

STAT 641. Foundations of Probability Theory.

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LECTURES: MONDAY, WEDNESDAY, FRIDAYS 9:00-9:50 AM, [TOWN](#) 0206

Office Hours: Mon, Wed 2-3 pm (Ghosh), Tues, Thurs 1pm -2pm (TA)

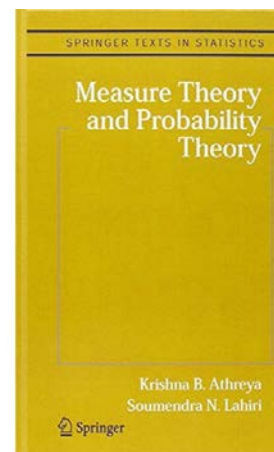
PREREQUISITE: MATH 414 or MATH 501 or equivalent course.

TEXT:

Measure Theory and Probability Theory, by Athreya, K. B., Lahiri, S. N. (Springer Texts in Statistics) 2006, ISBN: 0-387-32903-X

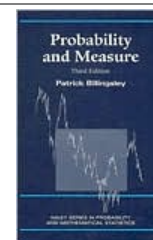
(Will start with Advanced calculus review (Appendix A of the book). We will cover Ch. 1-5 and for each chapter, we will do "almost every" section.)

Some of the major topics are: Measure spaces, extension of measures, Lebesgue integration and convergence theorem, Lp-spaces, absolute continuity, Radon-Nikodym Theorem, product spaces and Fubini-Tonelli Theorems (Probability spaces)



REFERENCE:

Probability and Measure, by Patrick Billingsley (Wiley-Interscience) 1995, ISBN: 0471007102



EXAMS AND GRADES:

Assignments:	20 pts	(As assigned in class)
Exam I:	25 pts	Oct 2th Friday (in class)
Exam II:	25 pts	Nov 20, Friday (in class)
Final Exam:	30 pts	Dec 16 Wednesday (7:30-9:30 a.m., in class)

NO CLASSES ON NOV 23-27 (THANKSGIVING)

QUESTIONS or PROBLEMS: Contact me by email or talk to me after the class or during office hours.

Learning Outcomes

Understand and apply the language of Measure theory to interpret and relate to the ideas used in Statistics (e.g. random variables, density functions, expectations etc).

Academic Dishonesty

The class will follow Iowa State University's policy on academic dishonesty. Anyone suspected of academic dishonesty will be reported to the Dean of Students Office.

<http://www.dso.iastate.edu/ja/academic/misconduct.html>

Disability Accommodation

Iowa State University complies with the Americans with Disabilities Act and Sect 504 of the Rehabilitation Act. If you have a disability and anticipate needing accommodations in this course, please contact (instructor name) to set up a meeting within the first two weeks of the semester or as soon as you become aware of your need. Before meeting with (instructor name), you will need to obtain a SAAR form with recommendations for accommodations from the [Disability Resources Office](#), located in Room 1076 on the main floor of the Student Services Building. Their telephone number is 515-294-7220 or email disabilityresources@iastate.edu. Retroactive requests for accommodations will not be honored.

Dead Week

This class follows the Iowa State University Dead Week policy as noted in section 10.6.4 of the Faculty Handbook <http://www.provost.iastate.edu/resources/faculty-handbook>.

Harassment and Discrimination

Iowa State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon race, ethnicity, sex (including sexual assault), pregnancy, color, religion, national origin, physical or mental disability, age, marital status, sexual orientation, gender identity, genetic information, or status as a U.S. veteran. Any student who has concerns about such behavior should contact his/her instructor, [Student Assistance](#) at 515-294-1020 or email dso-sas@iastate.edu, or the [Office of Equal Opportunity and Compliance](#) at 515-294-7612.

Religious Accommodation

If an academic or work requirement conflicts with your religious practices and/or observances, you may request reasonable accommodations. Your request must be in writing, and your instructor or supervisor will review the request. You or your instructor may also seek assistance from the [Dean of Students Office](#) or the [Office of Equal Opportunity and Compliance](#).

Contact Information

If you are experiencing, or have experienced, a problem with any of the above issues, email academicissues@iastate.edu.