

# MATH 108, Elementary Statistics

## Section 503 Summer Session II 2010 Dr Maureen Bardwell

### Course Objectives:

This course will cover all of the following:

- Descriptive Statistics:
  - Quantitative vs Qualitative data
  - Graphical Displays of Data
    - Bar Graphs/Histograms
    - Stemplots, Boxplots
    - Time series plots, frequency polygons
  - Interpreting Graphs
    - Estimating Center and Spread
    - Locating Modes, Skew, Gaps and Outliers
    - Determining Symmetry
  - Computing Measures of:
    - Center
    - Spread
    - Skewness
    - Outliers
  - Determining circumstances under which one measure should be used over another
  - Standard Normal Distribution, Percentile Ranks and applications
- Inferential Statistics
  - Correlation
  - Linear Regression
  - Confidence Intervals
    - with a Proportion (Qualitative Data Variable)
    - with a Mean (Quantitative Data Variable)
- We will emphasize interpretation of statistics over experimental design.

### Textbook:

We will use

Elementary Statistics – Picturing the World (4<sup>th</sup> edition)

by Larson & Farber, published by Pearson / Prentice Hall.

You should have access to a good calculator (ideally a TI 83+ or TI84+)

## **Requirements:**

This course satisfies a requirement for several majors; check with your departmental advisor if you are not sure whether or not this course is appropriate for your major. This course also satisfies a Mathematics/Applied Analytical Reasoning Core Requirement.

In order for you to complete this course, you must be prepared to spend a substantial amount of time on this course every single day. This is a 14-week course that you are attempting to complete in six weeks. You should expect to do 2-3 weeks' work during each summer week, including both class time and homework, which for most students is about eight hours. If you are not prepared to invest this kind of time, this is probably not the course for you.

## **Grading and Assessment:**

I do not curve grades at all. You will need an average in the 90's to get in the A range, in the 80's for a B, 70's for a C, and you will need a 65 to pass this course. I will set a reasonable standard, and I will hold you to it. Also, a minimum grade of 40 on the final is required for course completion.

I will take academic honesty very seriously. Any breach of the WSC academic honesty policy will be reported promptly to the Dean of Undergraduate Studies or of DGCE to be permanently included in your student file, and will result in a substantial effect on your grade in this course.

## **Course Philosophy:**

I will work to find examples that use real data that I find to be relevant to my life and that I expect you may find relevant to yours. I have a particular interest in sports and in politics, so many of my examples come from these two contexts, though not exclusively.

I will expect you to take risks intellectually: you will be asked to attempt to work on examples before you have a full, clear sense of what outcome is expected. I will expect you to think objectively about things that you may be emotionally invested in. I will expect you to be respectful of your fellow students and to honor their contributions to the course and to your learning experience.

You can expect me to be clear about what I expect you to be working on at any time. You can expect me to provide a well-organized course that uses current information. You can expect me to be clear about what is included in your grade and what standard I am using to assign a grade to it. You can expect me to ask you to cover an amount of material that is appropriate for this course.

## **Questions or Comments:**

If you would like to discuss your potential participation in this course, please do not hesitate to contact me: [mbardwell@wsc.ma.edu](mailto:mbardwell@wsc.ma.edu) or X5738 on campus. If the course is listed as full on the WSC registration system, please do not ask me to overload you, as this will not be possible.