STA 4712 Introduction to Survival Analysis Spring 2020
Class No. 23699, Section 17A7, LIT 121 Tues 8:30am – 10:25am (2nd & 3rd), Th 9:35–10:25am (3rd)

Instructor Deborah Burr, 116C Griffin-Floyd Hall; Office Hours: MWF 11:45am – 12:35pm (5th), Email: `burr@stat.ufl.edu` (put "4712" in the subject line); Phone: 273-2973 (do not leave a message).

Teaching Assistant Xiaoda Qu, FLO 209, `quxiaoda@ufl.edu`, Office Hours: TBD

Required Materials

Textbook David Collett, *Modelling Survival Data in Medical Research*, 3rd ed.

Scientific calculator You need one which will compute the mean and standard deviation automatically. You will use it for tests. A graphing calculator is allowed.

Statistical Software We will use the free statistical computing language R; download it in the first week of the semester from `http://www.r-project.org`. Also download Rstudio from `http://www.rstudio.com` (Desktop free license).

Prerequisite STA 4210 Regression Analysis, or the equivalent.

Course Description This course discusses "time to event" data, where the event can be response to treatment, relapse of disease, or death. Often we wish to quantify the relationship between the time to event and prognostic factors such as mode of therapy, age of patient, and severity of disease. This course will cover inference for a single population, methods for comparison of two or more populations, and methods for doing regression analysis. Procedures will include the Kaplan-Meier estimator, the log-rank test, and Cox proportional hazards regression. All these procedures handle the common case of censored data, where the information on some individuals is incomplete in the sense that the event had not yet occurred at the termination date of the study. Some basic theoretical material will be covered in order to show how methods of mathematical statistics are adapted to handle censoring. Computation on the computer is crucial for implementing survival analysis methods. Computations will be carried out in the R statistical programming language.

Grading Your final course grade will depend on your course score based on the following four components with their respective weights:

Homework/Quizzes:		25%
Exam 1:	Tuesday February 11 in class	25%
Exam 2:	Tuesday March 17 in class	25%
Exam 3:	Tuesday April 21 in class	25%

The assignment of letter grades will be determined as follows (cutoffs will be no stricter than indicated, and may be relaxed): A 93–100; A$^-$ 90–92; B$^+$ 87–89; B 80–86; B$^-$ 77–79; C$^+$ 74–76; C 67–73; D 50–66; E < 50

The calculation of your final average will be done outside of Canvas; the formula used by Canvas will not necessarily produce the final average according to the course grading scheme. Information on current UF policy for assigning grade points may be found at `https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx`.

Homework/Quizzes There will be about eight homeworks. The homeworks are essential for learning the material, and in preparing for exams. A crucial part of homework assignments is to show your work and explain your reasoning. It is not sufficient to simply give a numerical or one-word answer. Some homeworks will require you to use R and to produce a written report of a data analysis. There will be some in-class quizzes based on the homeworks; these will be announced in advance. Quizzes will be closed book and closed notes.

You need to earn a total of 200 points for a perfect homework/quiz score; there will be at least 230 points possible. (If you earn a total score over 200, this will not count extra.)

Exams There will be three exams. The exams are closed-book, closed-notes. You may bring one 8.5×11 sheet of notes to each exam. Bring a picture ID, your calculator, pencils and erasers.

Course Policies

Exams Makeup exams must be approved before the time of the exam and will generally be given only in case of medical or family emergencies, which must be appropriately documented. More details regarding policy for granting a makeup exam may be found in the undergraduate catalog under Attendance Policies (`https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx`). For cases of illness, a doctor's signed note will be required.

Email Use email only for administrative matters. Email me at `burr@stat.ufl.edu`, and put the course number in the subject line. See me or a TA in person for content questions. The ideal time to ask questions is right after class.

Honor Code All work on quizzes and exams must be entirely your own. Refer to `http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/` for the UF Honor Code.

Disabilities Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, `www.dso.ufl.edu/drc/`) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluations Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at `http://gatorevals.aa.ufl.edu/students/`. Students will be notified when the evaluation period opens (usually near the end of the semester), and can complete evaluations through the email they receive from GatorEvals, or in their Canvas course menu under GatorEvals. Summaries of course evaluation results are available to students at `http://gatorevals.aa.ufl.edu/public-results/`.