ERRATA

Here is the errata sheet as of 9/13/06:

Chapter 1:

(1) p. 8, Exercise 9: Replace with "Suppose that in the input-output model of Example 1.4 each producer charges a unit price for their commodity, say p_1, p_2, p_3, and that the EMS columns of the table represent the fraction of each producer commodity needed by the consumer to produce one unit of its own commodity. Derive equations for prices that achieve equilibrium, that is, equations that say that the price received for a unit item equals the costs of producing it."

(2) p. 9, Exercise 10: Replace with: "Suppose that in the input-output model of Example 1.5 each producer charges a unit price for their commodity, say p_1, p_2, p_3, p_4 and that the columns of the table represent fraction of each producer commodity needed by the consumer to produce one unit of its own commodity. Derive equilibrium equations for these prices."

(3) p. 9, Problem 13: Variables should be "$x_1, x_2, x_3, x_4, x_5, x_6, x_7$."

(4) p. 20, Exercise 9(e): The answer in the back of the book should be $e^{\pi/4}e^{0i}$, or simply $e^{\pi/4}$, which is itself already a real number.

(5) p. 32, Exercise 11: Replace "Exercise 9" by "Exercise 9 of Section 1".

(6) p. 32, Exercise 12: Replace "Exercise 10" by "Exercise 10 of Section 1".

(7) p. 33, Problem 20: Replace "Exercise 13" by "Problem 13 of Section 1".

(8) p. 42, Exercise 1: Add to the solution in the back of the text that (b) is also in reduced row form.

(9) p. 45, Problem 17: The answer to part (e) should be "False."

Chapter 2:

(1) p. 58, bottom of page: The equation should be

$$A_1 = \frac{-1}{2}\left(-2A_1\right) = \frac{-1}{2}\left(-3A_2 + 2A_3\right) = \frac{3}{2}A_2 - A_3.$$

(2) p. 60, Exercise 1(f): The answer should be $\begin{bmatrix} x - 2 + 4y \\ 3x - 2 + y \\ -1 \end{bmatrix}$.

(3) p. 61, Exercise 5(c): The answer should be $x\begin{bmatrix} 3 \\ 0 \\ 1 \end{bmatrix} + y\begin{bmatrix} 2 \\ 0 \\ 1 \end{bmatrix} + z\begin{bmatrix} 0 \\ -1 \\ 5 \end{bmatrix}$.

(4) p. 65: Reference to calculation in (c) should be (e).

(5) p. 66, line -4: Delete "$[x_1, x_2, , x_3]^T =$".

(6) p. 69, Exercise 3(c): The answer for the coefficient matrix should be $\begin{bmatrix} 1 & -3 & 0 \\ 0 & 2 & 0 \\ -1 & 3 & 0 \end{bmatrix}$.

(7) p. 69, Exercise 5: The answer for coefficient matrix should be $\begin{bmatrix} 10 & -1 & 1 \\ 2 & -4 & -2 \\ 4 & 2 & -2 \end{bmatrix}$.

(8) p. 69, Exercise 7: Here $[a, b, c]^T$ means the column vector (a, b, c).

(9) p. 79, Example 2.20: This should read "20% of the eggs will not survive and 60% will move to the juvenile stage in a two day time span. In the

same span, 10% of the juveniles will not survive and 60% will move to the adult stage, while 80% of the adults will survive. Also, in the same time span adults will product about 0.25 eggs per adult." The numbers in the matrix multiplications should be $(3.5, 8.4, 9.6)$, $(3.33, 2.97, 10.29)$ and $(0.284, 0.253, 0.877)$.

(10) p. 98, Exercise 4: Replace "Exercise 1" by "Exercise 2".

(11) p. 114, Exercise 17: Replace "Problem 26" by "Problem 26 of Section 2".

(12) p. 126, Exercise 1(a): Answer should have $A_{22} = 1$.

(13) p. 129, Exercise 11(c): The $(1, 3)$th entry should be -2.

Chapter 3:

(1) p. 146, line -6: Replace "Figure 3.4" by "Figure 3.1".

(2) p. 158, Example 3.12: Replace "operator" by "linear operator".

(3) p. 158, Exercises: At the start of exercises there should be this statement: "Unless otherwise stated, vector operations are assumed to be the standard operations for matrices or functions."

(4) p. 168, Exercise 11: Second span should be span $\left\{ \begin{bmatrix} 1 \\ 0 \end{bmatrix}, \begin{bmatrix} -2 \\ 1 \end{bmatrix} \right\}$.

(5) p. 168, Exercise 13: In answer, replace "$c_2 + c_2 x + c_3 x^2$" by "$c_1 + c_2 x + c_3 x^2$".

(6) p. 169, Problem 20: Replace "preceding exercise" by "following exercise".

(7) p. 180, Exercise 1(b): Replace $(3, 4, 1)$ by $(3, 3, 2)$.

(8) p. 187, line 12: Replace "$\mathbf{a}_3$ is a linear" by "$\mathbf{a}_4$ is a linear".

(9) p. 198, Problem 21: Replace "Exercise 13 of Section 6" by "Problem 13".

(10) p. 199, Example 3.36: In the solution replace the vector $\mathbf{v}$ by the vector $\mathbf{w}$.

(11) p. 206, Exercise 3(d): Solution for column space algorithm should be $\left\{ 1 + x^2, -2 - x + 3x^2 \right\}$.

(12) p. 207, Exercise 5(a): Solution for null space should be $\left\{ \left(\frac{1}{2}, 0, 1 \right), (0, 1, 0) \right\}$.

(13) p. 207, Exercise 5(b): Solution for column space should be $\left\{ (1, 1, 3), (0, 1, 2) \right\}$.

Chapter 4:

(1) p. 225, Exercise 4.1.3(a): Answer should be $-\frac{\sqrt{145}}{145}$.

(2) p. 237, Exercise 4.2.3(b): Vectors should be $(3, 0, 4)$, $(2, 2, 1)$.

(3) p. 238, Problem 19: Replace "best" by "least".

Chapter 5:

(1) p. 280, Exercise 5.3.5(d): answer should be that ergodic theorem does not apply to it.

(2) p. 281, Exercise 11: "three state" should be "three stage".

Chapter 6:

(1) p. 309, Figure 6.1: The outer square is the unit ball for the ∞-norm.

(2) p. 320, Exercise 1(b): answer should have $\|\mathbf{v}\| = \frac{1}{\sqrt{7}}$ and $\frac{1}{5} = 0.2 \leq \frac{1}{\sqrt{3}} \frac{1}{\sqrt{7}} \approx 0.2182$.

(3) p. 320, Exercise 3(b): answers should be $\frac{7}{5} x^2$, $\frac{\sqrt{7}}{5}$, $x - \frac{7}{5} x^3$.

(4) p. 322, Problem 22: Replace "$\left\{ \|\mathbf{u} + \mathbf{v}\|^2 - \|\mathbf{u} + \mathbf{v}\|^2 \right\}$" by "$\left\{ \|\mathbf{u} + \mathbf{v}\|^2 - \|\mathbf{u} - \mathbf{v}\|^2 \right\}$".

(5) p. 331, Exercise 9: Replace "$\mathbf{w}_1 = (-1, -1, 1, 1)$" by "$\mathbf{w}_1 = (-1, 1, 1, -1)$"
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