

**The University of Iowa**  
**College of Liberal Arts and Sciences**  
**Department of Statistics and Actuarial Science**  
**STAT:5120 (22S:190) MATHEMATICAL METHODS FOR STATISTICS**  
**Spring Semester 2017 2:30PM - 3:20PM MWF 150 SH**

Instructor: Dr. Elias S. Shiu    Office: 362 SH    Phone: 335 2580    E-mail: [elias-shiu@uiowa.edu](mailto:elias-shiu@uiowa.edu)  
Office Hours: 1:45–3:15 PM Tuesday and Thursday, or by appointment  
Department: Statistics & Actuarial Science, 241 SH    Phone: 335 2082  
D.E.O.: Dr. Joseph B. Lang    Phone: 335 0712    E-mail: [joseph-lang@uiowa.edu](mailto:joseph-lang@uiowa.edu)

The **required textbook** is *Principles of Mathematical Analysis*, 3<sup>rd</sup> edition, by Walter Rudin, McGraw-Hill (1976). You may find it useful to bring it to every class. The goal of the course is to provide students with a firm foundation of real analysis and advanced calculus tools useful for mathematical statistics. The emphasis is Chapters 2 to 7, in particular, Chapters 6 and 7.

For your homework, you may discuss general issues and approaches with your fellow students. You may also seek hints from your T.A. However, your work must be your own. You should be able to defend every step in your solution. If you use any references, including the web and solutions prepared by other students, you should cite and credit your sources. You are encouraged to type up your solutions.

Attending lectures and participating in discussions are expected.

There will be two evening (6:30 to 8:30 pm) midterm exams. The dates will be decided after polling. The final grade will be determined 25% by the homework, 40% by the two midterm exams, and 35% by the final exam. Tentatively, the final grade will be assigned as follows: F[0, 52); D–[52, 56); D[56, 60); D+[60, 64); C–[64, 68); C[68, 72); C+[72, 76); B–[76, 80); B[80, 84); B+[84, 88); A–[88, 92); A[92, 96); A+[96, 100]

Our university has a contract with Springer. There are many useful textbooks that you can download without charge. Below are some examples.

*Understanding Analysis*

<http://link.springer.com/book/10.1007/978-1-4939-2712-8>

*Introduction to Calculus and Classical Analysis*

<http://link.springer.com/book/10.1007/978-3-319-28400-2>

*Mathematical Analysis: Linear and Metric Structures and Continuity*

<http://link.springer.com/book/10.1007/978-0-8176-4514-4>

*A Concise Approach to Mathematical Analysis*

<http://link.springer.com/book/10.1007/978-0-85729-347-3>

*Foundations of Mathematical Analysis*

<http://link.springer.com/book/10.1007/978-0-8176-8292-7>

*Real Mathematical Analysis*

<http://link.springer.com/book/10.1007/978-3-319-17771-7>

*Introduction to Mathematical Analysis*

<http://link.springer.com/book/10.1007/978-3-0348-0636-7>

### *Mathematical Analysis I & II*

<http://link.springer.com/book/10.1007/978-3-662-48792-1>

<http://link.springer.com/book/10.1007/978-3-662-48993-2>

### Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook a.

### Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences ([Operations Manual, III.15.2](#), k.11).

### Accommodations for Disabilities

The University of Iowa is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (which includes but is not limited to mental health, attention, learning, vision, and physical or health-related conditions). A student seeking academic accommodations should first register with Student Disability Services and then meet with the course instructor privately in the instructor's office to make particular arrangements. Reasonable accommodations are established through an interactive process between the student, instructor, and SDS. See <http://sds.studentlife.uiowa.edu/> for information.

### Academic Honesty

All CLAS students or students taking classes offered by CLAS have, in essence, agreed to the College's [Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

### CLAS Final Examination Policies

The final examination schedule for each class is announced by the Registrar generally by the fifth week of classes. Final exams are offered only during the official final examination period. **No exams of any kind are allowed during the last week of classes.** All students should plan on being at the UI through the final examination period. Once the Registrar has announced the date, time, and location of each final exam, the complete schedule will be published on the Registrar's web site and will be shared with instructors and students. It is the student's responsibility to know the date, time, and place of a final exam.

### Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident ([CLAS Academic Policies Handbook](#)).