Math 412   HW9   4/12/2014   Name: _____

Due Friday, April 18, 2014

Students in section X13 (three credit hours) need to solve any four of the following five problems. Students in section X14 (four credit hours) must solve all five problems.

1. # 4.3.3 in the book.

2. # 4.3.5 in the book.

3. # 4.3.6 in the book.

4. Use the Ford-Fulkerson Theorem (Theorem 4.3.11) to prove the König-Egevaráry Theorem (Theorem 3.1.16).

5. Prove that if G is a simple 3-connected graph, then there exists a partition $\{V_1, V_2\}$ of $V(G)$ such that $G[V_1]$ is connected and $G[V_2]$ is a path. (In other words, the vertices of V_2 can be ordered $v_1, \ldots, v_l$ so that $E(G[V_2]) = \{v_i v_{i+1} : i \in \{1, \ldots, l-1\}\}$.)

Problems below review basic concepts and their ideas could be used in the tests.
OTHER INTERESTING PROBLEMS:
Section 4.3: 7, 8, 13.
Do not write these up!