You should propose and then carry out a modeling project in an area that \textit{genuinely interests you}. While the topic may be an extension on something you have studied in some other class, or have already pursued in some other research project context, it has to involve a significant level of excursion into ‘uncharted territories’. An ideal topic would be to model some phenomenon you have observed (maybe related to a hobby) and become intrigued about, and for which models are not already available. In case no project topic comes to your mind, I can make some suggestions.

The topic should be of general interest to the audience, and it should include components of all the key ingredients in modeling, i.e.

- Formulation of your own hypothesis and model (or some adaptation, such as enhancement or simplification, of an existing model),
- Some mathematical analysis,
- Computer experiments. These should be carried out in Matlab,
  The data used in the modeling can be real (picked from some external source) or it may be computer generated (such as the CU-logo that has served as data for the development of tomographic techniques in the class).
- Preferably there should be some feedback from the computational results back into the model formulation,
- Critical assessment of scope, validity, etc. of the results.

By November 2, you should hand in a written 1-2 page project outline.

The results should be presented in class (with presentations starting Nov. 30 and extending for five lecture hours, through Dec. 9). Hopefully there will be one volunteer who presents just before the Thanksgiving break. If so, there will be two presenters for each of the 5 lecture hours available after the break.

Submit to me in advance the electronic version of your presentation.

The requirements for the classroom presentation will be closer to what is required in an industrial setting. In particular:

- Your presentation time should be $12 \pm 1$ minutes (with a progressive penalty in scores if too short or too long).
- The presentation style should be somewhat more 'formal' than for precious presentations.
- Arrange for someone else in the class to introduce you
  (about one minute - the introducer should tell who you are, maybe what your interests are, how happy we are to hear you, etc. Each student in the class should do one such introduction).

Give the presentation as if the audience is personally unfamiliar to you, and maybe even somewhat critical - they should become convinced that the project is truly significant. Imagine for example that you are trying to convince hard-nosed managers about investing scarce company resources into your project - maybe even in continuing to support your job.