Math 272 Course Content and Objectives

| shortest path, Warshall's algorithm, finding the best tree, and the Traveling Salesman problem.   |     |   |
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| Coloring maps and Graphs: Coloring regions and graphs with two colors, coloring graphs with many colors, and the Four Color Theorem.  | 5   | Prove statements about the coloring of maps.            |
| Computer topics, complexity and<br>cryptography: Computation, tree traversal algorithms,<br>analysis of algorithms, matrices including relations<br>and databases, languages including algebraic<br>structures, finite state machines, formal languages,<br>Huffman Codes, computer logic including Boolean<br>algebra structure, verifying a password without<br>learning it, and public key cryptography. | 2.5 | Use finite state machines to model computer operations. |