**Class dates - Fall 2022: Meets Monday, 4:30pm to 7:10pm**

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| **Class Number** | **Date** | **Topics** |
| Week 1 | 21-Aug-22 | Class overview |
| Week 2  | 28-Aug-22 | Book chapters from "At the Bench" and “At the Helm” |
| Week 3 | 4-Sep-22 | No Class Labor Day |
| Week 4 | 11-Sep-22 | How to write a Manuscript |
| Week 5 | 18-Sep-22 | NIH study section material related to how to write grants |
| Week 6 | 25-Sep-22 | NIH study section material related to review process/ Non-NIH funding process |
| Week 7 | 2-Oct-22 | NIH study section overview |
|  | 9-Oct-22 | Fall Break – No Class today (Tuesday) |
| Week 8 | 10-Oct-22 | R01 & R21 Sample Applications & Summary statement |
| Week 9 | 16-Oct-22 | K01, K08 & F31 Sample Applications & Summary statements |
| Week 10 | 23-Oct-22 | Continuation of Sample Applications & Summary statements |
| Week 11 | 30-Oct-22 | Lectures on budget, IRB, IACUCC, etc |
|  Week 12 | 6-Nov-22 | Mock grant write-up |
| Week 13 | 13-Nov-22 | Presentation of grants by students |
| Week 14 | 20-Nov-22 | Presentation of grants by students |
| Week 15 Last class | 27-Nov-22 | Presentation of grants by students |

Books for the class:

**Title** [**At the Bench: A Laboratory Navigator, Updated Edition**](http://default.tpl?cart=120654848716855755&action=full&--eqskudatarq=470)

*At the Bench* is the unique and hugely successful handbook for living and working in the laboratory, an essential aid to understanding basic lab techniques and how research groups work at a human level. In this newly revised edition, chapters have been rewritten to accommodate the impact of computer technology and the Internet, not only on the acquisition and analysis of data, but also on its organization and presentation. Alternatives to the use of radiation have been expanded, and figures and illustrations have been redrawn to reflect changes in laboratory equipment and procedures.

Download copy here: <http://www.amazon.com/dp/B007C6ZLRW/>

**Title** [**At the Helm: A Laboratory Navigator**](http://default.tpl?cart=120654848716855755&action=full&--eqskudatarq=362)

Newly appointed principal research investigators have to recruit, motivate, and lead a research team, manage personnel and institutional responsibilities, and compete for funding, while maintaining the outstanding scientific record that got them their position in the first place. Small wonder, then, that many principal investigators feel ill-prepared. In this book, a successor to her best-selling manual for new recruits to experimental science, *At The Bench,* Kathy Barker provides a guide for newly appointed leaders of research teams, and those who aspire to that role. With extensive use of interviews and a text enlivened with quotes and real-life examples, Dr. Barker discusses a wide range of management challenges and the skills that promote success. Her book is a unique and much-needed contribution to the literature of science.

Download copy here: <http://www.amazon.com/dp/B007C6XLWE/>

**Title** **Statistics at the Bench: A Step-by-Step Handbook for Biologists**

Statistics at the Bench is a convenient bench-side companion for biologists, designed as a handy reference guide for elementary and intermediate statistical analyses. The expectations for biologists to have a more complete understanding of statistics are growing rapidly. New technologies and new areas of science, such as microarrays, next-generation sequencing, and proteomics, have dramatically increased the need for quantitative reasoning among biologists when designing experiments and interpreting results. Even the most routine informatics tools rely on statistical assumptions and methods that need to be appreciated if the scientific results are to be correct, understood, and exploited fully.

This book is not a textbook. It is an essential handbook for working scientists. Statistics at the Bench provides a simple refresher for those who have forgotten what they once knew, and an overview for those wishing to use more quantitative reasoning in their research. Statistical methods, as well as guidelines for the interpretation of results, are explained using simple examples. Throughout the book, examples are accompanied by detailed Excel commands for easy reference.

Purchase copy here: <http://www.cshlpress.com/default.tpl?action=full&cart=134582111394516639&--eqskudatarq=683&newtitle=Statistics%20at%20the%20Bench%3A%20A%20Step-by-Step%20Handbook%20for%20Biologists>

**Disability Statement**

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

**Honor Code Statement**

George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are all prohibited

All violations of the Honor Code will be reported to the Honor Committee.

See honorcode.gmu.edu for more detailed information.

**Enrollment Statement**

Students are responsible for verifying their enrollment in this class.

Schedule adjustments should be made by the deadlines published in the Schedule of Classes.

**Last Day to Add: August 28th**

**Last Day to Drop: September 5th - no tuition penalty**

**Final Drop 50% Refund: September 12th**

**Unrestricted Withdrawal – No Refund: September 26th**

After the last day to drop a class, withdrawing from this class requires the approval of the dean and is only allowed for nonacademic reasons.

Undergraduate students may choose to exercise a selective withdrawal.

See the Schedule of Classes for selective withdrawal procedures.

**Final grade will be based on a combination of class participation and discussion (10%), attendance (40%) and final presentation (50%).**

**Zoom meeting:**

**If you have used Zoom before:**

Go to **zoom.us/profile** and log in. Select Sign Me Out From All Devices located at the bottom of your profile page. Log out of the web session. Then go to **gmu.zoom.us/signin** and log in using your NetID and Patriot Pass Password to join the Mason institutional license.

**If you are new to Zoom:**

Go to **gmu.zoom.us/signin** and log in using your NetID and Patriot Pass Password to join the Mason institutional license.

**Students:**

Students are granted a Basic Zoom account. This allows hosting of up to 100 participants for a maximum of 40 minutes per meeting. If you require more than a Basic account, you may request an upgraded account. Click the Zoom Support button above and identify your need in the "Request Description" field of the form.

**Download the App:**

Install the Zoom App, available from Software Center (PC) or Self Service (Mac), for additional integration with Outlook to schedule meetings directly from the Outlook email client. You may also download software at **https://zoom.us/download**. Smartphone users may download Zoom from their app store.

**For more details or help**:

**https://its.gmu.edu/service/zoom/**