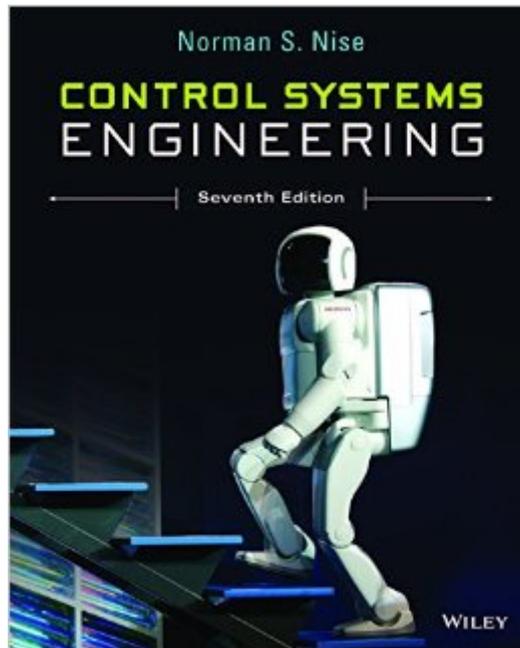# Control Systems Engineering, 7th Edition

Synopsis

Highly regarded for its practical case studies and accessible writing, Norman Nise's Control Systems Engineering has become the top selling text for this course. It takes a practical approach, presenting clear and complete explanations. Real world examples demonstrate the analysis and design process, while helpful skill assessment exercises, numerous in-chapter examples, review questions and problems reinforce key concepts. In addition, "What If" experiments help expand an engineers knowledge and skills. Tutorials are also included on the latest versions of MATLAB, the Control System Toolbox, Simulink, the Symbolic Math Toolbox, and MATLABs graphical user interface (GUI) tools. A new progressive problem, a solar energy parabolic trough collector, is featured at the end of each chapter. Ten new simulated control lab experiments now complement the online resources that accompany the text. This edition also includes Hardware Interface Laboratory experiments for use on the MyDAQ platform from National Instruments. A tutorial for MyDAQ is included as Appendix D.

Book Information

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Customer Reviews

This book is nearly identical to the sixth edition; only the values of quantities were changed around in some of the end of chapter problems. From chapters 1-8 this book did a pretty good job at teaching the material. However, I did run into quite a few snags in chapter 9 where designing PID, and PI compensators are covered. At that point the explanations get so convoluted it becomes almost impossible to get what the author is trying to tell you. Also, in chapter 8 and beyond the author pulls a low move and constantly refers to a root locus software at www.wiley/nise (or whatever it was) that Appendix H pertains to. So instead of teaching purely by hand the author just waves his hands and "uses the software to find dominant poles" with absolutely no emphasis to the methods. I and at least one other student could not get this fabled software to work, so that was a dead end. This left much of the analysis to many of the problems a complete mystery. This alone was going to make me give this a three stars, but I took a hard look and realized how much I took away from this book in spite of it, so I gave a four star rating.

This text is the good control systems textbook model to learn from, as an author. Nise is made for undergraduates to master control systems concepts in both state-space and transform domains. Generally, it lacks a lot of details in state-space area; it is almost a complete coverage of classical control basic concepts.The organization of the text is not just good. It makes this text more like the only well organized text you ,may, find every 10 texts you read!However, the text assumes you have a background in the basic differential equations and laplace transform. It connects the mathematics you know with the system model in an outstanding way that really make you visualize the system dynamics just perfectly! Surly, that depends, somehow, on the reader's motivation toward learning the concept. Although the text doesn't cover thoroughly the state-space approach, it connects both domains in your mind that make you able to see the system poles in the time domain! You are absolutely right to say 'So what!, I know all about Eignvalues and eigenvectors!', it shows you it if you don't. So, if you do know the subject well then maybe you shouldn't buy this introductory level text at all!The bottom line is: I strongly recommend this text for classical control systems course during the undergraduate level. However, I would only recommend to use it in the state-space course as a supplementary text besides some good state-space text like Brogan.

As a student perhaps i have a different perspective from others who have reviewed this book. I own several other controls books and am not impressed by this one. The author has a way or taking straightforward ideas and drawing them out in ways that make them hard to grasp. For the $185 dollars i paid for this book i would expect information presented in a clear way that makes a serious

attempt at teaching. Sadly, i find myself consulting Wikipedia or other free resources before this book when i have a problem. Sometimes it seems textbook authors feel like they must present material in hard abstruse ways to be taken seriously. Not worth the money.I think that professors look at this book and say "this is great. It contains everything i want to teach". Students look at this book and say "I have no idea what this book is trying to tell me". The difference is that the professors already know the material while the students are trying to learn it for the first time.

I had been using a controls engineering book from the 90's written by one of the industries best authors. A coworker had this book (previous version) and I took a look at it. I found the Author's writing style very easy to understand. I'm so glad I got this book. I'm making good progress now. The integration with matlab is very important. I find myself able to jump around in this book depending on what I need to know/do at the time without difficulty.If you're working from a controls engineering text that 20yrs old as I was you're missing out!

I have taught Control Systems to undergraduate mechanical engineers for the past six years. Three years ago I switched from "Modern Control Systems" by Dorf & Bishop to the Nise text, and I have not regretted it.* The Nise text has averaged 4.0/5 in student end-of-term feedback. Dorf & Bishop averaged 3.4/5. Departmental average result for texts in all courses is 3.1/5.* I really appreciate Nise's efforts to integrate previous chapters' concepts into homework problems so that students see how the material builds upon itself and they retain better through the repetition. (You don't have to select these problems, however -- not all of them are like this. There are *many* problems to choose from.)* Answer key solutions are generally correct.Things holding me back from a 5-star rating:* Explanations are not as clear or concise as possible sometimes. For instance, I liked the Type Number analysis (for steady-state error) better in Dorf & Bishop. The summarizing table in Nise has too many columns and is unnecessarily confusing.* The system dynamics problems in chapter 2 are way too hard for a student's introduction to that material. He needs to add about 6-8 easier 1DOF problems at the beginning of the problem set before throwing multiple masses, gears, etc. into the mix.

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