

**SYLLABUS: STAT 350 – Hybrid**  
**Statistics with Applications in Biological Sciences**  
**University of Maryland, Baltimore County**  
**Summer 2014 (July 7 – Aug 15)**  
**Last Updated: July 9, 2014**

<b><u>Instructor:</u></b>	Michelle R. Danaher, Ph.D. 410-455-2412; danaher1@umbc.edu
<b><u>Office:</u></b>	<b>MP 240</b>
<b><u>Office hours:</u></b>	Monday/Wednesday 11:00 – noon or by appointment
<b><u>Lecture:</u></b>	Online/Blackboard
<b><u>Discussion:</u></b>	Monday /Wednesday 10:00 – 10:50 AM, University Center 115
<b><u>Textbook:</u></b>	Statistics for the Life Sciences, 4 <sup>th</sup> Edition Samuels, Witmer and Schaffner
<b><u>Chapters covered:</u></b>	Chapters 1 to 12, most optional sections will not be covered
<b><u>Software and calculator:</u></b>	Microsoft Excel will be used for course projects. Excel is available in campus computer labs such as ENGR 021 and in the library. Calculators providing basic functions such as (+, -, *, /), logarithms and exponents, simple memory and recall, and factorial key may be used on quizzes and exams. <u>Graphing calculators and other devices will not be permitted.</u>
<b><u>Course objectives:</u></b>	This is an introductory level course on statistical concepts and their application to the biological sciences. Upon completion of the course, students should be able to carry out basic techniques to analyze and understand real life data. This will include exploratory data analysis, use of random variables and distributions, hypothesis testing, linear regression models, and analysis of variance.
<b><u>Lecture and Course Materials:</u></b>	Lectures and course materials will be posted online on Blackboard. Students are <u>expected</u> to go over the material online and to <u>be prepared</u> before coming to discussion.

**Discussion:**

Discussion meetings are **mandatory**. Quizzes and exams will be given during discussions. Solutions to homework problems and other related questions will be covered during discussions. Active participation during discussion meetings and online through the discussion board is highly recommended.

**Online Discussion:**

Three forums are set up in the blackboard course website:

- **Course Policies:** Questions regarding general course policies such as registration and grading
- **Concepts:** Discussion of statistical concepts covered in the course
- **Exercises:** Questions on specific problems such as projects, homework problems, and examples in the textbook. Students are welcome to discuss approaches to solve assigned problems, but **may not share answers**.

I will be moderating these forums and will try to answer questions addressed to me within 24 hours Monday-Friday (questions posted late on Friday may not have a response until Monday morning).

**Homework:**

There will be **five homework** assignments to be submitted at the beginning of the discussion session. Homework problems will be assigned for each chapter in the online lecture material. Selected homework problems will be graded in detail, but these will not be announced. Solutions will be discussed during discussions, so make sure to submit your assignment on time. **Late homework assignments WILL NOT be accepted.**

**Projects:**

There will be **two projects** using Microsoft Excel. The projects will require you to apply statistical concepts to a real data setting. Excel demonstrations will be posted online.

### Quizzes:

There will be **five in-class quizzes** (closed book, closed notes) and **five online quizzes** (open book and notes, work independently).

- Online quizzes will be based on the lecture material which needs to be reviewed before coming to the discussion session.
- Online quizzes are to be completed by midnight
- In-class quizzes will be based on problems similar to the homework problems. The in-class quiz with the lowest grade will be dropped.

Since the in-class quiz with lowest grade is dropped, **NO makeups** quizzes will be given.

### Exams:

There will be a **midterm** and a **final exam**. The final exam will be comprehensive. Makeup exams will be given only under extreme emergencies since the summer semester is very short. Documentation of your emergency will be required.

### Extra Credit Assignment:

There will be **one extra credit special assignment**.

### Course Grades:

- **10% - four homework assignments at **2.5% each**, lowest score dropped**
- **10% - four online quizzes at **2.5% each**, lowest score dropped**
- **20% - five in-class quizzes, lowest score dropped, remaining four at **5% each**.**
- **10% - two projects at **5% each**.**
- **20% - midterm**
- **30% - final**
- **5% - special web assignment (for extra credit).**

Tentative grading scale:

A 90%-100%  
B 80%-89%  
C 70%-79%  
D 60%-69%  
F <60%

### Remarks:

- It is very important for you to work all homework problems, as similar problems may appear on in-class quizzes.
- **All exams and in-class quizzes** will be closed book, closed notes. A **one page (double-sided) formula sheet** is allowed, and must be turned in with your test.

**Academic Integrity:**

By enrolling in this course, each student assumes responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook or the UMBC Policies section of the UMBC Directory.

Cheating of any kind will not be tolerated. It is especially important that you avoid any appearance of cheating.

- Try to sit away from other students during tests and quizzes.
- Make sure all your notes are zipped up in your bag (i.e. not visible).
- Cover completed questions with your hand if possible.
- Do not use any unapproved devices during quizzes or tests.
- Use the restroom before a test or quiz, as you will not be allowed to leave during the testing period.
- Make sure all cell phones and devices are put away (not visible) and set to silent mode.
- Only use scratch paper provided for you.
- Have your desk cleared and belongings put away before the test is handed out.
- Once you turn in your test or quiz, you may not see it again or change any answers

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