

## Errata

The entries below are arranged by page number. A negative sign before a line number indicates that it is to be counted from the bottom up.

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Page 14, line -1.

Both words in **trivial solution** should be in blue italics.

*Submitted by the authors on May 1, 2006.*

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Page 15, line 3.

Both words in **trivial solution** should be in blue italics.

Submitted by the authors on May 1, 2006.

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Mathematica notebook and Maple worksheet for Tutorial 1.3.

In the Note at the end of subsection 1.3.3, last sentence, change **than** to **as**.

*Submitted by the authors on October 15, 2008.*

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Page 54, problem 4 lines 3-4.

Change (i.e., an ellipse, a hyperbola, a parabola, or a pair of intersecting lines) to (e.g., an ellipse, a hyperbola, or a parabola).

*Submitted by the authors on May 1, 2006.*

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Page 54, problem 4, line -1.

Change **of the four types** to **type**.

*Submitted by the authors on July 18, 2008.*

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Page 65, line -5.

Change the parallel line  $L$  through the origin and a point  $\mathbf{p}$  to the line  $L$  that goes through the origin and is parallel to the given line and a point  $\mathbf{p}$ .

*Submitted by the authors on July 18, 2008.*

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Page 70, problem 3.

Change the beginning of the second sentence to **Add sketches and labels of the following vectors to the figure:**

*Submitted by Al Hibbard on September 26, 2006.*

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Page 70, problem 6.

Insert  $y = mx + b$  after “Cartesian equation.”

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Pages 70-71, problem 7 lines 1 and 2, problem 8 lines 2 and 3, problem 9 line 1, problem 12 lines 1 and 4, problem 16 line 1.

Change the font of the symbol  $L$  to bold and not italic.

*Submitted by the authors on May 1, 2006.*

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Page 71, problem 12 line 2.

Change  $\mathbf{w} = \mathbf{p} - \mathbf{v}$  to  $\mathbf{r} = \mathbf{p} - \mathbf{v}$ .

*Submitted by the authors on May 1, 2006.*

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Page 71.

The bleed (i.e., the vertical blue strip containing the word “TUTORIAL”) should be on the right edge of the page, not the left edge.

*Submitted by the authors on May 1, 2006.*

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Page 73.

In the answer to Exercise 2, change the (1, 3) entry of  $M$  from  $-20$  to  $20$ .

*Submitted by Al Hibbard on February 11, 2008.*

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*Mathematica* notebook for Tutorial 2.2.

At the end of the tutorial, in Theorem 1, third displayed line: Change  $\mathbf{u} + \mathbf{0} = \mathbf{0}$  to  $\mathbf{u} + \mathbf{0} = \mathbf{u}$ .

*Submitted by Al Hibbard on September 26, 2006.*

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Page 82, problem 1 lines 1 and 4.

Remove the underline for the problem number 1 itself, and insert an underline below (a).

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Page 92, problem 3 line 3.

Change  $\leq b \leq 1$  to  $0 \leq b \leq 1$ .

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Page 112, problem 11 line 3.

Just before **that have the same span**, insert **(other than  $\mathbf{v}_1, \mathbf{v}_2, \mathbf{v}_3, \mathbf{v}_4$ )**.

*Submitted by the authors on May 1, 2006.*

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*Mathematica* notebook for Tutorial 3.1.

In subsection 3.1.2, Exercise 5(b), change  $A\mathbf{x} - \mathbf{b}$  to  $A\mathbf{x} = \mathbf{b}$ .

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Page 137, problem 7(b).

Change the first two sentences to **Which of the following pairs of matrices commute and which do not:  $R$  and  $S$ ,  $R$  and  $T$ ,  $S$  and  $T$ ? Explain.**

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Page 139, problem 6 line 1.

Change the font of the symbol  $v$  to bold and not italic.

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Page 142, topmost displayed expressions.

Change the  $(3, 2)$  entry of  $B^T$  from  $5$  to  $-5$ .

*Submitted by David Moore on October 16, 2006.*

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Page 143, line  $-5$ .

In the second half of the displayed formula, insert  $=$  between the next-to-last and last matrices.

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Page 146, fourth line from the end of the section.

Change  $((AB)^T)_{ij} = (AB)_{ij}$  to  $((AB)^T)_{ij} = (AB)_{ji}$ .

*Submitted by David Moore on October 16, 2006.*

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Page 171, problem 3 line 1.

Delete the word **four**.

*Submitted by the authors on May 1, 2006.*

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*Mathematica* notebook for Tutorial 3.5.

In *Mathematica* problem 9(c), change the second row operation from  $2r_2 + r_3 \rightarrow r_3$  to  $2r_1 + r_3 \rightarrow r_3$ .

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Page 183, definition of “residue of  $m$  modulo  $n$ ”.

In the second sentence, insert (non-negative) before remainder.

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Page 198, problem 3(b).

At the end of the problem, change  $R$  to  $S$ .

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Page 198, problem 6.

At the end of the second sentence, change direct calculation to using rules of matrix algebra.

*Submitted by Al Hibbard on September 26, 2006.*

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*Mathematica* notebook for Tutorial 4.2.

In subsection 4.2.1, near the beginning, in the line that begins “Thus  $T$  maps”, in the vector at the end of that line, change the second entry from  $2/2$  to  $3/2$ .

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Page 217, problem 8(b) line -5 and 8(c) line -1.

Change Subsection to all lowercase.

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Page 231, problem 8 line 7.

Change  $x$ ,  $y$ , and  $z$  axes to  $x$ -,  $y$ -, and  $z$ -axes.

*Submitted by the authors on May 1, 2006.*

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*Mathematica* notebook and Maple worksheet for Tutorial 4.5.

In Problem 4, second sentence, delete the first occurrence of the.

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*Mathematica* notebook for Tutorial 5.2.

In subsection 5.2.1, just after Example C, at the end of the **Note**, change  $\text{din}(\mathbf{R}^n) = n$  to  $\text{dim}(\mathbf{R}^n) = n$ .

*Submitted by Al Hibbard on September 26, 2006.*

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*Mathematica* notebook for Tutorial 5.2.

In subsection 5.2.1, at the end of Theorem 6, change **the W has a basis** to **then W has a basis**.

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Page 271, problem 11(g) line -1.

Change **is** to **must be**.

*Submitted by the authors on May 1, 2006.*

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*Mathematica* notebook for Tutorial 5.4.

In *Mathematica* problem 2, change the label for the second part of the problem from **(c)** to **(b)**.

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Page 289, problem 12 lines 1 and 2.

At the end of the first sentence, insert **and b is a vector in  $\mathbf{R}^n$** . In the second sentence, delete **for every vector b in  $\mathbf{R}^n$** .

*Submitted by the authors on May 1, 2006.*

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Page 295, problem 1(a) line 1, problem 1(b) line -1, and problem 2 line 1.

Change **Subsection** to all lowercase.

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Page 296, problem 6(c) line 2 and problem 6(d) line 1.  
Change **Subsection** to all lowercase.

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Page 304, problem 5(b).  
Remove the underline from the label **(b)**.

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Page 304, problem 11, first sentence.

Change the right-side column vector from  $\begin{bmatrix} 0 \\ 0 \end{bmatrix}$  to  $\begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$ .

*Submitted by Al Hibbard on September 26, 2006.*

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Page 305, problem 16, part (b).

The domain for this example should be the positive reals, not the set of all real numbers.

*Submitted by Douglas Meade on April 6, 2007.*

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Page 309, Theorem 1.

In the equation in the first displayed line, fix the appearance of the factor  $C_{ij}$  so the sum appears as follows:  $\sum_{j=1}^n a_{ij}C_{ij}$ .

*Submitted by Al Hibbard on September 26, 2006.*

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Page 322, problem 9 line 1.

Change **Theorems 5 and 6** to **Theorems 4 and 6**.

*Submitted by the authors on May 1, 2006.*

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Page 327, problem 1 line 7.  
Change **described above** to **of vectors  $\mathbf{u}$  and  $\mathbf{v}$** .

*Submitted by the authors on May 1, 2006.*

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Page 342, problem 16 line 4.  
Change **Subsection** to all lowercase.

*Submitted by the authors on May 1, 2006.*

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Page 354, problem 6(c) line 1.  
Delete the redundant word **nonzero**.

*Submitted by the authors on May 1, 2006.*

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Page 370, problem 2(b) line 2.  
At the end insert the phrase **with three linearly independent eigenvectors**.

*Submitted by the authors on May 1, 2006.*

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Page 370, problem 4.  
Change **Subsection** to all lowercase.

*Submitted by the authors on July 18, 2008.*

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Page 411, problem 9 line 3.  
Change the last sentence to **Prove that if  $\mathbf{v}$  is real then  $\lambda$  is real**.

*Submitted by the authors on May 1, 2006.*

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Page 411, problem 10 line 3.

Change a **complex eigenvalue** to a **nonreal complex eigenvalue**.

*Submitted by the authors on May 1, 2006.*

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Pages 418-419.

Move the blue square signaling the end of the Answer to Exercise 3 from the middle of page 419 (just before Example G) to the bottom of page 418.

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Page 429, problem 5 line 4.

Change the word **reserve** to **preserve**.

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Page 430, problem 9 line -4.

Delete the comma at the end of the displayed formula.

*Submitted by the authors on May 1, 2006.*

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Page 446, problem 2(a) line -3.

Change **Subsection** to all lowercase.

*Submitted by the authors on May 1, 2006.*

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Page 482, problem 3(c) line 1.

Change **A vector** to **A nonzero vector**.

*Submitted by the authors on May 1, 2006.*

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Page 496, problem 5 line -2.

Change **Subsection** to all lowercase.

*Submitted by the authors on May 1, 2006.*

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Page 501, problem 12(a) line -1.

This line should be indented so it lines up with the paragraphs above and below it.

*Submitted by the authors on May 1, 2006.*

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Page 506, line 4.

Change **Magnitude** to lowercase.

*Submitted by the authors on October 3, 2006.*

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Page 511, line 2.

Change **not in  $\{\mathbf{v}_1, \mathbf{v}_2, \dots, \mathbf{v}_k\}$**  to **not in  $\text{Span}\{\mathbf{v}_1, \mathbf{v}_2, \dots, \mathbf{v}_k\}$**

*Submitted by David Moore on November 21, 2006.*

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Page 519, line 10 (not counting the appendix title).

Change the font of the word **Help** to typewriter style.

*Submitted by the authors on May 1, 2006.*

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Page 520.

At the bottom of the page, add the following:

**WARNING: Always use the “Classic Worksheet” interface if you are using Maple 9 or later. Maple’s newer Java-based interface is not adequate for some of the *Visual Linear Algebra* graphics.**

*Submitted by the authors on May 1, 2006.*

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Page 528, line 5.

Delete the comma after **tutorial files**.

*Submitted by the authors on May 1, 2006.*

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Page 528, line 27.

Change the font of *Command Palette* to roman.

*Submitted by the authors on May 1, 2006.*

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Page 531, line 1.

Change the font of  $M^{-1}$  to typewriter style.

*Submitted by the authors on May 1, 2006.*

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Page 537, Section 1.1, problem 15(a) line 1.

Change the second matrix to

$$\begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 1 & 2 & 2 \\ 0 & 0 & k-2 & 1 \end{bmatrix}$$

*Submitted by the authors on May 1, 2006.*

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Page 537, Section 1.1, problem 17(a) and 17(c).

Insert a period at the end of the sentence.

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Page 538, Section 2.2, problem 4(a).

Change the font of *i*, *j*, and *k* to bold and not italic. (There are seven occurrences.)

*Submitted by the authors on May 1, 2006.*

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Page 539, Section 3.6, problem 3 lines 1-2.

Move ***I***: from the beginning of line 2 to the end of line 1.

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Page 540, Section 4.2, problem 10 line 1.  
Change the word **points** to **vectors**.

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Page 542, Section 7.1, problem 11(b).  
Change to **1 is an eigenvalue of  $P$  with associated eigenspace  $y = 2x$** .

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Page 542, Section 7.2, problem 1(c) line 1.  
Change  **$-\lambda^3 + 4\lambda^2 - 5\lambda + 2$**  to  **$(1 - \lambda)(\lambda^2 - 3\lambda + 2)$** .

*Submitted by the authors on May 1, 2006.*

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Page 542, Section 7.3, problem 4 line -2.  
Change the word **near** to **on**.

*Submitted by the authors on May 1, 2006.*

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Page 543, Section 7.6, problem 3(a).  
Change to  **$\langle y_1, \dots, y_n \rangle = \langle c_1 e^{k_1 t}, \dots, c_n e^{k_n t} \rangle$ . A basis for the solution set is  $\{e^{k_1 t} \mathbf{e}_1, \dots, e^{k_n t} \mathbf{e}_n\}$ .**

*Submitted by the authors on May 1, 2006.*

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Page 543, Section 7.7, problem 7(a) lines 2-3.  
Change  **$\langle -4 - 3i, 5 \rangle$**  to  **$\langle 5, -4 + 3i \rangle$**  and  **$\langle -4 + 3i, 5 \rangle$**  to  **$\langle 5, -4 - 3i \rangle$** .

*Submitted by the authors on May 1, 2006.*

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Page 544, Section 8.7, problem 8.  
Change both occurrences of  **$t$**  to  **$x$** .

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