

THE REGISTRATION GAME

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Our college instituted the requirement in 1998 that any incoming student (freshman or transfer) would be required to take an interdisciplinary “capstone” course as the culminating experience of their general education program. The idea intrigued me and so I developed a course in game theory. This course touches aspects from political science, economics, history, and social science. As we shall see, it is also relevant to the familiar process of course registration.

I was pleased and a little bit surprised when 25 people preregistered for the course the first time it was offered in Winter 2000. I wanted it to run so I could get some of the “bugs” worked out, but expected a much smaller group as only a handful of transfer students were both eligible and required to take the course. As registration day ended I inquired to see how many students I would have in my class. Imagine how surprised and dismayed I was when I realized only 3 people had actually registered for the course! To determine what happened, I began to look at the preregistration process itself. The college had just instituted a new system in which students could preregister for a full load of classes (up to 18 hours) plus two “alternate” courses. The rationale behind this was that in the past any student who wished to make a change in schedule on registration day (due to a class being full, etc.) was required to get their advisor’s signature, which was a headache for all involved. Under the new system as long as the student registered for one of their choices or an alternate, they needed no signature. The problem was that under our present computer system there was no way for the preregistration numbers given to the faculty to make a distinction between “regular” and “alternate” courses. Add this to the fact that many students, wishing to have as much flexibility as possible, would sign up for 24 total hours when they only planned on taking 12 or 15, and you can see that the preregistration numbers were very misleading.

Let’s consider modeling this situation as a 2×2 matrix game. The “players” are the college and the students. They each have two choices of strategy. (We will assume all students will employ the same strategy.) The college can let preregistration numbers include both regular and alternate courses and offer classes based on the combined numbers. This is assuming that the students will truly need and use those alternate courses. We will call this strategy C for cooperative, since the students would prefer the college employ this strategy. The college could also decide to only include regular classes in the preregistration numbers and offer a smaller range and depth of classes based on these figures. This strategy would