Text: *Doing Bayesian Data Analysis,* by John K. Kruschke
            Textbook web page: http://www.indiana.edu/~kruschke/DoingBayesianDataAnalysis/

Office: 334 Neville Hall, Tel. 1-3906, e-mail: halteman@math.umaine.edu and First Class (as
            William Halteman)

Hours: TWR: 9 am - 11am, other times by appointment

Evaluation: Homework assignments and at least one project.

Software: The text uses R and BUGS. R is a freeware collection of statistical calculator and data
            analysis functions. There are versions for Windows, XOS, and Unix. To get the appropriate
            version for your computer(s) go here:
                http://lib.stat.cmu.edu/R/CRAN/

            BUGS is software package that performs the necessary simulations of the posterior Bayesian
            distributions. There are two flavors, WinBUGS and OpenBUGS. Development has stopped
            on WinBUGS and OpenBUGS is the version our textbook uses. One drawback is that both
            versions run only on Windows (or under a Wine implementation on OSX or Unix). To get the
            OpenBUGS software go here:
                http://www.openbugs.info/w.cgi/Downloads

            BUGS has been around for many years. Recently a new version of the Gibbs sampler (the
            'GS' in BUGS) has been developed and included in a software package called JAGS. Our
            textbook author now recommends JAGS. JAGS is available for all platforms and seems to be
            more user friendly and a more robust program. You can get the JAGS software here:
                http://sourceforge.net/projects/mcmc-jags/files/JAGS/3.x/

            If all of this software downloading seems daunting, the textbook author has a web page with
            the necessary steps and sequence here:
        http://doingbayesiandataanalysis.blogspot.com/2012/01/complete-steps-for-installing-software.html

In case you are wondering whether you can use an alternative statistical software package, the answer is,
'No'. R is the only reasonable way to communicate with the Gibbs sampling software. The crucial issue,
then, is how to get up to speed using R. The conference has an R folder. It contains several pdf
file/manuals. The usingR and SimpleR files are good introductions to R basics.

I.   Topics

     I hope to cover at least chapters 2 - 14. Once those are mastered we can (if time remains) select one
     or two (or more) to accommodate your interests.

II. Course Mechanics

     Homework assignments will be handed as a chapter is completed.

     There will be two projects:
         1.   Analyzing a simple Bernoulli based Hierarchical Model. Due around Oct. 29.

         2.   Analyze your own data using Bayesian tools. Due at the end of the semester.

     Present your projects as journal articles. A complete analysis will follow the steps A - F presented in
     Exercise 13.4.

     I have set up a First Class conference. It will house the data files, text book R code, assignments, R
     references and links, this syllabus, and whatever else seems to be needed.

II.   Schedule of Homework assignments

Chap. 2:   2.1, 2.3, 2.6

Chap. 3:   3.1, 3.4

Chap. 4:   4.2, 4.3, 4.4

Chap. 5:   5.2, 5.3, 5.6, 5.8

Chap. 6:   6.2, 6.3, 6.4, 6.7

Chap. 7:   7.1, 7.3, 7.5

Chap. 8:   8.1, 8.4

Chap. 9:   9.2, 9.3

Chap 10: 10.2, 10.3

Chap 11: 11.2, 11.3

Chap 12: 12.2, 12.3

Chap. 13: 13.1, 13.3