

# Errata/Comments for Hogg, McKean, and Craig (6th), Fall 2005

22S:153 Class at U Iowa

February 26, 2006

1. page 11, line 3 under "1.3 The Probability Set Function, "union" should be "unions".
2. page 11, in the middle of the page (above examples of  $\sigma$ -fields), "the statement C is an event is equivalent to the statement " should be "the statement that C is an event is equivalent to the statement."
3. page 21, Exercise 1.3.17: "...none of them occur" should be changed to "...none of them occurs."
4. page 35, line 3 above (1.5.7), " $X > 1$ " should be " $x \geq 1$ ".
5. page 49, Example 1.7.5, equation of  $J$  should be

$$J = \frac{dx}{dy} = \frac{d}{dy} e^{-y/2} = \dots$$

6. page 53, Exercise 1.7.16: there should be "show" or "prove" before "that Y is stochastically larger than X.
7. page 60, par 2, last line: "than" should be "as".
8. page 62, par 2, equation of  $E(X^m)$ :  $p(x)$  should be used in the summation instead of  $f(x)$ .
9. page 68, Theorem 1.10.1: If  $k$  is a "positive" integer and  $k \leq m$ .
10. page 71, equation (1.10.7): the second  $a_1$  should be  $a_2$ .
11. page 72, Ex 1.10.4, line -2: "greatest lower" should be "least upper".
12. page 76, par 4, line 1: Change "Each of" to "Both".
13. page 83, Ex 2.1.9: Change  $f$  to  $p$ .
14. page 94, line -9: " $(x_1|x_1)$ " should be " $(x_2|x_1)$ ".
15. page 96, line 2: the support be " $0 < x_1 < x_2 < 1$ " instead of " $0 < x_1 < x_2$ ".
16. page 108, Ex 2.4.11:  $\mu_1$ ,  $\mu_2$  and  $k$  are not defined. It is needed that  $k > 0$ .
17. page 117: middle of the page, in the equation for the CDF  $F_{X_1}(b)$ ,  $\Pr(X_1 < b)$  should be  $\Pr(X_1 \leq b)$ .
18. page 117, equatoin 2.6.5: superscript of the second sum should be  $m$  instead of  $n$ .
19. page 120, Remark 2.6.1:  $f$  should be replaced with  $p$  since the variables are discrete. It has caused much confusion.
20. page 121: Theorem 2.6.1, in the last part of the sentence "and let  $B$  be a  $n \times l$  matrix of constants", "a" should be changed to "an."
21. page 135, second equation, the  $M''(t)$  function. there should be a closing bracket after the first  $1 - p$ .
22. page 140, Exercise 3.1.6: The first sentence is grammatically incorrect. Probably it should be something like "Let ... a random experiment WITH (instead of "have") probability ...."
23. page 141, exercise 3.1.12: In the hint,  $f$  is not defined. To be consistent,  $p$  instead of  $f$  should be used. The hint might be reworded to be more accurate. "Determine the largest value of  $x$  for which ...".

24. page 144: In line -2, it should be "the number of changes  $X$  in an interval..."
25. page 148, exercise 3.2.8. There are chocolate drop cookies and chocolate chip cookies, the latter with a countable number of chips that could have a mean but drops don't have chips. At least in this country. Perhaps that's the problem: <http://english2american.com/dictionary/c.html>. The text is written for British students.
26. page 159, Exercise 3.3.25, for part (a),  $x$  and  $y$  need to be positive.
27. page 168, Exercise 3.4.1:  $\Phi(x)$  should be  $\Phi(z)$ .
28. page 172, line 8: there should be a "diag" before the left bracket.
29. page 175, Theorem 3.5.2: Change "partioned" to "partitioned".
30. page 175, Theorem 3.5.3: Change "partioned" to "partitioned".
31. page 180, Exercise 3.5.15, the " $X$ " in "Suppose  $X$  is distributed..." should be highlighted.
32. page 181, Exercise 3.5.17, the " $X$ " in "Suppose  $X$  is distributed..." should be highlighted.
33. page 187, line 6, sample variance  $S^2$  should not be bold faced. It appeared twice on this line. [Bold-faced font are reserved for matrices, to be consistent.]
34. page 187, line 10, "Because the summands are independent by Corollary 3.3.1, we have that ...." should be changed to "Because the summands are independent, then by Corollary 3.3.1 we have that ...." [That the summands are independent is a given condition in the Student's THM.]
35. page 192, line -9: The "pdf" in "the unconditional pdf of  $X$  is given by ..." should be "pmf."
36. page 193, in line 18, the support for the Pareto cdf should not include zero.
37. page 193, in line -6, the support for the Burr cdf should not include zero.
38. page 195, Exercise 3.7.9, line 4: replace " $\lambda = h$ " with " $\beta = h^{-1}$ ".
39. page 195, Exercise 3.7.9, line 6: Cancel  $\Gamma(\alpha + k + h)$  in both the numerator and the denominator.
40. page 195, Exercise 3.7.10, part (a), "geometric pdf" should be changed to "geometric pmf."
41. page 195, Exercise 3.7.12 line 2, the last parameter should be  $\beta/c$ .
42. page 197, line -11: "...estimate  $\theta$ . In which case,..." should be changed to "...estimate  $\theta$ , in which case,..."
43. page 206, Definition 4.2.2L: "Let  $X_1, \dots, X_n$  be a RANDOM sample..." (At other places it seems that whenever the authors mean a random sample, they will explicitly say "a random sample").
44. page 206, line -1: The bias of  $V$  should be  $-\sigma^2/n$ .
45. page 207, Exercise 4.2.2 (a): Add a "to" in front of  $p$ .
46. page 208, line 6: "where  $X$  has a standard normal random..." probably should be changed to "where  $X$  has a standard normal distribution."
47. page 208, last line: "Then is easy to show..." should be changed to "Then it is easy to show...."
48. page 215, the line under equation 4.3.11, "but it is also serves..." should be "but it also serves...."
49. page 216, line -3:  $t^3$  in the first limit should be  $t^2$ .
50. page 218, Exercise 4.3.3, "of size  $n$ " should be added after "a random sample."
51. page 221, line 1: "additionaly" should be "additionally."
52. page 222, line -14, "Calculation" should be "Calculations."
53. page 226, Exercise 4.4.11: Need to add that  $\mu \neq 0$ .

54. page 683, 2.3.24 (a):  $0 \leq p_1 + p_2 + p_3 \leq 1$ .
55. page 685. 2.3.1: replace  $(6x_1^2 + 3)^2$  with  $(6x_1 + 3)^2$ .
56. page 686, the solution to Exercise 3.3.16 should be  $\text{exponential}(1)$ , instead of  $\chi^2(2)$ .
57. page 686, the answers to Exercise 3.5.1 (a) and (b) should be .5746 and .7357, respectively. [If rounded up, they should be .575 and .736, respectively.]