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Pondering quantitative skills for geoscience students

I just read “Making undergraduate geoscience quantitative,” by Manduca, et al., in the 15 April 2008 issue of [EOS](#). They mostly present the results of a workshop on the topic. A useful website is <http://serc.carleton.edu/quantskills>.

This topic is of interest to me because I think that the best geoscientists are those who can do the field work and qualitatively “see” what is going on, as well as quantify it by careful measurement, data organization, and try to develop models to represent the phenomena. It is tricky, no doubt. But that is our challenge. I also find it of interest because of my teaching efforts in classes like [Geomorphology](#), [Structural Geology](#), and particularly [Computers in Geology](#).

In the [Computers in Geology](#) class, I struggled with the level of computer literacy that is appropriate. Some students can hardly work around the inside of a spreadsheet, while others can program somewhat. Some of my faculty colleagues thought that teaching Excel was too low level for a class like that. The EOS article refers to some important spreadsheet curriculum examples. My esteemed former advisor, [Professor David D. Pollard](#) of Stanford University at a time was working on a structural geology textbook for which he developed many interactive spreadsheets to illustrate key relationships. But, I wonder, should we leave teaching spreadsheets to other parts of the university, or community colleges, or to the high schools? I did decide that the next time I teach the Computers in Geology class (which will be called Computers in Earth and Space Exploration), I would not use and MS Office products and teach from day 1 using Matlab.

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