Course Information for Math 104: Basic Probability and Statistics

Professor: Amy N. Myers
Email: anmyers@brynmawr.edu
Office: Park 356
Office Hours: Mon: 10 – 11am; Wed: 10 – 11am; Fri: 10 – 11am & 2 – 4pm
Appointments: Please send email to set up an appointment outside of office hours.

Course Website: www.brynmawr.edu/math/people/anmyers/104

Objectives: You will perform and interpret basic statistical analyses of data both by hand and using computing software. Topics include: experimental design, descriptive statistics, correlation and regression, probability, chance variability, sampling, and significance tests.

Grading: Course grades are based on:
• Homework Exercises (15%)
• Study Questions (15%)
• In-Class Assignments (20%)
• Midterm Exam 1 (15%)
• Midterm Exam 2 (15%)
• Final Exam (20%)

Homework Exercises: Textbook exercises will be collected in class on Mondays. If you forget to bring your assignment with you, please place it in the appropriate bin outside Park 356 later in the day. Work submitted to the bin before 4pm will be considered on time.

Study Questions: Your answers to questions based on assigned readings will be collected during most class periods. Since these questions will also appear on quizzes and exams, it is worth spending the time necessary to write clear answers. You can then use the study-question assignments as a handy study guide in preparation for quizzes and exams.

In-Class Assignments: During many class periods, you will work on textbook exercises or computer assignment to turn in for credit.
**Assignment Grading:** All complete assignments that are turned in on time will be given a baseline score. You can earn additional points for questions selected at random to be graded for correctness.

**Homework Passes:** Included at the end of this document are four homework passes that you can use to have late work count as on time. You do not have to give an excuse for why an assignment is late; you can simply attach a pass, and it will be graded as usual (provided it is not more than one week overdue). You may use homework passes on homework exercises, study questions, or in-class assignments that are submitted within one week of the due date. You may use up to four homework passes this semester.

**Late Work:** Work submitted in class, or placed in the appropriate bin before the grader collects it, will be eligible for full credit. A late assignment that is complete will receive the baseline score only. Study questions are due most class periods, while homework exercises and in-class assignments are due weekly. If you miss a deadline, you will have one week in which to submit it with a homework pass.

**Missed Class:** You are responsible for all material covered in class meetings. If you must miss one, please check the course website for announcements and assignments. If you cannot be present in class to take an exam or a quiz, you must contact the professor in advance of the assessment to make other arrangements.

**Exams:** The midterm and final exams will consist of exercises similar to those assigned as homework or worked on in class. They will also contain a selection of the study questions.

    The midterm exams will take place during class time. You may use a 3.5 by 5 inch notecard (both sides) that you prepare in advance, but you may not use any other source of help. The final exam is cumulative and self-scheduled. You will have three hours in which to complete it. You may use the two 3.5 by 5 inch notecards that you prepared for the midterm exams together with a new 3.5 by 5 inch notecard that you prepare for the final exam. For all exams you may use a calculator or GeoGebra.

    Grades for exams will be computed using a curve with the average grade somewhere between 3.0 and 3.3.

**Studying for Exams:** To prepare for an exam, you should make sure that you fully understand the study questions and homework exercises from the sections of the textbook that are covered by the exam. You should also practice doing textbook exercises that were not assigned as homework to make sure that you understand the concepts and skills being tested. People learn statistics the same way they learn anything else: by practicing.
Nobody becomes a good tennis player by watching the coach. If you want to improve your game, then you have to pick up a racket and drill yourself. You can get a general sense of statistics from watching the professor go through the motions, but to really learn the subject, you need to repeat the thought process for yourself. You can practice statistical thinking both by reworking homework exercises and by doing new exercises.

**Study Groups:** Students who work regularly with study groups tend to do better in math classes than students who do not. You will have the opportunity, but not be required, to join a study group this semester.

**Problem Sessions:** A teaching assistant will run problem sessions to answer questions concerning homework. Some students come to problem sessions to ask specific questions, some come to hear the questions that other students ask, and some come simply to work on exercises together with other people. Attendance at problem sessions is recommended, but is not mandatory.

**Q Center:** Q mentors are available at the Q Center (in Canwyll House behind the Campus Center) to help students improve their problem-solving strategies, hone their quantitative reasoning skills, and allay their math anxieties. The Q Center also offers review problem sets on basic quantitative topics for self-paced review throughout the semester. Q mentors are prepared to help students with the review, and all materials are provided. Please check the Q Center website www.brynmawr.edu/qproject/ for Q mentor availability.

**Getting Help:** It is your responsibility to make sure you understand all assigned textbook readings and exercises. When you are confused by a concept or an exercise, you should consult your study group, attend problem sessions or office hours, or email the professor. In addition, the deans’ office provides private tutors for Math 104, but they should only be used as a last resort by students who struggle severely with the subject.

**Honor Code:** You may work together with other students to complete homework exercises, study questions, and in-class assignments. It is okay to get help from the professor, the teaching assistant, or other students. It is not, however, okay to copy another student’s work without thinking through the material for yourself. It is a violation of the honor code to hand in anything that you did not carefully think about on your own.

**Textbook:** You can find the textbook in the campus bookstore or search for an electronic copy online. You can also find copies of the textbook on reserve in Collier Science Library.
Computers: If you own a laptop, and are willing to bring it to class, please do so. If you would rather borrow one from the math department computer cart, please be ready to share it with other people.

Computing Software: Throughout the semester we will use GeoGebra to analyze data. This software is available for free, and works a lot like SPSS (statistical computing software commonly used by social scientists). If you prefer to use SPSS instead of GeoGebra for assignments, you are welcome to do so. SPSS is available on many computers throughout campus, but not on the math department laptops.

Differences Between College and High School Math Courses: For many students the degree to which independent study is required for success in college-level mathematics courses comes as a surprise. Here is what you need to know to make the transition smoothly:

• The instructor uses class time to introduce, explain, and motivate the concepts and formulas you have read about and will practice later on your own.
• You should not expect to completely understand every detail of what happens in class. You should feel like you can follow the discussion in a very general way. You should also feel like the details will make sense when you take the time to go over them slowly on your own.
• There is typically not as much time to do exercises during class meetings as there was in high school. The main learning for college courses happens on your own.
• There also is not usually enough time to discuss assigned homework exercises in class. To make sure you have the right answers, you should check your work in the back of the book, or use the more detailed student solutions manual. If you are confused by an exercise, you should ask for help from the teaching assistant at a problem session or from the professor during office hours.
• As a full-time student you should expect to put in full-time work into learning: 40 hours per week for 4 courses works out to 12 hours of class time and 28 hours of study time. This amounts to $28/4 = 7$ hours of study time per class per week. If you want to earn good grades, then please plan your schedule accordingly.
• To do well in a college course you need to go beyond simply attending class and doing the assigned homework exercises. You need to understand the readings and practice doing exercises until you feel comfortable with the topics.
• When you run into a snag you can’t untangle on your own, please come to office hours, or attend a problem session.
**Email:** Please feel welcome to email the professor. There is not always enough time before or after class to address the concerns of all students in the room. Your questions are important, but cannot always be considered in the few minutes surrounding class meetings.

**Accommodations:** If you think you may need accommodation in this course because of the impact of a disability, please contact Deb Alder, Coordinator of Access Services, in Guild at 610-526-7351 or dalder@brynmawr.edu, as soon as possible, to verify your eligibility for reasonable accommodations. Early contact will help to avoid unnecessary inconvenience and delays.
Homework Passes: ¹

Name:
Homework #:
Date Submitted:

Name:
Homework #:
Date Submitted:

Name:
Homework #:
Date Submitted:

Name:
Homework #:
Date Submitted:

¹ Thanks to Isabel Averill for the homework pass design.