Semester course: STAT 8625 -- 3 CREDIT HOURS

1. Transcript Abbrevation: (maximum 18 characters)
Stat Method for Genet

2. Long course title
Statistical Methods for Analyzing Genetic Data

3. Course description: (maximum of 250 characters)
Basic principles of population genetics; gene frequency estimation; likelihood computation on pedigrees using peeling algorithm, Lander-Green algorithm, Monte Carlo methods; parametric and non-parametric linkage analysis, population and family based association studies.

4. Prerequisites / Co-requisites (use quarter and semester codes):
Stat 6802 (Stat 622) or permission of instructor.

5. Exclusions (use quarter and semester codes):
Stat 833

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)
Basic principles of population genetics;
Gene frequency estimation;
Likelihood computation on pedigrees
  Peeling algorithm,
  Lander-Green algorithm,
  Monte Carlo methods;
Parametric and non-parametric linkage analysis;
Population and family based association studies;
Detection of maternal and imprinting effects;
Massively parallel sequencing data

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

8. If your course is not a straight conversion and adds or removes material, write a brief rationale for the change (one sentence - max 250 characters).
This course is being converted from a 3 quarter hours course (833) to a 3 semester hours course. The topics have been expanded to cover methods for analyzing data from recent advances in molecular technologies, including second generation sequencing data and detection of non-Mendelian effects, such as maternal and imprinting effects.