Monthly Clinic Assignments for Internal Medicine Residents
Dr. Jonathan Bard

Abstract
Upon receiving their degree, medical school graduates enter residencies or training programs in specific specialties. As part of this training, each intern and resident, collectively called housestaff, must spend one or two half-day sessions a week in their assigned continuity clinic. The exact amount of time is a function of their current monthly rotation. In fact, it is the variable clinic hour requirements that drive the scheduling process, and is what distinguishes this problem from most personnel scheduling problems. From the program director’s point of view, the objective is to both maximize clinic hours and minimize the number of violations of a prioritized set of goals while ensuring that certain clinic-level and individual constraints are satisfied. The corresponding problem is formulated as an integer goal program and a three-phase methodology is proposed to find solutions. After pre-processing, a commercial solver is used to obtain tentative solutions and then improvements are made in a post-processing step. The effectiveness of the methodology is demonstrated by analyzing eight monthly rosters provided by the Internal Medicine Residency Program at the University of Texas Health Science Center in San Antonio. On average, we were able to assign up to 7.62% more clinic sessions with far fewer violations of the goals than were seen in the actual schedules worked.

Refreshments will be served in Daniels Hall room 428
Student Lounge from 11:15 a.m. to 11:45 a.m.
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Biography

*Jonathan Bard* is a professor of Operations Research & Industrial Engineering in the Mechanical Engineering Department at the University of Texas at Austin. He holds the *Industrial Properties Corporation Endowed Faculty Fellowship* and serves as the Associate Director of the Center for the Management of Operations and Logistics. He received a D.Sc. in Operations Research from The George Washington University, and an M.S. and B.S. in Aeronautical Engineering. His research interests are in the design and analysis of manufacturing systems, personnel scheduling, improving healthcare delivery, and algorithms for large-scale integer programs. He is the founding Editor of *IIE Transactions on Operations Engineering* and is on the editorial board of several other journals. He is a fellow of IIE and INFORMS, and a registered professional engineer in the State of Texas.