

BIOL 2300: Introduction to Biostatistics
Spring 2015

Instructor(s): Dr. Walter Schargel

Office Number: LS 447

Office Telephone Number: 817-272-3068

Email Address: schargel@uta.edu

Note about emails: on a typical semester I have more than 400 students in different classes and sometimes it is difficult for me to reply to every single email I get. Part of the problem is students who email me without providing me a full name or the course/section they are taking from me. In other cases questions asked are in the syllabus (e.g. "when is our final?"). The bottom-line is: email me if it's important and always include your full information. It is always better to talk to me after class; I don't mind staying a few more minutes to answer your questions.

Faculty Profile: <http://www.uta.edu/profiles/Walter-Schargel>

Office Hours: Tuesday & Thursday 12:30 – 2:30 pm.

Section Information: BIOL 2300 sec 001

Time and Place of Class Meetings: Life Science 118, T&TH 11:00-12:20 pm

Description of Course Content: Introduction to the collection, description, and analysis of data with statistical methods appropriate for biological sciences.

Student Learning Outcomes: Students will become competent in techniques of simple statistical analysis appropriate for biological sciences. Students will be able to interpret data and draw scientific conclusions based on statistical analysis. These outcomes will be assessed with numerical problems and embedded questions in course exams.

Required Textbooks and Other Course Materials:

- 1) The book **no longer made a requirement** for this class: Samuels, M.L. and J.A. Witmer. 2011. Statistics for the Life Sciences, 4th ed. Prentice Hall, Upper Saddle River, New Jersey.
- 2) You will need to use a computer with web-browser access to the internet to obtain data for some assignments.
- 3) Simple calculator for exams (**Cell phones, programmable or graphing calculators are not allowed!!!**).
- 4) Course lecture notes will be available through Phi Sigma, the graduate student's Biological Honor Society and also online (link will be provided first day of class). **These are highly recommended.**

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I allow students to attend class at their own discretion; however, like with all math based courses attendance is strongly recommended because the material builds upon itself.

Grading: Grades are based on exams, homework assignments, and attendance according to the following breakdown. Following strict Biology-Department policy, there is no extra credit.

- 1) Homework Assignments: 25% (five homework assignments, **lowest grade is dropped**)
- 2) Midterm Examinations (2): 45%
- 3) Final Examination (**comprehensive**): 30%

Make-up Exams: There will be no make-up exams unless an unanticipated and severe problem prevents attendance on the scheduled date, or unless the student is representing the University in an officially recognized activity for which University policy allows an excusable absence (e.g. intercollegiate athletics). Written documentation of circumstances is required for make-up exams and must be accompanied by a letter or note signed by a doctor (or UTA coach) stating that your absence was necessary. Make-up exams will be given only at times scheduled by the Biology Department for this purpose.

Homework Policy: Homework assignments will be announced in class and the due date will be assigned at that time. Homework assignments will always be due the first 10 min of class on the due date. **Late assignments will not be accepted. Homework assignments that are not stapled will be penalized -15%.** Students are responsible for being aware of due dates. Each student should complete his or her own homework reports. **Copying from another student is not allowed** and will be reported to Student Affairs as an act of academic dishonesty. Homework reports should be properly prepared: neatly written, and stapled together with your name on each page in case the pages are separated. **The instructor and TAs may refuse to accept homework that is not properly prepared, and to turn it back without credit if it so poorly prepared that it cannot be graded. Homework must be submitted in class on the due date. Early homework assignments can be turned in at the Biology Department office (LS 337) as long as it is turned in before class time (notice that the office does not take assignments after 4:00 pm). Homework assignments slipped under my office door will not be accepted.**

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session (**Last day to drop is April 3**). It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/fao/>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Note: In addition to the standard expectations, the following actions will be considered academic dishonesty: 1) collusion on homework, 2) sharing calculators, 3) using a cell phone during an exam, and 4) using a graphing or programmable calculator during an exam.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. Exits are located at both ends of the hallway immediately out of SH 101. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Course Schedule

Week	Topic
1 st : Jan 20-23	Syllabus / Introduction: Statistics and their use in Biology
2 nd : Jan 26-30	Description of populations and samples
3 rd : Feb 2-6	Description of populations and samples / next topic ↓
4 th : Feb 9-13	Random sampling, probability, and the binomial distribution
5 th : Feb 16-20	Random sampling, probability, and the binomial distribution / Clinic I
6 th : Feb 23-27	Midterm Exam 1 / The Normal distribution
7 th : Mar 2-6	The normal distribution / Sampling distributions
8 th : Mar 9-13	Spring break!!!
9 th : Mar 16-20	Sampling distributions / Confidence intervals
10 th : Mar 23-27	Confidence intervals / Catch up / Clinic II
11 th : Mar 30-Apr 3	Midterm Exam 2 / Comparison of two independent samples
12 th : Apr 6-10	Comparison of two independent samples / Analysis of categorical data
13 th : Apr 13-17	Analysis of categorical data
14 th : Apr 20-24	Statistical principles of design
15 th : Apr 27-May 1	Comparisons of paired samples / Analysis of variance
16 th : May 4-8	Analysis of variance / final clinic and review
May 12 (Tuesday)	FINAL EXAM 11:00 am – 1:30 pm.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.