

Scheduling First Year Seminars: A Coupled Bipartite Matching Problem

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Abstract

First-year seminars are classes designed to help incoming students prepare for a college-level work load while encouraging higher levels of thinking, writing, and speaking. At Furman, these seminars are separated into two types: FYS courses (seminar-style courses) and FYW courses (writing intensive courses). Incoming students are required to take one of these two types of courses in each term of their freshman year, and at least one of these courses must be an FYW course. In this talk, we show that scheduling students to these courses can be modeled using two bipartite graphs transformed appropriately to be flow networks. We also give an algorithm for the assignment of students to classes (matchings) and the handling of the extra constraint that one course must be an FYW course.