

# BIOL5013 Research Methods for Biology and Environment (Semester 1 and 2)

[View Online](#)

---

22 items

---

## Semester 1 - Week 1 (7 items)

---

**Research methods for the biosciences**, by D. Holmes; P. Moody; D. Dine; L. Trueman, 2017

[Book](#)

---

**Research methods for the biosciences**, by D. Holmes; P. Moody; D. Dine; Laurence Trueman, 2017

[Book](#) | **Essential** | Section 1 Chapter 1

---

**A plea for basic biology - Scientific American Blog Network**

[Webpage](#) | **Optional** | Research Methods Week 1

---

**Response to THE END OF THEORY**

[Webpage](#) | **Optional**

---

**The End of Theory: The Data Deluge Makes the Scientific Method Obsolete**

[Webpage](#) | **Optional**

---

## Semester 1 - Week 3 (2 items)

---

**How to (seriously) read a scientific paper | Science | AAAS**

[Webpage](#) | **Recommended**

---

**How to read and understand a scientific paper: a guide for beginners**

[Webpage](#) | **Recommended**

---

## Semester 1 - Week 5 (3 items)

---

Reading for Weeks 7-10

---

**Research Methods for the Biosciences**, by D. Holmes; P. Moody; D. Dine, 2011

[Book](#) | **Essential** | Please Read: Section 1 Chapter 2

---

**Choosing and using statistics: a biologist's guide 3rd edition.**, by Calvin Dytham, c2011

[Book](#) | **Essential** | Please Read: Chapters 1 through 4

---

**OpenIntro Statistics**, by David Diez; Christopher Barr; Mine Cetinkaya-Rundel

[Book](#) | **Recommended** | Please Read: Sections 1.1 - 1.5 and Practice exercises: End of chapter exercises in Chapter 1: 1.1, 1.3, 1.11, 1.13, 1.17, 1.19, 1.25, 1.27, 1.31 (solutions

are at the end of the book)

## Semester 1 - Week 10 (3 items)

Please try and skim before class in week 10 and read-indepth afterwards.

---

**Research Methods for the Biosciences**, by D. Holmes; P. Moody; D. Dine, 2011

[Book](#)

| **Essential** | Sections 11.7-11.8 from Chapter 11 on Reporting Results.

---

**Choosing and using statistics: a biologist's guide 3rd edition.**, by Calvin Dytham, c2011

[Book](#)

| **Essential** | Read Chapter 5 and Chapter 6. Try following the examples and exercises in R.

---

**OpenIntro Statistics**, by David Diez; Christopher Barr; Mine Cetinkaya-Rundel

[Book](#)

| **Recommended** | Sections 1.6-1.7. Make sure to try the exercises.

---

## Semester 2 - Week 1 (3 items)

Please try and skim before class in week 1 (semester 2) and read-indepth afterwards.

---

**Choosing and using statistics: a biologist's guide 3rd edition.**, by Calvin Dytham, c2011

[Book](#)

| **Essential** | Revise Chapter 4 (Hypothesis Testing, Sampling and Experimental Design) and Read Chapter 7 (the tests to look for differences).

---

**Handbook of Biological Statistics**, by J.H. McDonald, 2014

[Book](#)

| **Recommended** | Additional Resource for Statistics

---

**An R Companion for the Handbook of Biological Statistics**

[Webpage](#)

| **Recommended** | R code for all statistical tests in the Handbook of Biological Statistics

---

## Semester 2 - Week 2 (4 items)

Please try and skim before class in week 2 (semester 2) and read-indepth afterwards.

---

**Choosing and using statistics: a biologist's guide 3rd edition.**, by Calvin Dytham, c2011

[Book](#)

| **Essential** | Read Chapter 8 (the tests 2: tests to look at relationships). Try following the examples and exercises in R.

---

**Handbook of Biological Statistics**, by J.H. McDonald, 2014

[Book](#)

---

**An R Companion for the Handbook of Biological Statistics**

[Webpage](#)

---

**Best Practices in Preparing Data Files for Importing into R - Easy Guides - Wiki - STHDA**

[Webpage](#)

| **Essential** | How to prepare your data for importing into R

---

## Semester 2 Week 5 (and onwards) (2 items)

---

**Research Methods for the Biosciences**, by D. Holmes; P. Moody; D. Dine, 2011

**Book** | **Essential** | Chapter 4 is helpful in understanding ethical and safety issues involved in conducting research and may be relevant for your project.

---

**Research Methods for the Biosciences**, by D. Holmes; P. Moody; D. Dine, 2011

**Book** | **Recommended** | Chapter 11 may be helpful in writing CW3