Semester course: STAT 7303 -- 3 CREDIT HOURS

1. Transcript Abbreviation: (maximum 18 characters)
Bayesian Analysis

2. Long course title
Bayesian Analysis and Decision Theory

3. Course description: (maximum of 250 characters)
Decision theory, utility and loss functions, subjective prior distributions, objective prior distributions, posterior distribution, estimation, hypothesis testing, prediction, sensitivity analysis, hierarchical modeling. Intended primarily for students in the PhD program in Statistics or Biostatistics.

4. Prerequisites / Co-requisites (use quarter and semester codes):
Stat 7301 (Stat 622 under quarters), or written permission of the instructor

5. Exclusions (use quarter and semester codes):
Not open to students with credit for Stat 820.

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. Concepts of decision theory
   2. Utility and loss
   3. Subjective prior distributions
   4. Objective prior distributions
   5. Posterior distributions
   6. Estimation
   7. Hypothesis testing
   8. Prediction
   9. Bayesian decision rules
  10. Empirical Bayesian analysis
  11. Hierarchical modeling
  12. Robustness
  13. Aspects of computation

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).
   Additional material on objective prior distributions, prediction, and
hierarchical modeling has been added to modernize the course.

Conversion of Stat 820 – becomes Bayesian Methods