



# Red Hawk Mathematics Learning Center

## Student Contract

\*\*\*Please read this document carefully and complete the orientation assignment in MyLabsPlus.\*\*\*

### **COURSE TITLE:** Math 110 – Statistics for the Biological Sciences

**COURSE DESCRIPTION:** Introduction to the use of statistics in the real world with an emphasis on biological data. Topics include: analysis and presentation of data, variability and uncertainty in data, techniques of statistical inference and decision-making. This course is intended for Biology majors. Statistical software such as JMP will be used. Not for mathematics majors. Meets the General Education Requirement - Mathematics.

### **COURSE MATERIALS:**

- 1. MyLabsPlus Access Code (required)** Access can be purchased in the bookstore or online. The ISBN for the access code is 978 126 971 3948.  
Note: The Pearson Tech Support number is: 1-800-677-6337  
Log in with user name: **your NetID**; password: **mmddy (your birthday)** – you can change this.

To access the course from outside the lab, go to [montclair.mylabsplus.com](http://montclair.mylabsplus.com)

- 2. Calculator (recommended)** scientific or graphing (TI-86 or lower). Cellphones are prohibited in the center and may not be used as a calculator.
- 3. Headphones (required)** for use in the Red Hawk Mathematics Learning Center.
- 4. Notebook (required) devoted to the course and pencil/pen.** Paper is only provided during a quiz, test, or final.

**GRADING:** In this course you will be evaluated based on your performance on homework, quizzes, tests, comprehensive final exam, projects, and participation.

- A. Homework - 15% of your grade.** Homework is completed online during lab time and at home. You will need to spend additional time, approximately 3-6 hours a week, outside of scheduled lab time to meet weekly objectives.
- B. Quizzes - 10% of your grade.** You will be able to retake any quiz up to 3 times, as long as you complete the attempts before the end of your lab time on the due date. Quizzes are timed, closed notes assignments.
- C. Participation - 5% of your grade.** Participation grade is based on attendance during your scheduled weekly lab times. Credit will be awarded based on the completion of the check-in and check-out process, but you are expected to actively work on assignments during your lab time. Lack of participation can result in losing attendance credit for the lab period.
- D. Focus Group – 5% of your grade.** You will be graded on attendance and participation during each focus group session.
- E. Project/Paper – 15% of your grade.** There is one project in this course, divided into two parts. More information about the project will be included in the course material.
- F. Unit Tests – 30% of your grade (2 Tests, 15% each).** There are 2 Unit Tests in this course. You are allowed one attempt for each test, which must be completed before the end of your lab time on the due date.
- G. Final Exam – 20% of your grade.** The final exam is administered in the Red Hawk Mathematics Learning Center during your scheduled time, but may be taken early if completed before your last lab meeting. Date and time can be found on the course site. Only one attempt is allowed.
- H. Study Plan – Course Bonus (2%).** Bonus points will be awarded based on completion of the study plan at an 80% mastery level **prior to the final**. You must achieve 80% of total number of points to earn the bonus.

**To pass the course with a C- you must score at least a 60% average on parts B, F & G and have at least a 70% total average (60% for a D-).**

**LATE WORK:** Zeros will be submitted on all assignments after the final deadline. Students will not be given an opportunity to make up late assignments.



**REMINDER: The Red Hawk Mathematics Learning Center is a classroom. As a courtesy to all students, cell phones must be turned off or silenced and put away. No visiting with other students. Food and drinks are not allowed. See website for full list of policies.**

### **MATHEMATICS LEARNING CENTER POLICIES**

#### **A. Testing and Quizzing**

- You must provide a picture ID to be permitted to take a quiz or a test.
- Cell phones, additional resources, notes or papers of any kind are not permitted in the testing area. Paper for use while testing and quizzing will be given to you by the proctor. All test paper must be turned into the proctor before leaving the testing area, but keep your quiz papers for review. Calculator use is at the discretion of your instructor.
- You are not permitted to leave the room without speaking to an instructor. If you leave without permission, you will earn a 0 for tests and quizzes.
- **Cheating will result in a 0 on all attempts of the quiz or test.**

#### **B. Use of the Computers**

- Your time at the RHMLC is devoted to your math course work. If caught playing games, sending or reading email, attending to social media sites, or working on other subjects, you will be asked to leave and will not receive attendance credit for your time that day.
- **Note:** MyLabsPlus is both PC and Mac compatible and works best with Chrome or Firefox. The computer labs around campus are available for your use outside of lab time.

**GETTING HELP** - Help is always available, just ask! As you work in the Red Hawk Math Learning Center, several math graduate assistants and tutors will be circulating to give assistance when you need it most. In addition, there will always be an instructor in the lab. Simply place the purple cup on your computer monitor to get the attention of a tutor.

#### **ADDITIONAL TUTORING SERVICES:**

1. Drop-in hours for the RHMLC are posted on the Center's website.
2. In addition to drop-in hours, help is available whenever the Center is open. There may be additional computers available for use, on a first come first serve basis.
3. Small group tutoring times are scheduled Monday through Friday at the RHMLC and are posted on the Center's website/front desk.
4. Center for Academic Development and Assessment – Webster Hall – Room 117. See CADA website for tutoring hours: <http://www.montclair.edu/student-development-campus-life/center-academic-development-assessment/>

**ACADEMIC INTEGRITY**- You are responsible for your own work. Any attempt to cheat will be a violation of the Code of Conduct and subject to academic penalties. If caught cheating, you will earn a 0 for the assignment and the behavior will be reported to the student conduct office. See the school's [academic code](#) for further information on penalties for such misconduct. Two violations of the Code of Conduct will result in a failure of the course.

**DISABILITIES RESOURCES** - Montclair State University is committed to the full inclusion of students with disabilities in all curricular and co-curricular activities as mandated by Section 504 of the Rehabilitation Act of 1973. The Disability Resource Center (DRC) will assist students in receiving the accommodations and services necessary to equalize access. The DRC provides assistance to students with physical, sensory, learning, psychological, neurological, and chronic medical disabilities. The mission of the DRC is to unite the Montclair State University community in an effort to provide students with disabilities the excellence and equity in education to which they are legally entitled. For further information and assistance, contact the Disability Resource Center in **Webster Hall** (973-655-5431).

**COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS)** – In addition to the above services, Montclair State is committed to the emotional well-being of the student body. For those suffering from emotional and psychological stresses (depression/testing anxiety/other) please visit <http://www.montclair.edu/counseling-and-psychological-services/> for walk in times and services or call 973-655-5211.

TEXT: Biostatistics for the Biological and Health Sciences, Mark M. Triola and Mario F. Triola, 2006

### General Aim of the Course

Provide an introduction to statistical reasoning through the study of the fundamental principles associated with the collection and presentation of data, estimation, and the formulation and testing of hypotheses. Work with data generated from real-life settings especially biological sources.

### Specific Objectives of the Course

- A. To teach techniques of collecting, organizing, presenting and interpreting data as included in the study of exploratory descriptive and inferential statistics.
- B. To provide understanding of the scientific method as it pertains to the collection and organization of real-world and biological data, formulating and testing hypotheses, and interpretation and reporting of results.
- C. To provide opportunity to understand the variability and uncertainty associated with real-world and biological settings.
- D. To provide an understanding of quantitative and stochastic reasoning associated with real-world and biological settings.
- E. To emphasize the significant role of statistical science in many areas of application with an emphasis in biology.

### Course Content

- A. Exploratory Data Analysis (stem-and-leaf, boxplot, outliers)
- B. Descriptive Statistics (central tendency, variability, correlation)
- C. Distributions (normal, binomial, t, chi-square, sampling distributions - means, proportions)
- D. Inference (point and interval estimation and hypothesis testing of one and two means, one and two proportions, correlation and regression, one way and two way analysis of variance, statistical power analysis, nonparametric techniques (optional)).

### Procedures, Techniques and Methods

Emphasis is on the understanding, application, and interpretation of statistical concepts in the context of biological sciences. Data from a variety of other applications will also be studied. Students will conduct research projects where they will generate their own data and analyze and interpret the results in a written report. Students generate data through experiments, observational studies or retrieval of data from the Internet or other sources. The use of statistical software is required.