

# A Minimal Book Example

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# Chapter 1

## About

This is a *sample* book written in **Markdown**. You can use anything that Pandoc’s Markdown supports; for example, a math equation  $a^2 + b^2 = c^2$ .

### 1.1 Usage

Each **bookdown** chapter is an .Rmd file, and each .Rmd file can contain one (and only one) chapter. A chapter *must* start with a first-level heading: **# A good chapter**, and can contain one (and only one) first-level heading.

Use second-level and higher headings within chapters like: **## A short section** or **### An even shorter section**.

The `index.Rmd` file is required, and is also your first book chapter. It will be the homepage when you render the book.

### 1.2 Render book

You can render the HTML version of this example book without changing anything:

1. Find the **Build** pane in the RStudio IDE, and
2. Click on **Build Book**, then select your output format, or select “All formats” if you’d like to use multiple formats from the same book source files.

Or build the book from the R console:

```
bookdown::render_book()
```

To render this example to PDF as a `bookdown::pdf_book`, you'll need to install XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): <https://yihui.org/tinytex/>.

### 1.3 Preview book

As you work, you may start a local server to live preview this HTML book. This preview will update as you edit the book when you save individual .Rmd files. You can start the server in a work session by using the RStudio add-in “Preview book”, or from the R console:

```
bookdown::serve_book()
```

# Chapter 2

## Syllabus

Instructor: Tobin Turner

Office Hours: mutually convenient time arranged by email e-mail: jttturner@presby.edu

### 2.1 Course Objectives and Learning Outcomes

This course is designed to introduce to data science. Students will apply statistical knowledge and techniques to both business and non-business contexts.

At the end of this course students should be able to:

By the end of the course, you will be able to...

- gain insight from data
- gain insight from data, reproducibly
- gain insight from data, reproducibly, using modern programming tools and techniques
- gain insight from data, reproducibly and collaboratively, using modern programming tools and techniques
- gain insight from data, reproducibly (with literate programming and version control) and collaboratively, using modern programming tools and techniques
- communicate results effectively

This course will be focused on both understanding and applying key business analytical concepts. Although the text serves as a useful foundation for the concepts covered in the class, simple memorization of the material in the text will not be sufficient. Class participation, discussion, and application are critical.

## 2.2 Text and Resources

- This course website (primary resource)
- R for Data Science
- An Introduction to Statistical Learning with Applications in R
- Data Science in a Box
- stackoverflow.com, for example
- Other free, publicly available datasets and publications.

## 2.3 Performance Evaluation (Grading)

- Quizzes and Assignments - 40%
- Exam 1 - 20%
- Exam 2 - 20%
- Final Exam - 20%

### 2.3.1 Exams

Exams will cover assigned chapters in the textbook, other assigned readings, lectures, class exercises, class discussions, videos, and guest speakers. I will typically allocate time prior to each exam to clearly identify the body of knowledge each test will cover and to answer questions about the format and objectives of the exam.

### 2.3.2 Quizzes – DON'T MISS CLASS

- The average of all quizzes and assignments will comprise the Quizzes and Assignments - 40% portion of your final grade
- Quizzes and Assignments are designed to prepare you for your exams and to ensure you stay up with the course material
- **Missed Quizzes and Assignments cannot be made up later. Be present.**

Quizzes rule. **LISTEN.** - Missed Quizzes and Assignments cannot be made up later. Be present.

### 2.3.3 Final Average

- Final Average Grade
  - 90-100 A



- 88-89 B+
- 82-87 B+
- 80-81 B-
- 78-79 C+
- 72-77 C+
- 70-71 C-
- 60-69 D
- 59 and below F

## 2.4 Class Participation:

I will frequently give readings or assignments for you to complete prior to the next class meeting. I expect you to fully engage the material: answer questions, pose questions, provide insightful observations. Keep in mind that quality is an important component in “participation.” Periodic cold calls will take place. I will also put students in the “hot seat” on occasion. In these class sessions, I may select a random group of students to lead us in the discussion and debate. Because the selection of participants will not be announced until class begins, everyone will be expected to prepare for the discussion. Reading the assigned chapters and articles are the best way to prepare for the discussion. If you have concerns about being called on in class, please see me to discuss. The purpose of the “hot seat” is not to stress or embarrass students, but to encourage students to actively engage the material.

## 2.5 Phones

**Phones are not allowed to be used in class without the instructor’s prior consent.** If you have a need of a phone during class please let me know before class. Unauthorized use of electronic devices may result in the lowering of the grade or dismissal from the class. **I mean this.**

**The phone thing? I mean this.**

## 2.6 Attendance

You are expected to be regular and punctual in your class attendance. Students are responsible for all the material missed and homework assignments made. If class is missed, notes/homework should be obtained from another student. If I am more than 15 minutes late, class is considered cancelled. No more than 4 absences are allowed during a semester. Exceeding the absence policy may result in receiving an F for the course. The professors roll is the official roll and students not present when roll is taken will be counted as absent. If a

student must miss an exam, she or he must work out an agreeable time with the instructor to take the test prior to the exam being given. If a student misses a test due to an emergency, the student must inform the instructor as soon as is possible. In special cases, the instructor may allow the student to take a make-up exam.

## 2.7 Accommodations

Presbyterian College is committed to providing reasonable accommodations for all students with documented disabilities. If you are seeking academic accommodations under the Americans with Disabilities Act, you must register with the Academic Success Office, located on 5th Avenue (beside Campus Police). To receive these accommodations, please obtain the proper Accommodations Approval Form from that office, and then meet with me at the beginning of the semester to discuss how we may deliver your approved accommodations. I especially encourage you to meet with me well in advance of the actual accommodations being provided, as it may not be feasible to offer immediate accommodations without sufficient advance notice (such as in the case of tests). I can assure you that all discussions will remain confidential. Disability Services information is located at this link <http://bit.ly/PCdisabilityservices>

Additionally, it is the student's responsibility to give the instructor one week's notice prior to each instance where accommodation will be required.

## 2.8 Honor Code and Plagiarism:

All assignments/exams must be your own work. Any copying or use of unauthorized assistance will be treated as a violation of PC's Honor Code. If you are unsure of what resources are allowed, please ask. Please note that all text longer than 7 words taken from ANY other source must be placed in quotations and cited. Also, summarizing ANY other source must also be cited. Using ANY other source and showing work to be your own is a violation of plagiarism and the honor code.

## 2.9 First-Generation Version:

I am a Presby First+ Advocate. I am here to support our current first-generation students. At Presbyterian College, first-generation students are those in which neither parent nor legal guardian graduated from a four-year higher education institution with a bachelor's degree. If you are a first-generation college student, please contact me. For more information about support for first-generation college students on our campus visit our Presby First+ webpage.

## **2.10 Continuing Advocate Version**

I am a Presby First+ Advocate. I am committed to supporting first-generation students at Presbyterian College. At Presbyterian College, first-generation students are those in which neither parent nor legal guardian graduated from a four-year higher education institution with a bachelor's degree. If you are a first-generation college student, please contact me anytime or visit me during my office hours. For more information about support for first-generation college students on our campus visit our Presby First+ webpage.



## Chapter 3

# Our Class Rhythm

**Monday:** Wrap up previous topic and introduce what you've pre-read about. Chat. Play. Work some examples. Make sure the topics applies to real-life.

**Wednesday:** Work more examples. Chat as needed. **Live our best lives. :).**

**Friday:** Apply what we've learned – demonstrate your mastery (typically in the form of a quiz, lab, or assignment). Rinse. Repeat.



## Chapter 4

# End in Mind

**Dana Simmons:** “Can you predict which students will enroll at PC?”

**Christina Miller:** ??? Well, can you? ???





# Chapter 5

## Schedule

This is a tentative schedule, and it will change. **BUT** I will do my very best to review this often so that we all stay on the same page and so that you may plan accordingly!

### Spring 2022

Date	Topic
Monday, January 10, 2022	Intro and A1 review
Wednesday, January 12, 2022	Rmarkdown
Friday, January 14, 2022	QUIZ 1: Assignment 1 in Rmarkdown
Monday, January 17, 2022	MLK Holiday
Wednesday, January 19, 2022	ggplot
Friday, January 21, 2022	Quiz 2
Monday, January 24, 2022	ggplot
Wednesday, January 26, 2022	ggplot
Friday, January 28, 2022	ggplot QUIZ
Monday, January 31, 2022	TIDY SPREAD AND GATHER (R4DS CH 9 DPLYR)
Wednesday, February 2, 2022	RELATIONAL DATA (R4DS CH 10 DPLYR)
Friday, February 4, 2022	QUIZ
Monday, February 7, 2022	STRINGS (R4DS CH 11 stringr)
Wednesday, February 9, 2022	STRINGS (R4DS CH 12 factors)
Friday, February 11, 2022	QUIZ
Monday, February 14, 2022	Dates and Times
Wednesday, February 16, 2022	Dates and Times
Friday, February 18, 2022	QUIZ
Monday, February 21, 2022	Functions
Wednesday, February 23, 2022	Functions

Date	Topic
Friday, February 25, 2022	QUIZ
Monday, February 28, 2022	Iteration
Wednesday, March 2, 2022	Iteration
Friday, March 4, 2022	QUIZ
Monday, March 7, 2022	LAUNCH PROJECT
Wednesday, March 9, 2022	INDEPENDENT PROJECT
Friday, March 11, 2022	INDEPENDENT PROJECT
Monday, March 14, 2022	SPRING BREAK
Wednesday, March 16, 2022	SPRING BREAK
Friday, March 18, 2022	SPRING BREAK
Monday, March 21, 2022	INDEPENDENT PROJECT
Wednesday, March 23, 2022	PRESENTATIONS
Friday, March 25, 2022	PRESENTATIONS
Monday, March 28, 2022	Model Building/ADVISING WEEK
Wednesday, March 30, 2022	Model Building/ADVISING WEEK
Friday, April 1, 2022	QUIZ
Monday, April 4, 2022	regression
Wednesday, April 6, 2022	stepwise addition/deletion
Friday, April 8, 2022	QUIZ
Monday, April 11, 2022	logistic regression
Wednesday, April 13, 2022	trees & forests
Friday, April 15, 2022	Easter Holidays
Monday, April 18, 2022	Easter Holidays
Wednesday, April 20, 2022	Model Building
Friday, April 22, 2022	QUIZ
Monday, April 25, 2022	PRESENTATIONS
Wednesday, April 27, 2022	PRESENTATIONS
Friday, April 29, 2022	LAST DAY
Monday, May 2, 2022	Final Exam 8:30 p.m. – F period