

**Errata for “An Introduction to Stochastic Differential
Equations”, AMS Press
by Lawrence C. Evans**

Last modified: Feb 5, 2019.

CHAPTER 1

CHAPTER 2

CHAPTER 3

CHAPTER 4

CHAPTER 5

page 89, line -13: Add “when Y_1 is nonrandom”. When Y_1 is random, the formula for the variance is

$$V(Y(t)) = V(Y_0) + \frac{(1 - e^{-bt})^2}{b^2} V(Y_1) + \frac{\sigma^2}{b^2} t + \frac{\sigma^2}{2b^3} (-3 + 4e^{-bt} - e^{-2bt}).$$

I thank to N. Brubaker for showing me this.

CHAPTER 6

page 104: The first part of the proof is incorrect. To fix it, introduce the additional assumption that

$$\bigcap_{s>t} \mathcal{F}(s) = \mathcal{F}(t)$$

for all $t \geq 0$. Now replace lines -4 to -6 with

“Then the event

$$\{\tau < t\} = \bigcup_{t_i < t} \underbrace{\{\mathbf{X}(t_i) \in U\}}_{\in \mathcal{F}(t_i) \subseteq \mathcal{F}(t)}$$

belongs to $\mathcal{F}(t)$. Observe next that

$$\{\tau \leq t\} = \bigcap_n \{\tau < t + \frac{1}{n}\} \in \bigcap_n \mathcal{F}(t + \frac{1}{n}) = \mathcal{F}(t).”$$

page 114, line -7: Change (19) to (17)

page 116, line 9: Change “ $Lu = f$ ” to “ $Mu = f$ ”

APPENDICES, INDEX, REFERENCES

Thanks to Kyle Fey and Nicholas Brubaker for finding these mistakes.

Please let me know about any other errors you find, at evans@math.berkeley.edu.