**Stat 553  Asymptotic Tools  Fall 2014**

1:25pm - 2:15pm Mondays, Wednesdays and Fridays  15 Tyson Building

This web page, [http://sites.stat.psu.edu/~babu/553/](http://sites.stat.psu.edu/~babu/553/), is the official syllabus for STAT 553 in Fall 2014. Any changes to this document will be announced in class.

**Instructor:**  G. J. Babu, 417C Thomas Building  
Phone: 863-2837  
Email: babu@psu.edu  
Office Hours: Appointment by email (or just stop by)

**Text and reference books:**


- Lecture notes by Dr. Hunter ([http://sites.stat.psu.edu/~dhunter/asymp/lectures/asymp.pdf](http://sites.stat.psu.edu/~dhunter/asymp/lectures/asymp.pdf)).

**Course description:**

This course covers most standard statistical asymptotic theory. It covers weak and strong convergence of random variables in both the univariate and multivariate settings, Slutsky's theorem(s), delta method, the Lindeberg-Feller central limit theorem, likelihood-based estimation and testing, and some selected topics such as sample quantiles. It is a mathematically rigorous course and major results are proved. Many common applications of the theory in mathematical statistics will be discussed.

**Grading:**

There will be two in-class midterms (September 26 and October 24; each 20% of the grade), a comprehensive final exam (30% of the grade), and homework (30% of the grade). The exams will be closed-book. You may bring a 8.5x11in sheet of notes.

**ACADEMIC INTEGRITY**

All Penn State and Eberly College of Science policies ([http://www.science.psu.edu/academic/Integrity/Policy.html](http://www.science.psu.edu/academic/Integrity/Policy.html)) regarding academic integrity apply to this course. The University policy on academic integrity, covering cheating, plagiarizing, and other acts of academic dishonesty, given in Section 49-20 of the Student Guide on Policies and Rules of the University ([http://www.psu.edu/ufs/policies/47-00.html#49-20](http://www.psu.edu/ufs/policies/47-00.html#49-20)), will be adhered to in this course. The Eberly College of Science Code of Mutual Respect and Cooperation embodies the values that we hope our faculty, staff, and students possess and will endorse to make the Eberly College of Science a place where every individual feels respected and valued, as well as challenged and rewarded.

**DISABILITY SERVICES**

Penn State welcomes students with disabilities into the University’s educational programs. It is Penn State’s policy not to discriminate against qualified students with documented disabilities in its educational programs. If you have a disability-related need for reasonable academic adjustments in this course, please contact the Office for Disability Services ([http://equity.psu.edu/ods](http://equity.psu.edu/ods)).