Errata to the First Printing

1. EXAMPLE 3.5-1 has two part (b)'s
2. The heading "MATLAB's Ordinary Differential Equation Solvers" under section 3.8.2 should be italicized.
3. Equation (E6-85) in Section 2.7.2 - the matrix H_b should have a double line below it.
4. (Seth Avery, UW, ME564 1-27-09) On pg. 369, line 4 "...Min/Max Table option from the Solve menu." should be "...Min/Max Table option from the Calculate menu."
5. **(Seth Avery, UW, ME564 2-6-09) On pg. 105, Eq. (1-228) should be:**

   $$\eta_{fin} = \frac{\dot{q}_{fin}}{\overline{h}\, A_{s,fin}\left(T_b - T_\infty\right)}$$

   and on pg. 106, Eq. (1-229) should be:

   $$\eta_{fin} = \frac{\left(T_b - T_\infty\right)\sqrt{\overline{h}\; per\, k\, A_c}\,\tanh\left(m\,L\right)}{\overline{h}\; per\, L\left(T_b - T_\infty\right)}$$

6. **(Seth Avery, UW, ME564 2-11-09) On pg. 230, in the equation immediately after Eq. (15) the argument of the sine function should be $\lambda_i\, x$.**
7. (Lucas Murphy, UW, ME564, 2-16-09) On pg. 232, the thickness is specified two times in the EES code. The line in the inputs section after L=.. and before k=... should be removed.
8. (Eelco Gehring, UW, ME564, 2-16-09) On pg. 220, the last sentence of the third paragraph from the bottom of the page should read: "Figure 2-7 illustrates the solution with 5, 10, and 100 terms."
9. **(Jon Dolack, UW, ME564, 2-16-09) On pg. 305, Eq. (3-14) should read:**

   $$R = \left(\overline{h}\, A_s + \sigma\, \varepsilon_s\, 4\,\overline{T}^3\, A_s\right)^{-1}$$

10. **(Seth Avery, UW, ME564, 3-2-09) On pg. 467, Eq. (3-594) should read:**

    $$\dot{g}_{bp} = 2\,\pi\, r_1^2\, \Delta r\, \beta\left(T_1 - T_b\right)$$

11. (3-10-09) On pg. 619, the caption for Figure 4-38 should read: Figure 4-38: Drag coefficient as a function of the Reynolds number for flow past a sphere.
12. (3-13-09) On pg. 334, 3rd paragraph, 3rd sentence should read "The Integral Table is saved when the EES file is saved and the table is restored when the EES file is loaded." The words with and by should be deleted.
13. **(Will Glewen, UW, ME 564, 3-25-09) On pg. 601, in Eq. (4-592), the power on the Reynolds number in the first integral should be -1/2 rather than 1/2. That is, Eq. (4.592) should be:**

    $$\overline{Nu}_L = \frac{0.3387\, Pr^{1/3}}{\left[1 + \left(\frac{0.0468}{Pr}\right)^{2/3}\right]^{1/4}} \int_0^{Re_{crit}} Re_x^{-1/2}\, dRe_x + 0.0296\, Pr^{1/3} \int_{Re_{crit}}^{Re_L} Re_x^{-0.2}\, dRe_x$$

14. (Glen Myers, UW, 4-2-09) On pg. 208, the reference to Myers in paragraph 1 should be: G.E. Myers (1998).
15. (Glen Myers, UW, 4-2-09) On pg. 301, the reference to Myers should be:

    Myers, G.E., *Analytical Methods in Conduction Heat Transfer, 2nd Edition*, AMCHT Publications, Madison, WI, (1998).

16. (Eelco Gehring, UW, 4-7-09) pg. 551, Eq. (4-340), the last term should be:

$$= \frac{1}{t_{int}} \int_0^{t_{int}} \left[-\frac{1}{\rho} \frac{dp_\infty}{dx} + \upsilon \frac{\partial^2 \overline{u}}{\partial y^2} + \upsilon \cancel{\frac{\partial^2 (u')}{\partial y^2}} \right] dt$$

17. (Eelco Gehring, UW, 4-7-09) pg. 576, Second paragraph from bottom, second to last sentence, the parenthetical statement should read:
(e.g., $v_{y=0}$ and $\tau_{y=\delta_m}$ are usually zero).
18. (Eelco Gehring, UW, 4-7-09) pg. 671, Section 5.3.1, second sentence should read:
Therefore, in order to solve...
19. (Nick Guldan, UW, 4-15-09), pg. 675,, last sentence of section 5.3.4 should read:
"The mean temperature of the fluid leaving the duct ..."
20. Section 5.3.5 on pg. 675 is mislabeled as Section 5.3.4.
21. (Seth Avery, UW, 4-13-09), pg. 980, Section 10.1.2, the speed of light should be *c* = 299,792 km/s.
22. (Prof. Kerry Patterson, Lipscomb University, 4-22-09), pg. 997, the entry in Table 10-1 for cylinder to cylinder should be:

$$F_{1,2} = \frac{1}{\pi} \left\{ \sqrt{\left(1 + \frac{s}{2r}\right)^2 - 1} + \sin^{-1}\left[\left(1 + \frac{s}{2r}\right)^{-1}\right] - \left(1 + \frac{s}{2r}\right) \right\}$$

23. (Jake Leachman, UW, 5/7/09), First page of text after cover. Third paragraph should start:
"Sanford Klein is the Bascom Ouweneel Professor of Mechanical Engineering..."
24. On pg. 98, the sentence prior to Eq. (11-187) should read:
"Because Eq. (1-179) is a linear, homogeneous ODE, ..."
25. The first sentence in the caption under Figure 7-2 should read:
"Photographs of pool boiling at (a) low temperature difference, (b) moderate temperature difference, and (c) high temperature difference."
26. On pgs. 360 and 361, Eqs. (3-110) through (3-112) should have ordinary rather than partial derivatives. These equations should be:

$$\dot{q}_{x=0} = -k\, A_c \frac{d}{d\eta}\left[T_s + \left(T_{ini} - T_s\right) \mathrm{erf}\left(\eta\right)\right]\Big|_{\eta=0} \frac{1}{2\sqrt{\alpha t}} \qquad \textbf{(3-110)}$$

$$\dot{q}_{x=0} = -\frac{k\, A_c}{2\sqrt{\alpha t}} \left(T_{ini} - T_s\right) \frac{d}{d\eta}\left[\mathrm{erf}\left(\eta\right)\right]\Big|_{\eta=0} \qquad \textbf{(3-111)}$$

$$\dot{q}_{x=0} = -\frac{k\, A_c}{2\sqrt{\alpha t}} \left(T_{ini} - T_s\right) \frac{d}{d\eta}\left[\frac{2}{\sqrt{\pi}} \int_0^{\eta} \exp\left(-\eta^2\right) d\eta\right]_{\eta=0} \qquad \textbf{(3-112)}$$

27. In Eq. (4-302), the equality should be an approximation:

$$h_{lam} \approx \frac{k}{\delta_{t,lam}} \tag{4-302}$$

28. The equalities in Eqs. (4-308), (4-309), (4-310), (4-311), (4-312), (4-313), (4-316), and (4-318) should be approximations:

$$\delta_{t,lam} \approx 2\sqrt{\alpha t} = 2\sqrt{\frac{k\,x}{\rho\,c\,u_\infty}} \tag{4-308}$$

$$\delta_{m,lam} \approx 2\sqrt{\upsilon t} = 2\sqrt{\frac{\mu\,x}{\rho\,u_\infty}} \tag{4-309}$$

$$\frac{\delta_{m,lam}}{\delta_{t,lam}} \approx \frac{2\sqrt{\upsilon t}}{2\sqrt{\alpha t}} = \sqrt{\frac{\upsilon}{\alpha}} = \sqrt{Pr} \tag{4-310}$$

$$\delta_{t,turb} \approx 2\sqrt{\frac{k_{turb}\,x}{\rho\,c\,u_\infty}} \tag{4-311}$$

$$\delta_{m,turb} \approx 2\sqrt{\frac{\mu_{turb}\,x}{\rho\,u_\infty}} \tag{4-312}$$

$$\frac{\delta_{m,turb}}{\delta_{t,turb}} \approx 2\sqrt{\frac{\mu_{turb}\,x}{\rho\,u_\infty}}\frac{1}{2}\sqrt{\frac{\rho\,c\,u_\infty}{k_{turb}\,x}} = \sqrt{\underbrace{\frac{\mu_{turb}}{\rho}}_{1/\upsilon_{turb}}\underbrace{\frac{\rho\,c}{k_{turb}}}_{\alpha_{turb}}} \tag{4-313}$$

$$\frac{\delta_{m,turb}}{\delta_{t,turb}} \approx \sqrt{\underbrace{\frac{\upsilon_{turb}}{\alpha_{turb}}}_{Pr_{turb}}} \tag{4-316}$$

$$\frac{\delta_{m,turb}}{\delta_{t,turb}} \approx \sqrt{Pr_{turb}} \tag{4-318}$$

29. Equation (4-313) should be (the notes under the last square root are changed):

$$\frac{\delta_{m,turb}}{\delta_{t,turb}} = 2\sqrt{\frac{\mu_{turb}\,x}{\rho\,u_\infty}}\frac{1}{2}\sqrt{\frac{\rho\,c\,u_\infty}{k_{turb}\,x}} = \sqrt{\underbrace{\frac{\mu_{turb}}{\rho}}_{\upsilon_{turb}}\underbrace{\frac{\rho\,c}{k_{turb}}}_{1/\alpha_{turb}}} \tag{4-313}$$

30. Equations (4-358) and (4-361) should be modified slightly:

$$\frac{\partial \overline{T}}{\partial t} + \overline{u}\frac{\partial \overline{T}}{\partial x} + \overline{v}\frac{\partial \overline{T}}{\partial y} = -\frac{1}{\rho c}\frac{\partial}{\partial y}\left[\overbrace{\underbrace{-k\frac{\partial \overline{T}}{\partial y}}_{\substack{\text{diffusive}\\ \text{heat flux}}} + \underbrace{\frac{\rho c}{t_{int}}\int_0^{t_{int}} v'T'\,dt}_{\substack{\text{heat flux due to}\\ \text{turbulent mixing}}}}^{\text{total heat flux}}\right] \qquad \textbf{(4-358)}$$

$$\frac{\partial \overline{T}}{\partial t} + \overline{u}\frac{\partial \overline{T}}{\partial x} + \overline{v}\frac{\partial \overline{T}}{\partial y} = -\frac{1}{\rho c}\frac{\partial}{\partial y}\left[\underbrace{-k\frac{\partial \overline{T}}{\partial y} + \frac{\rho c}{t_{int}}\int_0^{t_{int}} v'T'\,dt}_{\text{apparent heat flux, } \dot{q}_{app}}\right] \qquad \textbf{(4-361)}$$

31. Equation (4-383) should be:

$$\underbrace{-\frac{\rho}{t_{int}}\int_0^{t_{int}} u'v'\,dt}_{\text{Reynolds stress}} \propto \frac{\partial \overline{u}}{\partial y} \qquad \textbf{(4-383)}$$

32. The sentence after Eq. (4-383) should read:

The constant of proportionality that makes Eq. (4-383) an equality is used to define the eddy diffusivity of momentum (ε_M):

33. Equation (4-384) should be

$$-\frac{\rho}{t_{int}}\int_0^{t_{int}} u'v'\,dt = \rho\,\varepsilon_M\,\frac{\partial \overline{u}}{\partial y} \qquad \textbf{(4-384)}$$

34. Equation (5-51) should be

$$\frac{x_{fd,t,lam}}{x_{fd,h,lam}} = Pr \qquad \textbf{(5-51)}$$

35. (Scott Schuetter, UW, 6-17-09), Equation (3) in EXAMPLE 3.1-1 on pg. 309 should be

$$\int_{T_{ini}}^{T}\frac{dT}{\left(T - T_\infty\right)} = -\int_0^t \frac{dt}{\tau_{lumped}} \qquad \textbf{(3)}$$

36. (Matthew Wilfong, UW, 6-28-09), The value of T_∞ in Figure P1-20 on pg. 200 should be 20ºC in order to match the text.

37. (Scott Schuetter, UW, 6-26-09), The equation for the heat transfer from an adiabatic tip fin in Table 1-4 (the first entry) on pg. 104 should read:

$$\dot{q}_{fin} = \left(T_b - T_\infty\right)\sqrt{\bar{h}\ per\, k\, A_c}\,\tanh\left(m\,L\right)$$

The variable T_f should be T_∞.

38. (Scott Schuetter, UW, 7-8-09). Eqs. (6-41) through (6-44) should read:

$$\tilde{u}\frac{\partial\tilde{u}}{\partial\tilde{x}} + \tilde{v}\frac{\partial\tilde{u}}{\partial\tilde{y}} = \frac{\left(T - T_\infty\right)}{\left(T_s - T_\infty\right)} + \underbrace{\frac{\upsilon}{L\sqrt{g\,L\,\beta\left(T_s - T_\infty\right)}}}_{=Gr_L^{-1/2}}\frac{\partial^2\tilde{u}}{\partial\tilde{y}^2} \qquad \textbf{(6-41)}$$

$$\tilde{u}\frac{\partial\tilde{\theta}}{\partial\tilde{x}} + \tilde{v}\frac{\partial\tilde{\theta}}{\partial\tilde{y}} = \underbrace{\frac{\mu}{\rho\sqrt{g\,L\,\beta\left(T_s - T_\infty\right)}\,L\,Pr}}_{=Gr_L^{-1/2}\,Pr^{-1}}\frac{\partial^2\tilde{\theta}}{\partial\tilde{y}^2} \qquad \textbf{(6-42)}$$

$$\tilde{u}\frac{\partial\tilde{u}}{\partial\tilde{x}} + \tilde{v}\frac{\partial\tilde{u}}{\partial\tilde{y}} = \tilde{\theta} + \frac{1}{Gr_L^{1/2}}\frac{\partial^2\tilde{u}}{\partial\tilde{y}^2} \qquad \textbf{(6-43)}$$

$$\tilde{u}\frac{\partial\tilde{\theta}}{\partial\tilde{x}} + \tilde{v}\frac{\partial\tilde{\theta}}{\partial\tilde{y}} = \frac{1}{Gr_L^{1/2}\,Pr}\frac{\partial^2\tilde{\theta}}{\partial\tilde{y}^2} \qquad \textbf{(6-44)}$$

39. (Brian Kupczyk, UW, 8-4-09). Pg. 736, Figure 6-1(a), the arrows on the right-hand side rotating cell should be switched (i.e., the right-hand side cell should be rotating in a clockwise direction).

40. (Jess Hisel, UW, 8-4-09), pg. 750, in the EES code at the top of the page, the equation for h_v should be:

```
h_v=Nusselt_L_v*k/L        "heat transfer coefficient"
```

41. (Dongsheng Zhang, UW, 8-5-09), pg. 995, in the EES code at the top of the page, the equation for the view factor should be:

```
A[2]*F[2,1]=W*((L_ac+L_bc)-(L_ad+L_bc))/2        "crossed and uncrossed strings method"
```

and the sentence underneath the code should be:

which leads to $F_{1,2}$ = 0.033 and $F_{2,1}$ = 0.099.

The last sentence in EXAMPLE 10.3-1 on pg. 996 should be:

which leads to $F_{1,3} = 0.414$.

42. (Scott Schuetter, UW, 7-15-09), pg. 415, in Eq. (3-321), T_f should be T_∞.

43. (Brent Taft, UW, 10-25-09) Pg. xviii. There should be an asterisks after A.3: Introduction to Maple
44. (Mark Rodarte, ME 564 2/3/10) pg. 734, reference 3, Heat is misspelled.
45. (Mark Rodarte, ME 564 2/3/10) pg. 671, Section 5.3.1, line 3 should read "... therefore, in order to solve..."
46. (Mark Rodarte, ME 564 2/3/10) pg. 656, second to last line should read "... to access the correlations..."
47. (Kuya Takame, ME 564, 2/8/10) pg. 75, Eq. (1-154) should be:

$$T_N \underbrace{\left[-\bar{h}_{out}\, 2\pi r_N\, L - \frac{k\, L\, 2\pi}{\Delta r}\left(r_N - \frac{\Delta r}{2} \right) \right]}_{A_{N,N}} + T_{N-1} \underbrace{\left[\frac{k\, L\, 2\pi}{\Delta r}\left(r_N - \frac{\Delta r}{2} \right) \right]}_{A_{N,N-1}} = \underbrace{-\bar{h}_{out}\, 2\pi r_N\, L\, T_{\infty,out} - \dot{g}'''\, 2\pi r_N\, L \frac{\Delta r}{2}}_{b_N} \tag{1-1}$$

48. pg. 759, the right side of Eq. (6-75) should be Ra_L instead of Ra_D.
49. pg. 759, the right side of Eq. (6-76) should be $\overline{Nu}_L$ instead of $\overline{Nu}_D$
50. (Franklin Miller, 2-23-10) Table 3-2, the last entry, the equation for T_int should be:

$$\frac{T_{ini,A} - T_{int}}{T_{int} - T_{ini,B}} = \frac{\sqrt{k_B\, \rho_B\, c_B}}{\sqrt{k_A\, \rho_A\, c_A}}$$

51. (Franklin Miller, 2-23-10) Table 3-2, the last entry, the equations for the temperatures should be:

$$\frac{T_A - T_{ini,A}}{T_{int} - T_{ini,A}} = 1 - \text{erf}\left(\frac{x_A}{2\sqrt{\alpha_A\, t}} \right)$$

and

$$\frac{T_B - T_{ini,B}}{T_{int} - T_{ini,B}} = 1 - \text{erf}\left(\frac{x_B}{2\sqrt{\alpha_B\, t}} \right)$$

52. (Franklin Miller, 3-8-10) Pg. 601, Eq. (4-491), the Re_x should be Re_L.
53. (Franklin Miller, 3-8-10) Remove the 2 from both sides of Eq. (1).
54. (Tim Shedd, 3-9-10) In Table 4-2, the second entry in the bracket for the von Karman velocity profile should be -3.05 rather than +3.05.
56. (Franklin Miller, 3-10-10) In Eq. (5-51) on pg. 647 the denominator should be $x_{fd,h,lam}$.
57. pg. 586, Eq. (4-506), the caption under the second term should read: "energy due to fluid injected at surface" rather than "energy due to fluid motion"

58. (Dan O'Connor, 3-26-10) pg. 317, the first sentence should read "...transient problem as being only a function of time."
59. (Tim Shedd, 4-15-10) pg. 822, the reference for Rohsenow should read Rohsenow, W.M., ...(i.e. a period is missing after the M).
60. (4-20-10) pg. 1065, the comment
    %number of rays

    in the last block of MATLAB code should be formatted as a comment (i.e., blue, smaller font, arial).
61. (4-25-10, Franklin Miller) pg. 1012, Figure 10-14, the label $r \sin(\theta)\, d\theta$ should be changed to $r \sin(\theta)\, d\phi$
62. (4-28-10, Ty Neises) pg. 1064, the second line of MATLAB code should be:
    ict = 0; % counter for number of rays
63. (4-30-10, Seth McElhinney) pg. 1005, last paragraph, the 4th sentence should read "...or about 8ºC higher than our prediction (6.3ºC)."
64. (5-7-10, Ty Neises) pg. 830, Figure 8-8. In the schematic for the parallel flow heat exchanger (a), the arrow running right to left in the top rectangle should be running from left to right.
65. (6-15-10, Marc Hodes, Tufts) pg. 141, Eqs. (1-338) and (1-339) should be:

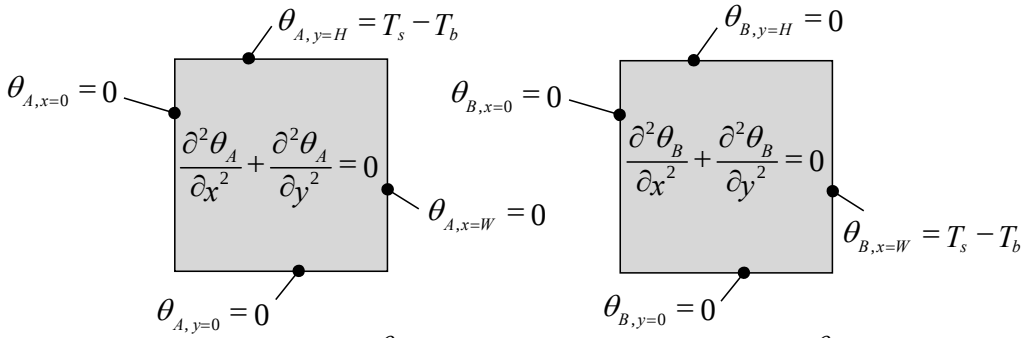
$$C_1 \cosh\left(mx\right) = C_1 \sum_{i=0}^{\infty} \frac{\left(m\,x\right)^{2i}}{\left(2i\right)!} = \frac{C_1}{a_0} F_{even} \tag{1-338}$$

$$C_2 \sinh\left(m\,x\right) = C_2 \sum_{i=0}^{\infty} \frac{\left(m\,x\right)^{2i+1}}{(2i+1)!} = \frac{m\,C_2}{a_1} F_{odd} \tag{1-339}$$

66. (6-15-10, Marc Hodes, Tufts) pg. 143, The caption for Figure 1-49 should read:
    Figure 1-49: Wedge fin (not drawn to scale, *W* >> *th*).
67. (6-15-10, Marc Hodes, Tufts) pg. 147, Maple code: the comma between the 2 and the square root sign in the argument of the Bessel Function of the First Kind should be removed.
68. (6-15-10, Marc Hodes, Tufts) pg. 213. Immediately before Eq. (2-45) insert the sentence:
    Note that every negative integer will also satisfy the eigenproblem; however, the positive integers provide an infinite number of terms and therefore are sufficient.
69. (6-15-10, Marc Hodes, Tufts) pg. 215, the sentence above Eq. (2-50) should be:
    Because the partial differential equation is linear and homogeneous, the sum...
70. (6-15-10, Marc Hodes, Tufts), pg. 239. Add the following sentences after Eq. (20).
    Equation (20) shows why it is necessary to treat the zeroth term in the series separately. If the limit notation is removed and the term was treated in the normal way then we would conclude that C_0 was infinite.
71. (6-15-10, Marc Hodes, Tufts), pg. 242, Second sentence of Section 2.4.1 should read.
    The sum of all of the functions that separately satisfy a linear homogeneous differential equation will...
72. (6-15-10, Marc Hodes, Tufts), pg. 243, Eq. (2-129) should be:

$$T = \frac{\dot{g}''' L^2}{2k}\left[\frac{x}{L} - \left(\frac{x}{L}\right)^2\right] - \frac{\left(T_{LHS} - T_{RHS}\right)}{L} x + T_{LHS} \tag{2-129}$$

73. (6-15-10, Marc Hodes, Tufts), pg. 246, Figure 2-18(c) should be replaced with:



sub-problem for θ_A sub-problem for θ_B

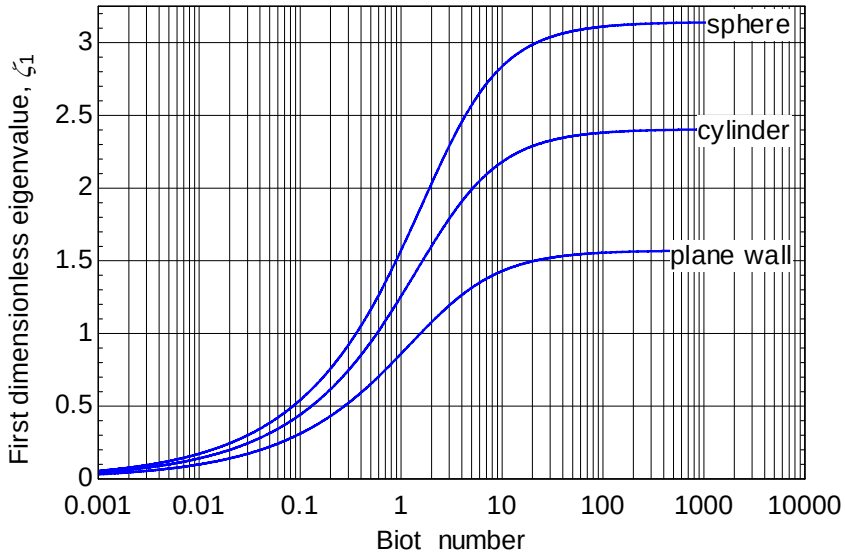
74. (6-15-10, Marc Hodes, Tufts), pg. 370, add the following sentence to the paragraph immediately before Section 3.4.2:
    The Laplace transform is particularly useful for short time-scale and semi-infinite body problems.
75. (6-15-10, Marc Hodes, Tufts), pg 393, Eq. (8) should be:

$$\left.\frac{dT}{dx}\right|_{x\to\infty} = 0 \tag{8}$$

76. (6-15-10, Marc Hodes, Tufts), pg. 400, Eq. (3-245) should be:

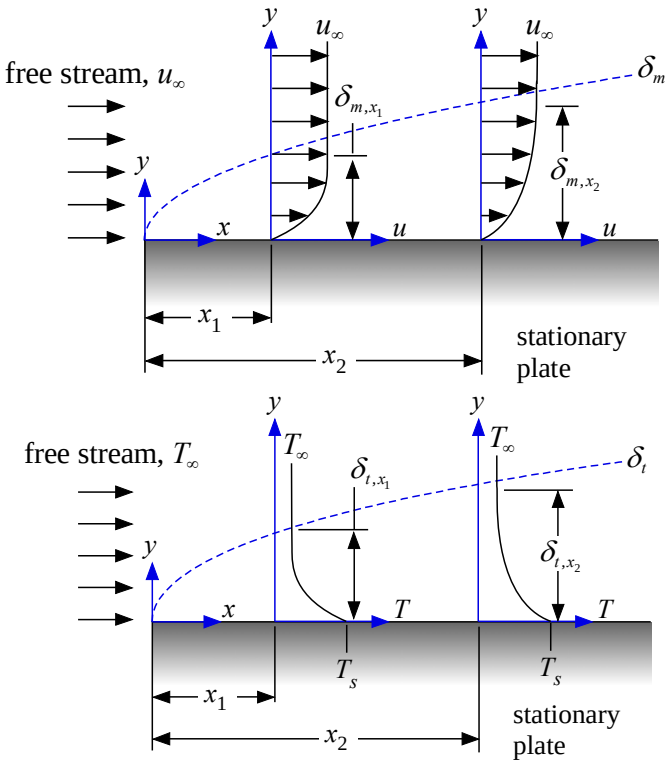
$$\tilde{Q} \approx 1 - \left[\frac{2\sin(\zeta_1)}{\zeta_1 + \cos(\zeta_1)\sin(\zeta_1)}\right]\frac{\sin(\zeta_1)}{\zeta_1}\exp\left(-\zeta_1^2\, Fo\right) \tag{3-245}$$

77. (6-15-10, Marc Hodes, Tufts), pg. 401, Figure 3-21 should be replaced with:



78. (6-15-10, Marc Hodes, Tufts), pg. 412, the caption for Figure 3-23 should read:
    Figure 3-23: The left and right sides of the eigencondition equation for Bi = 1.0; the intersection...
79. (6-15-10, Marc Hodes, Tufts), pg. 419, the caption for Figure 3-26 should read (note the addition of the words "at the center of the wall" and the change from $\hat{x}$ to $\tilde{x}$):
    Figure 3-26: Temperature at the center of the wall as a function of ... with 100 terms at $\tilde{x}$ = 0.

80. (6-16-10, Marc Hodes, Tufts), pg. 484, Figure 4-1(a) and Figure 4-1(b) should be replaced with:



81. (6-16-10, Marc Hodes, Tufts), pg. 493, the equality in Eq. (4-47) should be an $\approx$ sign.
82. (6-16-10, Marc Hodes, Tufts), pg. 497, the sentence above (4-67) should be:
The rate equations that govern the shear and normal stresses in a Newtonian...
83. (6-16-10, Marc Hodes, Tufts), pg. 498, second sentence from the bottom of the page, remove the parenthetical statement: "(primarily its kinetic energy)"
84. (6-16-10, Marc Hodes, Tufts), pg. 500, immediately after Eq. (4-87) insert the sentence:
Obviously, the boundary layer simplifications are not appropriate near the leading edge of the plate.
85. (6-16-10, Marc Hodes, Tufts), pg. 509, Eq. (4-134) should be:

$$\tilde{u}\frac{\partial\tilde{u}}{\partial\tilde{x}}+\tilde{v}\frac{\partial\tilde{u}}{\partial\tilde{y}}=-\frac{d\tilde{p}_\infty}{d\tilde{x}}+\underbrace{\mu\frac{u_\infty}{L^2}\frac{L}{\rho u_\infty^2}}_{\frac{\text{viscous}}{\text{inertial}}}\frac{\partial^2\tilde{u}}{\partial\tilde{y}^2} \qquad (4\text{-}134)$$

86. (6-16-10, Marc Hodes, Tufts), pg. 543, in the sentence below Eq. (4-300) change the word or to the word nor.
87. (6-16-10, Marc Hodes, Tufts), pg. 550, Eq. (4-333) should be:

$$\frac{1}{t_{int}}\left[\int_0^{t_{int}}\frac{\partial\overline{u}}{\partial x}dt+\int_0^{t_{int}}\frac{\partial u'}{\partial x}dt+\int_0^{t_{int}}\frac{\partial\overline{v}}{\partial y}dt+\int_0^{t_{int}}\frac{\partial v'}{\partial y}dt\right] \qquad (4\text{-}333)$$

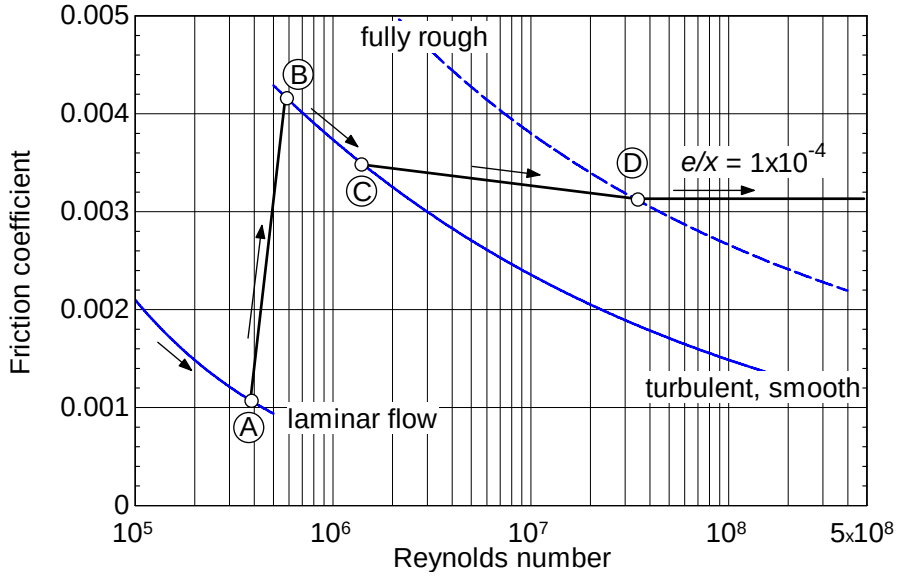
88. (6-16-10, Marc Hodes, Tufts), pg. 558, the sentence following Eq. (4-363) should be extended to say:
The simplification of Eq. (4-362) to Eq. (4-363) is consistent with assuming that the apparent shear stress is constant and is referred to as the Couette flow approximation because the

viscous shear in a laminar Couette flow is constant and the apparent shear is constant in an appropriate portion of turbulent boundary layers.

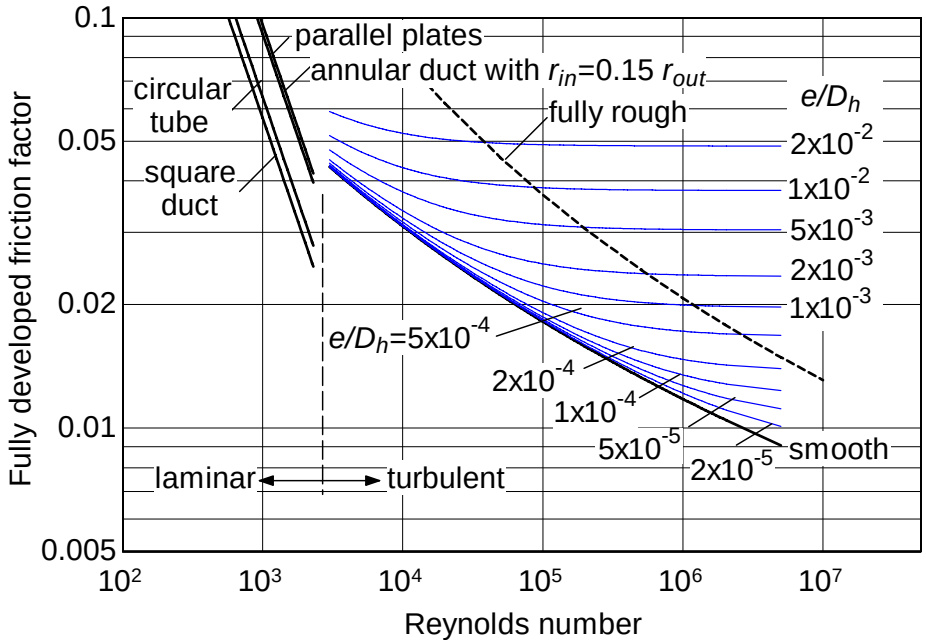
89. (6-16-10, Marc Hodes, Tufts), pg. 570, Eq. (4-437) should be (change the 10.8 to 11.5):

$$\theta^+ - 11.5\,Pr = \int_{w=\frac{1}{Pr}+\frac{1}{Pr_{turb}}(11.5\kappa-1)}^{\frac{1}{Pr}+\frac{1}{Pr_{turb}}\left(\kappa y^+-1\right)} \frac{Pr_{turb}}{\kappa}\frac{dw}{w} \qquad (4\text{-}437)$$

90. (6-16-10, Marc Hodes, Tufts), pg. 593, immediately under the heading Friction Coefficient, the symbol R_{crit} should be Re_{crit}.
91. (6-16-10, Marc Hodes, Tufts), pg. 596, the last sentence in the second paragraph should read: ...is discussed subsequently in this section.
92. Pg. 609, second paragraph, the parenthetical statement in the 2nd sentence should read (this is discussed in Section 5.2.3).
93. Replace Figure 4-32 with the one below:



94. (6-16-10, Marc Hodes, Tufts), pg. 651, replace Figure 5-10 with the one below:



95. (6-16-10, Marc Hodes, Tufts), pg. 667, in Eq. (5-84) change N_u to Nu.
96. (6-16-10, Marc Hodes, Tufts), pg. 675, Eq. (5-97) should be:

$$\ln\left(\frac{T_s - T_m}{T_s - T_{in}}\right) = -\frac{per\, x\, \bar{h}}{\dot{m}\, c} \qquad (5\text{-}97)$$

97. (7-14-10), pg. 619, the subscript D should be capitalized on the second Reynolds number.
98. (7-21-10), pg. 962, In problem 8-1, the symbol u_a should be replaced with $\dot{V}_a$.
99. (9-6-10, Adam Oakland, UW ME 364), pg. xx, the last sentence of the preface should read "... it is our hope that..."
100. (9-23-10, Brandon Deaner, UW ME 364), pg. 56 The legend in Figure 1-18 should be changed; the analytical model should be indicated by a line and the numerical model by the dots.
101. (9-23-10, Brandon Deaner, UW ME 364), pg. 68 The legend in Figure 5 should be changed; the analytical model should be indicated by a line and the numerical model by the dots.
102. (10-4-10, Robert Shebesta, UW ME 364), pg. 205 In Figure 1, the label T_{ice} = 20ºC should be T_{ice} = 0ºC.
103. (10-21-10, Emily Sorenson, UW ME 364), pg. 449, Eq. (3-571). The final term in the parentheses should be dd_i rather than cc_i.
104. (10-21-10, Ryan Fallon, UW ME 364), pg. 362, the second formula in the first entry in the table should be $\dot{q}''_{x=0}$ rather than $\dot{q}_{x=0}$.