Semester course: STAT 7302 -- 3 CREDIT HOURS

1. Transcript Abbreviation: (maximum 18 characters)

Adv Stat Theory 2

2. Long course title

Advanced Statistical Theory II

3. Course description: (maximum of 250 characters)

Hypothesis testing: likelihood ratio tests, resampling and permutation based tests, sequential tests, multiple testing, asymptotic distributions of test statistics. Intended primarily for PhD students in Statistics or Biostatistics.

4. Prerequisites / Co-requisites (use quarter and semester codes):

Prereq: 7301, or permission of instructor.

5. Exclusions (use quarter and semester codes):

Not open to students with credit for Stat 822.

6. A list of topics that make up the course: (One per line, max of 15 topics -- if you course description is a list of topics, I can just use that list)

1. Neyman-Pearson lemma
2. Monotone likelihood ratio
3. UMP, UMPU tests
4. Confidence regions
5. Bootstrap/permutation tests
6. Sequential tests
7. Multiple testing
8. Chi-square tests
9. Asymptotic distributions of test statistics
10. Asymptotics of maximum likelihood estimators

7. Does your class have a component that is not just a lecture (YES/NO):

NO

Conversion of Stat 822 under quarters. Additional material on the bootstrap, permutation tests, and sequential procedures has been added to modernize the course.