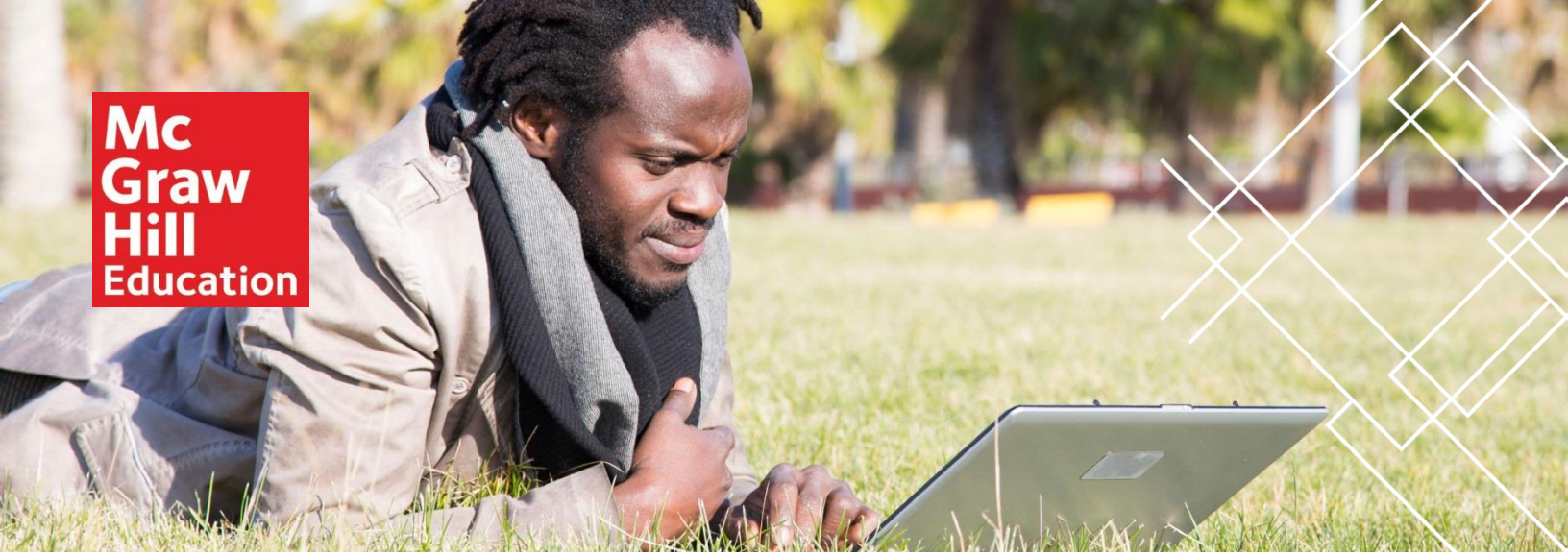

Introduction to Mechatronics and Measurement Systems, 5e

Dr. David G Alciatore

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Detailed List of New Features

Connect and SmartBook are available for the first time with this edition.

- **New and expanded mechatronics system flowchart used at the beginning of each chapter.**
- **Additional end-of-chapter questions throughout the book provide more homework and practice options for professors and students.**
- **Matlab solutions added for all MathCAD analysis files provided in previous editions.**
- **More website resources, including Internet links and online video demonstrations, cited and described throughout the book.**
- **The Laboratory Exercises Manual that supplements and supports this book is now available on-line for free and unlimited use by faculty and students. It is located, along with video demonstrations, on the Lab Book web page at: mechatronics.colostate.edu/lab_book.html**

Retained Features

Class Discussion Items through-out all chapters

Examples in chapter 1 to 9 and in Appendix A

Design Examples in chapter 3-7 and in 9-10

Threaded Design Examples in all Appendices

Chapter by Chapter Changes

Chapter 3:

- New section dealing with diode applications.

Chapter 7:

- New section dealing with the Arduino platform, with numerous resources and examples.
- New section dealing with serial communication between microcontrollers.
- More microcontroller programming and interfacing examples.
- Expanded coverage of practical circuit and microcontroller-project debugging and troubleshooting advice.

Chapter 8:

- New section dealing with using an A/D reconstruction filter to produce high-fidelity representations of sampled data.
- Expanded section dealing with virtual instrumentation and the NI ELVIS Laboratory Platform.

Chapter 10:

- New section dealing with H-bridge bidirectional DC motor control.
- New section dealing with RC servo motors.