

# Errata for A COURSE IN MULTIVARIABLE CALCULUS AND ANALYSIS

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In the following, “line  $+i$ ” means the  $i$ th line from the top, whereas “line  $-i$ ” means the  $i$ th line from the bottom. The text to be changed appears in **red**, while the corrected version appears in **blue**.

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**Page 5, Line +16:** Change **least upper bound** to **greatest lower bound**

**Page 10, Line -12:** Change  **$f(x, y) \geq 0$**  to  **$f(x, y) > 0$**

**Page 34, Line -6:** Change **handled them with** to **handled with**

**Page 45, Line +2:** Change **If** to **Let  $a_n \rightarrow a$ . If**

**Page 85, Line -10 :** Change  **$D$**  to  **$D_1$**

**Page 88, Line +5:** Change  **$x_0 \in [c, d]$**  to  **$x_0 \in [a, b]$**

**Page 97, Line +4 :** Change  **$f_{i,j}$**  to  **$g_{i,j}$**

**Page 97, Line -13:** Change  **$u : D \rightarrow \mathbb{R}^2$**  to  **$u : D \rightarrow \mathbb{R}$**

**Page 97, Line -8:** Change  **$f$**  to  **$g$**

**Page 117, Line +7:** Change **differentiable** to **nonconstant differentiable**

**Page 117, Line +8:** Change **does not vanish** to **vanishes**

**Page 118, Line -10:** Change  **$f(x, y)$**  to  **$f(x_1, y_1)$**

**Page 118, Line -10:** Change (at two places)  **$k \frac{\partial}{\partial x}$**  to  **$k \frac{\partial}{\partial y}$**

**Page 122, Line -5 :** Change  $\begin{bmatrix} \frac{\partial x}{\partial t} \\ \frac{\partial y}{\partial t} \end{bmatrix}$  to  $\begin{bmatrix} \frac{dx}{dt} \\ \frac{dy}{dt} \end{bmatrix}$

- Page 123, Line -3: Change (at two places)  $\frac{dF}{dz}$  to  $\frac{dg}{dz}$
- Page 124, Lines +10, +11, -14, -13: Change  $\frac{\partial F}{\partial x}$  to  $\frac{\partial f}{\partial x}$
- Page 154, Line +9: Change  $\sqrt{h^2 + k^2}$  to  $|h| + |k|$
- Page 155, Line +10: Change 18 (ii) to 18 (ii) of Chapter 2
- Page 155, Line +10: Change 19 to 19 of Chapter 2
- Page 156, Line -2: Change  $(y - b)(z - c)$  to  $(y - c)(z - p)$
- Page 163, Line +15: Change vanishes to is equal to the zero vector
- Page 163, Line +20: Change  $\nabla f = \lambda \nabla g$  to  $\nabla f(x, y) = \lambda \nabla g(x, y)$
- Page 165, Line +10: Change  $\nabla f = \lambda \nabla g$  to  $\nabla f(x, y, z) = \lambda \nabla g(x, y, z)$
- Page 165, Line -17: Change  $\nabla g$  to  $\nabla g(x, y, z)$
- Page 166, Line +22: Change  $\mu h(x, y, z)$  to  $\mu \nabla h(x, y, z)$
- Page 187, Line -10: Change  $1/n, 1/k$  to  $(b - a)/n, (d - c)/k$
- Page 202, Line +2: Change  $P$  to  $P_\epsilon$
- Page 202, Line -4: Change  $f(x, y)$  to  $f(x, y)$
- Page 213, Line +11: Change  $R$  to  $\mathbb{R}$
- Page 213, Line -6: Change 5.19 to 5.23
- Page 219, Line -6: Change  $0 \leq a < b$  and  $0 \leq c < d$  to  $0 < a < b$  and  $0 < c < d$
- Page 220, Line -13: Change Moreover, by Proposition 5.28, we have to Moreover,
- Page 222, Line -4: Change subintervals to subrectangles
- Page 223, Line +1: Change subintervals to subrectangles
- Page 223, Lines -13, -9: Change any to an arbitrary
- Page 223, Line -8: Change double integrable to integrable
- Page 224, Line +3: Change  $[a, b] \times [c, d]$  to  $[a, b] \times [c, d]$
- Page 238, Line -19: Change iterated integral to integral
- Page 245, Line +14: Change and  $D_1 \cap D_2$  are to and  $D_1 \cap D_2$  is
- Page 268, Line +18: Change Exercise 43 to Exercise 43 of Chapter 3
- Page 272, Line -10: Change  $d(y, z)$  to  $d(x, y)$

- Page 272, Line -9:** Change  $f(x, y, z)$  to  $\int_{\phi_1(x,y)}^{\phi_2(x,y)} f(x, y, z) dz$
- Page 275, Line +16:** Change  $f$  to  $f \circ \Phi$
- Page 278:** Change **Figure 5.26** with this **Revised Figure**
- Page 282, Line -3:** Replace  $x \leq y$  to  $y \leq x$
- Page 285, Line +19:** Replace **49/192** to **49/576**
- Page 302, Line -16:** Change  $D, yz\text{-plane}$  to  $D$  by the  $yz\text{-plane}$
- Page 303, Line +11:** Change  $[-\pi, \pi] \times [f_1(x), f_2(x)]$  to  $[f_1(x), f_2(x)] \times [-\pi, \pi]$
- Page 349, Line -5:** Change **the the** to **the**
- Page 350, Line +10:** Change **of** to **under**
- Page 359, Line -6:** Change **tetrahedron  $D$**  to **tetrahedral region  $D$  in  $\mathbb{R}^3$**
- Page 359, Line -4:** Change **polyhedron** to **polyhedral region**
- Page 416, Line -13:** Change **Proposition 5.19** to **Proposition 5.20**
- From Page 422, Line -6 to Page 425, Line -11:** Change **the entire text from the statement of the Integral Test to the beginning of the next subsection** with this **Revised Text**
- Page 438, Line +10:** Change **if and only if** to **if and only if there is**
- Page 442, Lines +1, -1:** Change **subsets  $D_n$**  to **subset  $D_n$**
- Page 456, Line +3:** Change **diverge to  $\infty$ . (Hint: Divergence of** to **converge if  $p > 1$  and diverge to  $\infty$  if  $p \leq 1$ . (Hint: Convergence as well as divergence of**
- Page 471, Line -6, Left column:** Change **area, 186, 241** to **area, 186, 241, 441**
- Page 473, Line +12, Right column:** Drop **iterated series, 381**
- Page 475, Line +10, Left column:** Change **smooth** to **smooth curve**

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*Please notify the authors if you know of errata not on the above list. Please write to one or both of the following:*

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