

Errata:

Calculus of Variations and Optimal Control Theory

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Below is a list of corrections for errors found in the original printing of the book. The page numbers refer to the printed edition by Princeton University Press; in parentheses are the corresponding page numbers in the electronic copy downloadable from the author's website (in which some but not all of these corrections have already been implemented).

Page 29 (24): “the actual center of mass is $J(y)/C_0$ ” should read “the actual y -coordinate of the center of mass is $J(y)/C_0$ ”.

Page 32 (26): “spatial curves ($n = 3$)” should read “spatial curves ($n = 2$)”.

Page 84 (67): “assume the following: $f(t, \cdot)$ is \mathcal{C}^1 for each fixed t , and $f_x(\cdot, x)$ is piecewise continuous for each fixed x ” should read “assume instead that $f_x(\cdot, \cdot)$ exists and is locally bounded”. (This was not simply a typo; the assumption needs to be slightly strengthened to make sure that the subsequent statement is correct.)

Page 95 (76): in the last term of the formula (3.40), the argument t_1 is missing from η .

Page 111 (87): in footnote 3, y should be y^* .

Page 174 (139): In the paragraph starting with “To prove the second claim,” the argument as written only works when $n = 1$. In the general case, we need to work with a y that differs from x in only one component, say $y_i \neq x_i$, and replace $y - x$ with $y_i - x_i$ in the denominators of the three fractions in the displayed formula, establishing the equality of the gradients componentwise.

Full disclosure: the above errors were not intentional. In the preface of the book, I said:

“I decided not to eliminate all errors from the book, and instead left several of them on purpose in undisclosed locations as a way to provide additional educational experience. To report success stories of correcting errors, please contact me at my current email address (which is easy to find on the Web).”

To my surprise, this statement has caused quite a stir among reviewers of my book on Amazon.com, with several of them refusing to believe that it was a joke. Other Amazon reviewers remarked, reasonably, that since a certain level of technical sophistication is necessary to follow the book, readers who are unable to correctly interpret the above statement probably do not belong in my target audience anyway. So, I will leave it up to you to decide whether or not intentional undisclosed errors remain, and what to do if you find them.