Honors Calculus and Inquiry Based Learning

In Autumn 2015, sections 20, 30, 32 and 50 of Math 16100 will be taught using a method called the “Moore Method.” What follows is a description of the sections so that students who register for this course will know what to expect. Class registration in each section is limited to 20. The prerequisite is both placement into Math 16100 as well as a score of 5 on the AP Calculus BC exam. First year students who place into Math 15900, but not Math 20700, are also encouraged to consider registering for one of these sections. Such students would be better prepared to apply for admission to Math 20700 the following year.

The Moore method is discovery based, and, for someone who enjoys the process of learning, is a satisfying way to learn. The point of this technique is to provide students with a list of axioms and statements of theorems that enable the students to prove and present material to the class. You should expect to spend most of in-class time presenting your work and proofs to other students and discussing others’ work. Participation in these presentations is mandatory; a lot of time outside of class will necessarily be spent preparing your presentations. Journals will also be a required part of the course. If you register for such a section, you must be willing to speak in front of a class on a regular basis. You should also be relatively comfortable with spoken English.

We will refer to the same text, Spivak’s Calculus, as the other sections of Math 16100, but will present the material in a different order, and rely on the text as a reference only. If you decide to register for one of these sections, there is some risk. If you later decide this is not the right course for you, you may not be prepared to change to another section of the 160’s courses. Instead, you may have to use Math 15300 to complete your calculus sequence if your major requires a third quarter.

Because these are “experimental” sections, there may also be surveys and other evaluative instruments required of participants. We hope this will have minimal impact on the course.