ : Exercise 20 should be Exercise 21.
21. Page 312, line 12: Replace “see Exercise 22” by “This limit exists by Exercise 22 of Section 7.2.”
22. Page 312, Exercise 22: Change “Exercise 21 of Section 7.2” to “Exercise 22 of Section 7.2.”

23. Page 315, line 5: change “ $(a, b, 0, 0) \in \mathbb{R}^4$ ” to “ $(a, b, 0, 0) \in W$ .”
24. Page 323, Exercise 14: Change “less than or equal to” to “less than.”
25. Page 335, line  $-1$ : Insert “  $i$  ” after  $2\pi$  in the denominator.
26. Page 343, line  $-7$ : Change “ $W_1$ ” to “ $w_1$ .”
27. Page 361, line  $-1$ :  $n$  should be replaced by  $k$ , in two locations.
28. Page 367, line 1: “vector space” should be “inner product space.”
29. Page 396, Exercise 29(c): Replace this exercise by “Compute  $Q$  and  $R$  as in (b) for the  $3 \times 3$  matrix whose columns are the vectors  $(1, 1, 0)$ ,  $(2, 0, 1)$ , and  $(2, 2, 1)$ .”
30. Page 407, line 13 (the end of the final display in the proof of Theorem 6.26):  $\sigma_i^2 u_i$  should be  $\sigma_i^2 v_i$ .
31. Page 428, third line: Theorem 6.32 should be Theorem 6.33.
32. Page 448, Exercise 6, first line:  $\mathbb{R}^2$  should be  $\mathbb{R}^2 \times \mathbb{R}^2$ .
33. Page 487, lines 3 and 5: The symbol  $K'_{\lambda_i}$  has not been defined. It is intended to denote the generalized eigenspace of  $T_W$  corresponding to  $\lambda_i$ . Since it is easily shown that this is actually equal to  $K_{\lambda_i}$ , the symbol  $K'_{\lambda_i}$  will be omitted in future printings where it will be observed that  $K_{\lambda_i}$  is the generalized eigenspace of  $T_W$  corresponding to  $\lambda_i$ .
34. Page 491, line  $-15$  (end of the proof of Corollary 1): Change “Theorem 7.4(b)” to “Theorem 7.5(b).”
35. Page 513, Exercise 18: Assume that  $F = C$ .
36. Page 514, Exercise 19: Assume that  $F = C$ .
37. Page 581, answer to Exercise 2(k) of Section 6.2: The third component of the last vector in the set should be  $-18 + 16i$ , and not  $-18 + 6i$ .
38. Page 582, answer to Exercise 2(e) of Section 6.4: the corresponding eigenvalues should be  $1, 1, -1, 1$ .
39. Page 583, the answer to Exercise 29(c) of Section 6.5:
  - a. Replace  $P$  by  $Q$ .
  - b. The  $(1, 3)$ -entry of  $Q$  should be  $-\frac{\sqrt{6}}{6}$ .
40. Page 585, the answer to Exercise 1(b) of Section 6.10 should be F (false).