ERRATA for Krusemeyer, *Differential Equations*
(For Math 241, Winter 2013)

p.7, line -5	$\dfrac{\partial f}{\partial y}$	should be	$\dfrac{\partial f}{\partial y}$
p.17, line 6	x^{-x}	should be	e^{-x}
p.20, line -3	$\underline{dy}$	should be	$\dfrac{dy}{dx}$
p.22, line 4	$e^{Kt} + C$	should be	e^{Kt+C}
p.28, Exercise 22	ln	should be	log (8 times)
p.39, line -4	solutions are defined	should be	solutions is defined

p.97, line 9 closing bracket should be deleted

p.115, line -4	$Ae^{2t} + 2Be^{3t} + \cdots$	should be	$-Ae^{2t} + 2Be^{3t} + \cdots$
p.120, line -4	$m'' + kx = 0$	should be	$mx'' + kx = 0$
p.127, line -10	$x = \dfrac{mg}{h}$	should be	$x = \dfrac{mg}{k}$

p.139, Exercise 34(a)

$\alpha' = \dfrac{-h(t)x_1(t)}{W(t)},\ \beta' = \dfrac{-h(t)x_2(t)}{W(t)}$ should be $\alpha' = \dfrac{-h(t)x_2(t)}{W(t)},\ \beta' = \dfrac{-h(t)x_1(t)}{W(t)}$

p.161, Figure 3.2.4(b), caption

$\dfrac{dx}{dt}$ should be $\dfrac{dx}{dy}$

p.170, line -12 $\dfrac{\partial}{\partial y}(3xy - 2y^2) = 3x - 2y$ should be $\dfrac{\partial}{\partial y}(3xy - 2y^2) = 3x - 4y$

p.187, line 7	$\lambda - (a + d) + (ad - bc) = 0$	should be	$\lambda^2 - (a + d)\lambda + (ad - bc) = 0$
p.193, line -6	$x = P,\ Y = R$	should be	$x = P,\ y = R$
p.202, Example 3.5.2	$\mathbf{A} = \begin{pmatrix} 3 & 4 \\ 2 & -1 \end{pmatrix}$	should be	$\mathbf{A} = \begin{pmatrix} 3 & -4 \\ 2 & -1 \end{pmatrix}$
p.218, Figure 3.6.3, caption	$\nu \pm i\nu$	should be	$\mu \pm i\nu$
p.229, Exercise 24(a)	x, y-plane	should be	X, Y-plane

p.242, Figure 3.7.6 The labels $(1/\sqrt{2}, -1/\sqrt{2})$ and $(-1/\sqrt{2}, 1/\sqrt{2})$ for the stationary points should be interchanged.

p.245, line 5 e r should be either

p.257; p.261 Page heading should be for Sec. 3.8, not Sec. 3.9
(SEC. 3.8 LYAPUNOV FUNCTIONS; GRADIENT SYSTEMS)

p.269, Figure 3.9.5(b) The direction of the arrow in region IV should be reversed.

p.283, line 3 $\cdots = t(36t^4 - 24t^4) = 12t^5$ should be
$\cdots = t(36t^4 - 24t^4) - t^3(12t^2) + t^4(6t) = 6t^5$

p.289, Exercise 17(b) $p_{n-1}(t)x^{n-1}$ should be $p_{n-1}(t)x^{(n-1)}$

p.299, line 8 $C_1 = \dfrac{1}{52}$ should be $C = \dfrac{1}{52}$

p.301, Exercise 1 (on p.294) should be (on p.295)

p.338, line -1 $\begin{pmatrix} -104 & -340 \\ 120 & 376 \end{pmatrix}$ should be $\begin{pmatrix} -104 & -360 \\ 120 & 376 \end{pmatrix}$

p.339, line 2 same correction

p.349, Exercise 24 should be starred, or double-starred.

p.364, Exercise 18(b) $R = 0.7$ should be $R = \dfrac{10}{7}$

p.371, line -3 $-2a_0 + 2a_1x$ should be $-2a_0 - 2a_1x$

p.379, line -3 $M = 4$ should be $M = 3$

p.379, line -1 $\cdots - \dfrac{1}{72} + \dfrac{1}{1440}$ should be $\cdots - \dfrac{1}{72}$

p.394, Exercise 62(b) $M = 4$ should be $M = 3$

p.403, line -3 $\cdots + (x-1)y' + \cdots$ should be $\cdots + (x+2)y' + \cdots$

p.403, line -2 $p(x) = \dfrac{x-1}{3x+1}$ should be $p(x) = \dfrac{x+2}{3x+1}$

p.404, line 8 $\cdots - (n+1)a_{n+1} - 2a_n = 0$ should be
$\cdots + 2(n+1)a_{n+1} - 2a_n = 0$

p.458, Exercise 33(a) Add at the end of the sentence:
unless $g(0) = h(0) = 0$.

p.473, footnote p. 601); hence should be p. 602); hence

p.478, line -4 The statement made here ("then $f(T)e^{-sT}$ will approach 0 for $T \to \infty$") is not quite correct in general. See me for details if you're curious. (We won't be covering the Laplace transform.)

p.479, lines 11-13 Same correction

p.488, Exercise 44 Same correction

p.511, line -3 Exercise 13 should be Exercise 11

p.529, Exercise 24(a) $(t \geq \epsilon)$ should be $(t > \epsilon)$

p.537, line -5 $\Delta^2 x + \Delta x + x = 0$ should be $\Delta^2 x + \Delta x - x = 0$

Same line $\dfrac{d^2x}{dt^2} + \dfrac{dx}{dt} + x = 0$ should be $\dfrac{d^2x}{dt^2} + \dfrac{dx}{dt} - x = 0$

p.542, Exercise 10(b) $\Delta^2 x + \Delta x + x = 0$ should be $\Delta^2 x + \Delta x - x = 0$

p.543, Exercise 13(a) unique solution should be unique nonzero solution

p.543, Exercise 14(b) one solution should be one nonzero solution

p.568, Exercise 5 $\dfrac{dX}{dt} = g(T, X)$ should be $\dfrac{dX}{dT} = g(T, X)$

p.569, Exercise 7(c),(d) The hypothesis for part (c), which is still assumed in part (d), is garbled; see me for details if you're curious.

p.569, Exercise 7(e) $\dfrac{dx_{n+1}(t)}{dt}$ should be $\dfrac{d(x_{n+1}(t))}{dt}$

p.585, Exercise 12(b) is incorrect and should be deleted.

p.594, line -4 $zz = |z|^2$ should be $z\overline{z} = |z|^2$

ANSWERS

p.628, Section 1.2, 3(a) Add: , $-\dfrac{\pi}{2} < \dfrac{1}{2}t^2 - t + C < \dfrac{\pi}{2}$

p.629, Section 1.2, 7(a) Add: , $x = 0$

p.631, 23(c) The curves in the second quadrant should not "come together"

p.636, 55 $\sin t + \dfrac{1}{2}e^{2t} + \cdots$ should be $\sin t - \dfrac{1}{2}e^{2t} + \cdots$

p.638, 27(b) $W = e^{-\int p(t)dt}$ should be $W = Ae^{-\int p(t)dt}$,
where A can be taken to be ± 1 or 0.

p.640, Section 2.6, 7 $-\frac{2}{5}\sin t + \frac{9}{5}\cos t$ should be $-\frac{2}{5}\sin t - \frac{9}{5}\cos t$

p.654, 11(b) The figure shown is incorrect; the curves should be ellipses (elongated in a roughly northwest-southeast direction), followed *clockwise*.

p.663, Section 4.5, 9 The lower right entry of the matrix should be 1, so

$$\text{the matrix is } \begin{pmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ \frac{1}{2} & 3 & 1 \end{pmatrix}$$

p.676, Section 7.1, 13	(b)	should be	(c)
p.677, Section 7.3, 7(d)	$m = 0$	should be	$M = 0$
p.678, line -3	(pp. 589-591)	should be	(pp. 590-591)
p.679, line 3	(pp. 592-598)	should be	(pp. 597-598)
p.679, line -6	(pp. 599-603)	should be	(pp. 602-603)
p.679, line -4	(pp. 605-609)	should be	(pp. 608-609)
p.680, line 4	(pp. 610-614)	should be	(pp. 613-614)
p.680, line 8	(pp. 615-620)	should be	(pp. 619-620)
p.680, line -5	(pp. 621-626)	should be	(pp. 624-626)
p.688, entry for Vector function	189,* 307	should be	189*, 307

Please let me know of any other typos/errors/unclear passages you notice. Thanks!