STATISTICS 626

Summer 2009

Instructor	Jeff Hart
Office	459E Blocker Building
Phone	979-845-1467
Email	`hart@stat.tamu.edu`
Office hours	10:00-11:30 a.m. Monday and Thursday, or by appointment
Online Q&A session	6:00-7:00 p.m. Wednesday
Prerequisites	STAT 601 or 642 and a working knowledge of complex numbers and trigonometry

Course Materials

- **Textbook:** H.J. Newton, *Timeslab: A Time Series Analysis Laboratory*. This book is out of print, but a bound Xerox copy can be purchased at Copy Corner in College Station for $34.42.
- **Course notes:** A set of course notes is available in the form of pdf files at the 626 website on DOSTAT.
- **Software:** A translation of the original TIMESLAB software into the R language. R is available for free download to PCs.

Grading Policy

- **Exams:** You will have three exams: two midterms and a final. Each midterm will constitute **25%** of your grade and the final will count as **30%**.
- **Homework:** Homework will be assigned and collected on a regular basis and will count **20%** of your grade. You may consult with other students about the homework, but always write up your solutions by yourself. *You should never just copy from another person or a solutions manual.*
- **Missed assignments:** Each homework must be turned in by *5:00 p.m. CDT on the assigned due date*. Late homework is not accepted without an excuse that is recognized as valid by the university. Likewise, you will only be allowed to make up an exam if it is missed for a valid reason.

Course Outline

Day	Topic	Section of book
6/1	Introduction; Correlogram	1.1-1.4.1
6/2	Partial Correlogram; Introduction to TIMESLAB	1.4.2, Appendix B
6/3	Periodogram	1.4.3-1.4.4
6/4	Transforming data	1.5
6/8	Transforming data (continued)	
6/9	Simple forecasting methods; Difference equations	1.6
6/10	Covariance stationary time series	2.1-2.2
6/11	Covariance stationary time series (continued)	
6/15	Linear filters	2.3
6/16	Linear filters (continued)	
6/17	Review for Exam I	
6/18	**Exam I**	
6/22	Theory of prediction	2.4
6/23	ARMA processes	2.5
6/24	ARMA processes (continued)	
6/25	ARMA processes (continued)	
6/29	Statistical properties of descriptive statistics	3.1
6/30	Tests for white noise; Nonparametric spectral density estimation	3.2, 3.3
7/1	Nonparametric spectral density estimation (continued)	3.3
7/6	Review for Exam II	
7/7	**Exam II**	
7/8	Finding models and estimating their parameters	3.4-3.6
7/9	Finding models and estimating their parameters (continued)	
7/13	Regression with autocorrelated errors	3.7
7/14	Searching for periodicities	3.8-3.9
7/15	Searching for periodicities (continued)	
7/16	Bivariate time series	4.1
7/20	Coherence, phase, and gain	4.1-4.2
7/21	More on bivariate series	4.3
7/22	Additional topics	
7/23	Review for final exam	
7/27	**Final Exam**	

STATEMENT ON DISABILITIES

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Disabilities Services in Room B118, Cain Hall. The phone number is 845-1637.

STATEMENT ON PLAGIARISM

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission. As commonly defined, plagiarism consists of passing off as one's own ideas, words, writing, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have the permission of that person. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated. If you have any questions regarding plagiarism, please consult the latest issue of the Texas A&M University Student Rules, under the section "Scholastic Dishonesty."

ACADEMIC INTEGRITY STATEMENT

"**An Aggie does not lie, cheat, or steal or tolerate those who do.**"

Information about the Honor Council Rules and Procedures can be obtained at the web site: `www.tamu.edu/aggiehonor`. If an instructor encounters a student cheating or not abiding by university rules then it is mandatory that the instructor report the student to the Aggie Honor System Office: complete information at `http://www.tamu.edu/aggiehonor`.