**2009 CS Report**

**Step 1: Department/Program Mission (Due September 15, 2009)**

    Through excellence in teaching and advising, our dedicated faculty prepare students in mathematics and computer science for meaningful careers, advanced study, and a passion for learning. Individual attention, small classes, departmental activities, and a state-of-the-art facility foster a vibrant scholarly community. Distinguished faculty, active as peer-reviewed scholars, provide students with innovative teaching and quality research opportunities. Our modern curriculum emphasizes modeling, problem solving, logic, quantitative skills, critical thinking, abstraction, and rigor. Regular dialog with other disciplines shapes relevant courses for all students, regardless of major. Interdisciplinary connections and applications are emphasized in our courses and in the rich liberal arts tradition of Albion College.

**Step 2: List goals/outcomes (Due September 15, 2009)**

1. **Ability to apply critical thought to action.**  Students will demonstrate the ability to model problems mathematically, to create and apply appropriate data structures and algorithms, and to analyze the correctness and efficiency of a solution utilizing appropriate methods and theoretical results.
2. **Ability to adapt to changes in technology and become life-long learners.** Students will demonstrate a firm grasp of the core of computer science,  students will have a strong mathematical foundation, and students will be capable of working in multiple programming language paradigms.
3. **Knowledge of the current state of computer science.** Students will demonstrate understanding of the hardware, software, and theoretical capabilities and limitations of computers.
4. **Appreciation of the breadth of computer science and the ability to contribute to multiple areas.** Students will be exposed to the range of opportunities in the computing profession, and students will demonstrate proficiency in multiple applications of computer science.
5. **Ability to communicate ideas effectively.** Students will demonstrate proficiency in written and oral communication of technical and mathematical ideas.

**Step 3: Identify program components (Due September 15, 2009)**

*Required courses, elective courses,out-of-classroom or other experiences that are designed to achieve each educational objective. NOTE: Every class will not, nor is it expected to,achieve each outcome. The goal is to get an even distribution of experiences that achieve the outcomes.*

1. Computer Science 171, 173, 261, 265, 271, 273, 352, 358
2. Mathematics 141, 210, 236, 239, Computer Science 171, 173, 271, 275, 352, 354, 356, 358
3. Computer Science 352, 354, 356, 358
4. Computer Science 261, 263, 265, 271, 273, 275, 316, 326
5. Computer Science 299, 399

    The majority of the DMCS’s dedicated assessment activity is concentrated in the required ¼-unit courses Mathematics/CS 299 and 399: Colloquium I and II.  In these courses, students attend weekly talks given by Albion faculty, visitors from outside the Albion community, and Albion students.  For most of these talks, students prepare a written summary of the topic.  In 399, students also prepare and present a talk of their own on a computer science topic of interest to them.  These activities represent our efforts to assess our students against assessment goal #5.
    399 students also take the Major Field Test in computer science–this is intended as assessment of the CS program, not the students.

**Step 4: Select methods/data sources and instruments (Due September 15, 2009)**

*...that you will use to gather information about whether expected outcomes and learning objective are being achieved. NOTE: You do not need to collect data from the same sources every year. Rather, some kind of assessment rotation will be sufficient (e.g., Years1 & 3, collect data from graduating seniors, Years 2 & 4 collect data from employers and alumni, etc.).*

In computer science, we have the advantage that our curriculum is based on the recommendations of the Association for Computing Machinery, and as such conforms to the norms of our profession.  With that in mind, scores on exams or on selected exam questions, as well as course grades, are the obvious and accepted vehicle for determining mastery of knowledge in the first four areas of attention.  Results from the MFT will be used as assessment of the program's progress in achieving these student goals.

**Step 5: Analyze and interpret the data (Due October 1, 2009 with preliminary data; due November 2, 2009 with final data for this assessment cycle)**

(enter step 5 here)

**Step 6: How will the data collected be used for decision-making, strategic planning, etc. (Due October 1, 2009 with preliminary data; due November 2, 2009 with final data for this assessment cycle)**

*NOTE:You will need to submit a summary report of your findings to the Assessment Committee for review. In that report, please include details of how the data will be used, any program changes that will be made (or not made). Questions to ask yourself/to include in the report are as follows:*

* *How, exactly, will your data be used to help with program planning and improvement?*
* *Will your program form a committee to review assessment findings, and make recommendations for change or improvement in a timely manner?*
* *Will your entire department convene to discuss assessment results and program changes?*
* *Who will make formal recommendations for curricular or other changes—the chair/head? The committee?*

(enter Step 6 here)