FACULTY MEETING
November 6, 2015

MOTION

The Committee on Educational Policies and Planning moves to approve the proposal, originating from the faculty of the Department of Mathematics and Computer Science, to establish two distinct departments: The Department of Computer Science and The Department of Mathematics.

RATIONALE:

This proposal is based on enhancing administrative communication, efficiency and control; hiring; evaluation of personnel; student and faculty perception; and institutional comparisons with similar colleges.

Background

Since its inception, the Computer Science major has been housed in the Department of Mathematics and Computer Science. When the Computer Science major was staffed primarily with mathematicians, this arrangement was justified and beneficial. As we have continued to hire faculty with degrees in Computer Science, however, the union of Mathematics and Computer Science has become less advantageous and less efficient.

Although there are certainly still some benefits to having a combined department, in many ways this administrative structure now hinders the ability of the Computer Science program to grow and to effectively operate. The two programs within our department offer separate majors and minors with little overlap of courses; Computer Science faculty teach Computer Science courses, while Mathematics faculty teach Mathematics and Statistics courses as well as three MC courses. These MC courses (MC215 Mathematical Reasoning and Discrete Structures; MC 318 Numerical Algorithms; and MC 302 Graph Theory) contain some material that the two fields have in common. MC215 is required for both Computer Science and Math majors, while Numerical Algorithms and Graph Theory can be used as electives for both majors.

These courses are currently taught exclusively by the Mathematicians and would be the sole responsibility of the Math Department under the new administrative structure, with the exception that at some point in the future, MC215 may bifurcate into two distinct courses, one of which emphasizes the computer science material (and taught in the CS Dept.), and the other emphasizing the mathematics material (and taught in the MA Dept.)

Resource Implications and Personnel

The two programs currently operate entirely independently with regards to allocating both contingent and tenure-track faculty lines. Therefore, splitting the department should have no substantial resource implications.

Rationale for separation

The housing of the Computer Science major in the Math department is problematic for a number of reasons, including:

1. Administrative Communication: The administrative setup, with a Math chair serving as an intermediary between the Computer Science program and the Dean of the Faculty, has left computer scientists out of many important discussions about the workings of the Computer Science program. This was made evident several times over the past few years, particularly in negotiations with candidates for faculty positions. On the other hand, if a Computer Science faculty member were to be chair of the Math/CS Department, the mathematicians would be similarly affected. Administrative communication would be facilitated in both departments if we separated.

2. Hiring: Having the Computer Science program housed in the Math department is a potential obstacle to hiring the best candidates in our upcoming faculty searches. In past searches, Computer Science faculty candidates expressed serious misgivings about being part of the Math department. Furthermore, searches for Computer Science faculty positions become complicated because the Math faculty no longer participate in the delivery of the Computer Science curriculum and are unfamiliar with the changes that have taken place in Computer Science over the past decade.

3. Student Perception: Having a separate Computer Science department will not only signal to potential faculty candidates that the Computer Science major is a legitimate and valued major at Skidmore, it will also signal this to potential students. Decades ago, students may have associated computer science with math, but students today do not see this marriage as natural. This is often made evident at Accepted Candidates Day, where students frequently ask (with more than a little concern) if Computer Science majors at Skidmore have to take a lot of math because they are in the Math department.

4. Evaluation of Personnel: Because the content of the two fields is very different, it is difficult for us to adequately review the tenure and promotion files of departmental colleagues who are in the other field. Even more problematic than the differences in the content of the two fields, is the differences in the culture of the two fields in terms of scholarship. In Computer Science, conference and workshop publications typically count as much as, and sometimes more than, journal publications. This is not the case in Mathematics. Furthermore, unlike in Math, where faculty can effectively reserve a spot to give a talk at a major conference, major Computer Science conferences are refereed and often have acceptance rates below 25%.

5. Efficiency and Control: Members of the Computer Science program have often met as a group to discuss the Computer Science curriculum, then met with the Math chair to discuss the conclusion of those discussions, and then attended the regular department meetings in which the primary issues discussed were issues related to the Math curriculum – sometimes all in the same week. The Computer Science faculty's time would be better spent concentrating on the Computer Science major.

In addition, any time a study abroad proposal or a transfer course credit question comes to the current chair (a mathematician) from a computer science student, the question cannot be settled without consulting the Computer Science Program Director, which creates extra steps and wastes time. In the reverse situation if a computer scientist were chair, the same issues would arise with mathematics students. It's really the same issue as discussed in point (4) above, that of evaluating outside your own area of expertise, this time at the student level instead of the evaluation of colleagues. Efficiency would be improved for both areas if each area was a separate department with its own department chair.

Conclusion

Among the colleges in our peer and aspirant groups, all but three have spun their Computer Science programs off into separate departments or are in the process of doing so. With enrollments in Computer Science growing rapidly, it is time for Skidmore to create a separate Department of Computer Science so that we can continue to develop Computer Science into a major of the caliber that one would expect to find at a college of Skidmore's standing. Over the past few decades, when computer science as a discipline was new, it was natural for a new computer science curriculum to be developed at an institution within another department, usually the Mathematics Dept. As the discipline as a whole is becoming more mature, this is much less common in the present day. Even more importantly, as Skidmore's own computer science program and major in computer science are becoming more mature, it is natural for the program to separate from its parent department.

With the shared Administrative Assistant and several courses crossing the boundaries between the disciplines, the two departments will remain in a symbiotic and supportive relationship; however each department will be more efficient and more capable of delivering its curriculum and managing faculty personnel. The department is unanimous in its support of this move, mathematicians and computer scientists alike.