Math Camp: New Graduate Students Learn Their Limits

Every year new graduate students in Economics at UC San Diego gather one month before the official start of classes to spend time at “Math Camp.” There are no sing-alongs or arts and crafts at this camp. Instead the students gather daily for an intensive introduction to some of the math needed for the rigorous core courses that they’ll take during the academic year. Instead of a counselor, one of the departmental Joels (Sobel or Watson) leads the class, which meets for three hours a day.

On the first day of Math Camp we hold an orientation session in which students learn the important skill of stating their name and describing their entire life is 30 seconds. They have many opportunities to hone that skill in the next few weeks. We also provide a free lunch. Students were well fed when they visited the department during our open house. They are disappointed when they discover that after the first day of math camp there are no free lunches.

After orientation, the work begins. Students enter the program with a wide range of mathematical experience and with different expectations about what it is like to study economics at UC San Diego.

The class starts with an introduction to mathematical analysis, which provides the foundations of basic calculus, including the study of limits. Some students will see their first serious proof at this point. The class moves on to linear algebra. This section introduces results essential to the study of linear economic models. The next topic is multi-variable calculus, with an emphasis on comparative statics and constrained optimization. The class presents tools that are useful in all of the first-year core classes. More importantly, it makes it clear how economic theory in general and the graduate program at UC San Diego in particular use mathematics.

Some students enter the program familiar all of the material presented in the class. Some students enter the program five years out of school having sworn that they’ll never again take another math class. The first group leaves the class with a false sense of confidence. The second group leaves humbled and anxious, but perhaps comforted by repeated (accurate) assurances that there is little relationship between performance in the class and success in the graduate program. Camp functions as a way for students learn their way around the department, meet their classmates, establish a work ethic, and get a clear idea of the department’s expectations. Most students establish territory, picking the seat in Room 300 where they will sit for 1500 hours over the next five years.

We want to welcome our 24 new graduate students who arrived in late August for the new student orientation and survived Math Camp! Our incoming class is made up of a diverse group of top students from: Bulgaria, Chile, China, India, Mexico, South Korea, and USA. These students have research interests ranging from applied microeconomics including labor economics, behavioral/experimental economics, industrial organization, environmental economics, trade/development, to game theory, macroeconomics, econometrics and finance. The cohort is 33% foreign, 67% domestic, 25% female and 75% male.