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To Members of A&S 153:

Welcome to A&S 153, Polyhedra: Three-Dimensional Mathematical Structures. First, some announcements:

- Our room has been changed to FB213 (the name of the building is Funkhouser). So that's where you should go for our first meeting on Wednesday, August 23.
- Class on Monday, August 28, will probably be cancelled. I will confirm this at the first class meeting. Also, you can check the course web page (still under construction) at <http://www.ms.uky.edu/~lee>.
- If you have email, please send me a brief note about yourself and your interests. My email address is lee@ms.uky.edu.
- I am enclosing some summer puzzles for you to think about; see below.

I anticipate that we will be building and analyzing a number of interesting structures during the semester, both physically and on the computer. I have made arrangements for a classroom with a large closet for the physical models, and we will also have a computer lab available to us.

For the physical models I have a supply of such materials as Polydron, Googolplex, and Zometool. Of course, we can also make use of stiff posterboard and tape! I also have some nice two- and three-dimensional geometrical puzzles. If you possess some models, puzzles, or kits that you would like to bring along to demonstrate to the class, that would be appreciated.

On the computing side, I am making no assumptions about your experience with computer programming—we will learn how to use some software as we go along. Geometer's Sketch-

pad provides an easy way to make two-dimensional sketches. Maple is a powerful symbolic-manipulation language (similar to Mathematica) with which quite sophisticated structures can be created and displayed (as well as solving nearly all standard calculus homework problems!). I have just begun learning how to use povray, a powerful ray-tracing program for high-quality rendering of three-dimensional scenes. It has the added advantage of being completely free. If you want to try it out in advance, download it from <http://www.povray.org>. I have been able to install and run it under Windows, Linux, and on the IMac. The full language may seem intimidating, but don't worry about it—we'll wade into it gradually.

Finally, I enclose some puzzles to think about in case you have some free time before the semester begins!

Feel free to contact me in advance of the semester if you have any questions or comments about the course.

Sincerely,

Carl W. Lee