ERRATA for D. Wade Hands'
Introductory Mathematical Economics, 2nd Edition

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December 27, 2008

Students in Econ 385, please send any an all typos in the text that you find that are not already listed here to me.

Chapter 0:

Pg. 10. Middle of the page, change $\partial f/\partial x_2 = 10x_1 + 3x_2$ to $\partial f/\partial x_2 = 10x_1 + 3x_2^2$.

Pg. 16. Fourth line from the bottom, insert "square" into "For any square matrix *A*".

Chapter 1:

Pg. 27. Second line after equation (1.19). Change "elastic" to "inelastic" to now read "and inelastic for all quantities between *b*/2 and *b*."

Pg. 27. Last line before equation (1.20). Insert "(inverse)" before "demand" to read "form of the (inverse) demand function".

Pg. 39. Second paragraph. There is no reason for utility values to be restricted to non-negative numbers. Therefore, in the fourth and fifth lines, the text should read, "that assigns a real number to each possible bundle of goods *x* and *y*, or a bit more formally: $U : \Re_+^2 \to \Re$."

Pg. 41. Second line from the bottom, delete "is" to now read "in which the monetary".

Pg. 53. Problem 1.14 (c) should read $Q = -P + 25$.

Pg. 361. Answer to #3 (b) should be: $a = -1$ implies $MR = 0$, $a < -1$ implies $MR > 0$, $-1 < a < 0$ implies $MR < 0$.

Pg. 361. Answer to #9 should be: Upward sloped U shape requires $a > 0$ (which can also be found by requiring $d\text{AVC}/dy > 0$ or $d\text{MC}/dy > 0$). Now, *MC* reaches a minimum when $d\text{MC}/dy = 0$, which requires $y = -b/3a$. Likewise, *AVC* reaches a minimum when $d\text{AVC}/dy = 0$, which requires $y = -b/2a$. Thus, as $a > 0$, these two quantities are positive only when $b > 0$. Finally, AVC and MC must be positive when they reach their minimums. MC positive when $y = -b/3a$ requires $c > b^2/3a$, while AVC positive when $y = -b/2a$ requires $c > b^2/4a$. In summary, therefore, the restrictions on the parameters are that $a > 0$, $b < 0$, and $c > b^2/4a$.

Chapter 2:

Pg. 67. The denominator in equation (2.25) should be U_2^3. The following sentence should then read in part "and since $U_2^3 > 0$ as $U_2 > 0$, we finally …".

Pg. 68. In the sentence of equation (2.28), change "concavity" to "convexity" to read "As argued earlier, strict convexity implied by $d^2x_2/dx_1^2 > 0$,".

Pg. 77. In the third to last line in the gray box for Theorem 2.1 it is written "$g(\lambda) = \lambda` k$" and in the last line it is written "$g(\lambda) = \lambda` f(x)$". In both cases, $\lambda`$ should be λ^r, so it should be written, "$g(\lambda) = \lambda^r k$" and "$g(\lambda) = \lambda^r f(x)$".

Pg. 78. In the fourth line of the second paragraph, "amount" should be replaced with "percentage" (twice) to read, "by exactly the same percentage, the output will also increase by that same percentage;".

Pg. 87. Problem 2.9. The function $\Psi(x)$ must be homogeneous of degree r where $r \neq 0$.

Pg. 87. Problem 2.10. The formula for the elasticity of technical substitution should be: $\sigma = \dfrac{MRTS}{(x_2/x_1)} \cdot \dfrac{d(x_2/x_1)}{dMRTS}$

and in part (*a*), the result should be $\sigma = \dfrac{f_1^2 x_1 + f_1 f_2 x_2}{f_2 x_1 x_2 \left[f_2 \dfrac{\partial MRTS}{\partial x_1} - f_1 \dfrac{\partial MRTS}{\partial x_2} \right]}$.

Pg. 87. Problem 2.11. In part (*b*), the formula should be: $y = f(x_1, x_2) = \left[\alpha x_1^{\rho} + (1-\alpha) x_2^{\rho}\right]^{1/\rho}$. And later, change "$p < 1$" to "$\rho < 1$".

Pg. 87. Problem 2.12. Change to: "For the twice-differentiable production function, $y = f(x)$, …".

Pg. 88. Problem 2.18. Change L to x so that it reads, "labor input $x > 0$,".

Pg. 89. Problem 2.22. Change "are increasing returns to scale in production" to "are decreasing returns to scale in production."

Pg. 362. Problem 1. The answers to part (*b*) should be: $U_1 = \dfrac{1}{2x_1^{1/2}}$, $U_2 = \dfrac{1}{2x_2^{1/2}}$, $U_{11} = -\dfrac{1}{4x_1^{3/2}}$, $U_{22} = -\dfrac{1}{4x_2^{3/2}}$,

$U_{12} = U_{21} = 0$, $MRS = \dfrac{U_1}{U_2} = \left(\dfrac{x_2}{x_1}\right)^{1/2}$, diminishing marginal utility for both goods as $U_{11} < 0$ and $U_{22} < 0$, and the goods are unrelated in utility as $U_{12} = 0$. In part (*c*), the answers are correct except that $U_2 = \dfrac{2x_1^{1/3}}{3x_2^{1/3}}$, $U_{12} = U_{21} = \dfrac{2}{9x_1^{2/3}x_2^{1/3}}$, and $MRS = \dfrac{U_1}{U_2} = \dfrac{x_2}{2x_1}$.

Pg. 362. Problem 15. The answer to part (*b*) should be $r = ½$.

Chapter 3:

Pg. 108. The last paragraph on the page. Replace, "If this expression is negative, then since $f_{11} < 0$, the term on the right-hand side of (3.60) will be positive," with "If this expression is negative, then since $f_{11} < 0$, the term on the right-hand side of (3.60) can be positive or negative,".

Pg. 109. The second sentence before the section on "Perfectly Competitive Firm 2" should be changed from "If the first-order conditions (3.61) hold" to "If the first-order conditions (3.56) hold".

Pg. 128. Problem 3.24. Change the equation for C to read $C = E - aE^2$.

Pg. 129. Problem 3.27. Include in the problem the assumptions that $f_L > 0$ and $f_K > 0$.

Pg 363. In problem 5, we know that $K = 4$, so $TC(y;w,v) = 4v + (wy^2) / 16$ and $ATC = wy / 16 + 4v / y$. Part (*c*) should also mention that $L^* = 4p^2 / w^2$.

Pg. 363. In problem 13, it should be written that $\partial y^* / \partial p > 0$ because the second-order condition not only implies that the denominator is positive but also that the numerator is positive as the second-order condition implies concavity, and concavity implies quasi-concavity, and quasi-concavity implies that the numerator is positive.

Pg. 363. In problem 19, the final statement should be "thus $\pi_i < \pi_{Mon} / n$ for $n \geq 2$.

Pg. 364. The answers to problem 25 should be reversed so that $q_1^* = b/2$ and $q_2^* = b/4$.

Chapter 4:

Pg. 136. The number at the end of the first (partial) paragraph should be \$20 rather than \$12.

Pg. 151. Equation (4.59) on the far right side should have $(1 - e^{-rT})$ instead of $(1 - e^{-rt})$.

Pg. 151. Equation (4.62) should have $(1 - e^{-rT})$ instead of $(1 - e^{-rt})$.

Pg. 166. Problem 4.3 should ask, show that the following relationship necessarily holds: $U(x_0, M–px_0) = M + CS(x_0)$.

Pg. 364. The answer to problem 4.13 should be \$62, 710.80.

Chapter 6:

Pg. 367. The answer to problem 17 should be $3BLK < 2A < 5BLK$.

Chapter 7:

Pg. 256. The first word on the fifth line of the first full paragraph should be "negative" instead of "positive."

Chapter 8:

Pg. 281. The first line should read "in terms of $x_1, x_2, \ldots, x_n$," instead of "in terms of the nth,".

Pg. 286. Equation (8.27c) should have p_1x_1* instead of p_1x_2*.

Pg. 314. First line, replace "it" with "is".

Pg. 315. The first entry in the determinant shown in equation (8.99) should be U_{22}.

Pg. 318. Problem 8.13 uses a formula from question 2.10 that I think is wrong. Now I don't know.