Instructor: Estie Arkin, Math Tower P134B, 632-8363, esther.arkin@stonybrook.edu


Office hours: Tentative Monday 10-12 and Tuesday 12-2. You may also stop by whenever you have a question. I also welcome questions by email or by phone.

Grader: Joshua Comden joshua.comden@stonybrook.edu office hours Monday: 2:30-3:30 and Thursday: 10:30-11:30, Math Tower A149.

Lectures: Tuesday and Thursday, 4:00-5:20 in Harriman Hall 115.

Prerequisites: Ideally, students should have had a course (grad or undergrad) in linear programming. If you haven’t had such a course, please let me know. (There are many texts on the subject, or check out the appendix in [AMO].)

Recommended Texts: Network Flows: Theory Algorithms, and Applications, by Ahuja, Magnanti, and Orlin. Also: D. West Introduction to Graph Theory.

Other Recommended Texts:

- Lawler, Combinatorial Optimization: Networks and Matroids
- Kleinberg and Tardos, Algorithm Design
- Cormen, Leiserson, Rivest and Stein Introduction to Algorithms
- Papadimitriou and Steiglitz, Combinatorial Optimization: Algorithms and Complexity
- Ford and Fulkerson, Flows in Networks
- Tarjan, Data Structures and Network Algorithms
- Hochbaum, Approximation Algorithms for NP-Hard Problems
- Vazirani, Approximation Algorithms

Homeworks: You are encouraged to discuss homework problems with me. You may also discuss them with other students taking the course, however, the work that you turn in should always be your own write-up, and you should show that you personally understand everything that you write. Please make certain that your writing is neat and clear, and that you have expressed your reasoning, not just the final answer. Please staple your pages! I usually do not accept late homework, unless you have a very good reason. I will drop the lowest homework score before computing your average.

Homework cover sheet: Each homework must have a cover sheet (available on blackboard) which should be filled out and stapled to the homework. Homeworks turned in without a cover sheet will not be graded.

Grading: 50% homework, (lowest homework grade will be dropped) and 50% final (Monday May 18, 2:15-4:45). The final is closed notes.

Course Outline: We will cover some of the following topics: Directed and undirected graphs, connectivity, trees, bipartite graphs, planar graphs, Hamilton cycles and Euler tours, shortest paths, max-flows and min-cost flows, matching and colouring. We will discuss hardness of problems (NP-completeness), algorithms and approximation algorithms. If there is a topic you are particularly interested in covering, please let me know asap.
Disability Policy: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following website: http://www.ehs.sunysb.edu/fire/disabilities.asp

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person’s work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/

The University at Stony Brook expects students to respect the rights, privileges, and property of other people. Faculty is required to report disruptive behavior that interrupts faculty’s ability to teach, the safety of the learning environment, and/or students’ ability to learn to Judicial Affairs.