

Math 483, Section 1, Spring 2025. 8:00-8:50 MWThF Neckers 156

Instructor: David Olive

Text: *Mathematical Statistics with Applications*, 7th ed. Wackerly, Mandenhall and Scheaffer \approx \$180. **Buy 4th, 5th or 6th edition.** Use the www.addall.com used books link to find earlier editions at reasonable prices.

Course Webpage: <http://parker.ad.siu.edu/Olive/M483.html>

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(Office hours) Student Engagement: MWThF 11:45-1:15

I am also available by appointment and on a walkin basis, eg after class.

This course covers probability, expectation, mgf's, discrete and continuous random variables, marginal and conditional distributions, covariance, independence, double integrals, transformations, CLT, point and interval estimation, method of moments, MLE's, MSE, tests of hypothesis.

Math 483 is useful for actuarial exams P and CAS S.

Final: Thursday, May 8, 10:15-12:15

Cumulative, but emphasis is on the material from the last 2 exams and last 6 or 7 quizzes.

The grading below is tentative. If necessary, HW will be divided into 150 points and 50 attendance points. Do not turn in HW late. Turn HW in early if you know that you will miss class. If you miss a quiz, I will allow you to take it before the next class (eg during office hours) 2 times, except for the last week of classes. I sometimes give A-, B+, etc.

Last day to drop: Sunday, March 30 (but Friday, March 28 may be easier).

Grading: 2 HW and 1 Quiz will be dropped

HW	200		Quizzes	100	
exam1	100	exam 2	100	exam 3	100
exam4	100	final	300	total	1000
min. grade	points	min. grade	points	min. grade	points
A	900-1000	B	800-899	C	700-799
D	550-699				

Week of	MON	Wed	Th	FRI
Jan 13	2.1,2.2,2.3,2.4	2.4, 2.5	2.5,2.6	2.6, HW1
Jan 20	no class	2.7, 2.8, HW2	2.9,3.1,	3.2, 3.3, HW3, Q1
Jan 27	3.3,3.4	3.4	3.5,3.8,3.9,HW4	3.9, Q2
Feb 3	4.1,4.2,HW5, rev	4.3,4.4	Exam 1	4.5
Feb 10	4.5,4.6,HW6	4.6,4.7	4.7,HW7	4.9,5.1, Q3
Feb 17	5.2,5.3, HW8	5.3,5.4	5.4, 5.5,HW9	5.5, Q4
Feb 24	5.6,5.7, HW10	5.7,5.8	5.8,6.1,HW11,rev	6.2,6.3, Q5
March 3	6.3,HW12	6.4	Exam 2	6.4
March 10	no class	no class	no class	no class
March 17	6.4,HW13	6.5	7.1, 7.2,HW14	7.2, Q6
March 24	7.2,7.3, HW15	7.3,7.5	8.1,8.2,HW16	8.5,8.6, Q7
March 31	8.7,8.8, HW17, rev	8.8	Exam 3	8.8,8.9
April 7	8.9,9.6	9.6,9.7	9.7, HW18	9.7,Q8
April 14	9.7, HW19	9.7, 9.3	10.1,10.2,HW20	10.3,10.6, Q9
April 21	MLE rev, 10.8,HW21, Q10	10.8,10.7, rev	10.8, 10.9	Exam 4
April 28	10.9,10.10 HW22	CI-hyp	10.11, Q11	rev

A college degree, calculus and this class should prepare you for *actuarial exam P*. Actuaries assign prices to risks, and many people with math or engineering degrees become actuaries. Some websites about the actuary profession are www.beanactuary.org www.casact.org www.soa.org www.actuary.org and www.aspa.org.

These texts are at Math 483 level.

Giri, N.C. *Introduction to Probability and Statistics* 519.5G525I1993

Hogg, R.V. and Tanis, E.A. (1977), *Probability and Statistical Inference*, Macmillan Publishing Company, NY. QA273H694 (2009 8th ed. \$140)

Larsen & Marx, (2001) *Introduction to Mathematical Statistics and Its Applications*, 3rd Ed., Prentice Hall. \$147

Wackerly, D.D., Mendenhall, W. and and Scheaffer, R.L., (2008), *Mathematical Statistics with Applications*, 7th ed., Duxbury, Belmont, CA. (current M483 text) \$220 4th ed: 519.5 M537M1990

Walpole, R.E., Myers, R.H., Myers, S.L., and Ye K., (2006), *Probability & Statistics for Engineers & Scientists*, 8th ed., Prentice Hall, Upper Saddle River, NJ. \$145

Problems: Spiegel, M.R. (1975), *Probability and Statistics*, Shaum's Outline Series, McGraw-Hill, NY. (QA276? 519?)

Some Calculus Texts:

Ayres, F. *Shaum's Outline Of Theory and Problems of Differential and Integral Calculus*, 515A985s1964

Edwards, C.H. and Penney, D.E. *Calculus and Analytic Geometry*, 515.15E26C

Salas, S.L. and Hille, E. (1982), *Calculus One and Several Variables*, Wiley.

Stewart, J. *Calculus, Early Transcendentals*

Ayres, F. *Shaum's Outline Theory and Problems of Differential and Integral Calculus*

At SIU some courses that use statistics include CS 586, EE 315, 478, 551, 552, 555, 559, 563, 572, 575, ENGR 540, ME 582, MFGS 505, 510, 540, and 582.