The objective of the term project is to demonstrate ability to carry out original work and discuss key details about the application of finite element analysis to a selected problem.

Three deliverables are expected over the next four weeks:

1) A topic proposal consisting of a brief (~ 100 words) description including a timeline for completion (due ASAP)
2) Intermediate, informal progress reports between now and May 4th, and
3) A complete final report due on May 13.

You should select a topic mainly based on your own personal and/or professional interests. In your work you shall clearly describe the system being investigated, state the governing equations and boundary conditions, describe and discuss your selection of finite element basis functions and the FEA program employed for the analysis, describe and discuss the pre-processing, solution and post-processing steps involved, describe your strategy to verify and validate your analysis and assess the reliability of the results and summarize your findings in conclusion.

The format of final project reports should consist of a cover page with the title, author’s name, the name of the class and the date, a 100 word abstract, a brief table of contents, and introductory and concluding sections (~ 1 page each) in addition to the main body of the report. The main body of the report shall consist of ~ 8 pages of writing/math plus additional pages for cover page, table of contents, figures, tables and reference list for a total of about 15 pages).

I strongly advise you to start working on putting your project together right away. Producing 3-4 pages of original writing per week will allow you to comfortably complete your project on time. There are many possible topics. Below is a list of general areas of interest that can be sources of good project topics. I recommend selecting an area of interest and then search for a good topic within the area. Please contact me ASAP once you have selected a topical area to discuss potential project topics.

Some Potential Topical Areas for Term Projects

Heat Conduction
Solid State Diffusion
Potential Flows
Lubrication Flows
Galvanic Corrosion
Electromagnetics
Solid Mechanics
Fluid Mechanics
Acoustics
Financial Systems