Errata

Below is a listing of known errors and/or important clarifications in our book, *Ordinary Differential Equations: Basics and Beyond*. We will add to this document as we become aware of other mistakes.

Chapter 3

1. Page 98: In Exercise 3(f), our intent was to use the piecewise-defined function $f(x) = x\sin(1/x)$ for $x \neq 0$, and $f(0) = 0$. That function is continuous for all real x.
2. Page 106: In Exercise 19(b), the expression $x(y)$ in the second line of the hint should read $x(t)$.

Chapter 6

1. Page 199: There is a regrettable typographical error in the definition of Lyapunov stability. In the second line of text in Section 6.2.1, the first instance of $\mathbf{b}$ should be replaced with $\mathbf{b}_*$. That is, the definition should read, "An equilibrium $\mathbf{b}_*$ of a system $\mathbf{x}' = \mathbf{F}(\mathbf{x})$ is called *Lyapunov stable* if for every neighborhood $\mathcal{V}$ of $\mathbf{b}_*$ in $\mathbb{R}^d$, etc..."
2. Page 237: In Exercise 10(d), disregard the actual exercise but *don't* disregard the remark at the end of the problem. The main point of Exercise 10(d) is that (6.79) and (6.80) have the same orbits, even though the parametrizations of the solutions are different. This statement is both true and significant. However, its proof is trickier than the text suggests. We advise you not to squander your time trying to prove the claim; rather, just refer to the solution posted on our textbook website.
3. Page 241-242: Two minor corrections/clarifications for Exercise 18. (1) As written, the text suggests that the inequality (6.84) should hold once $\mathbf{DF}_*$ has been transformed to block diagonal form. This is not true—as explained later in the hint, another similarity transformation is needed in general. (2) Near the end of the hint, where we refer to (6.85), we should be referring to "the displayed equation below (6.85)". (Two instances.)
4. Page 243: Regarding the suggestion, the phase portrait for this problem appears in Panel (a) of Figure 9.6, not in Panel (c). Incidentally, in Figure 9.6, the friction coefficient β equals 1.3, which is a representative value for large damping. As you will explore in Problem 4 of Chapter 9, somewhat different behavior occurs for small damping.