**SELF-ASSESSMENT OF USU CS COURSE**  
**BY INSTRUCTOR**

<table>
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<tr>
<th>Course: CS 5050</th>
<th>Semester: Fall 2006</th>
<th>Instructor: Minghui Jiang</th>
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**List Course OUTCOME** | **Assessment tool and passing criteria** | **% Passing** |
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Gain knowledge on a variety of common computational problems and their algorithmic solutions. | Satisfactory performance in homework assignments, projects, in-class tests, and final exam. | 100 |
Be able to analyze the time and space complexities of an algorithm. | Satisfactory performance in homework assignments, projects, in-class tests, and final exam. | 90 |
Be able to choose appropriate data structures in the design of an algorithm based on their mathematical properties. | Satisfactory performance in homework assignments, projects, in-class tests, and final exam. | 80 |
Be able to recognize the conceptual connection between different computational problems. | Satisfactory performance in homework assignments, projects, in-class tests, and final exam. | 75 |
Be able to design algorithms for new problems using standard algorithmic techniques. | Satisfactory performance in homework assignments, projects, in-class tests, and final exam. | 75 |

Self assessments of strengths and weaknesses this semester (what worked, what did not work):

**Strengths:**
- Three homework assignments of creativity problems and three in-class tests for reinforced learning.
- Two programming projects motivated by real research problems that encourage careful selection of appropriate data structures and algorithmic engineering.
- Interactive classroom experience.
- Basic core materials interspersed with some advanced research topics (good students will not be bored).
- Occasional challenge problems to enhance interest and enthusiasm.
- Emphasis on the conceptual connection between different computational problems and techniques.

**Weaknesses:**
- The classroom is too large: with students scattered around, interaction becomes more difficult.
- Each lecture is too long in the Tuesdays/Thursdays format; students gradually lose attention after one hour.
- Some students don’t have the necessary background in discrete math and data structures; the instructor has to focus on less advanced materials.

Recommendations of changes to implement next offering:
- Use a smaller classroom.
- Use the Mondays/Wednesdays/Fridays format.
- Advanced research topics can still be added, especially if the instructor carefully selects more intuitive and less technical topics and if the presentation speed is moderate.