

Department of Mathematics and Computer Science

Revised Academic Plan for 2002-2007

Executive Summary

The Mathematics and Computer Science Department has adopted the following goals and has set out student behavioral objectives that are expected to result as we achieve our goals. An assessment plan and a list of initiatives follow the list of goals.

Goal related to all of our programs: maintain the high quality of all of our current programs.

Goals related to the Mathematics program:

1. Enhance the marketability of the B.S. degree in mathematics.
2. Strengthen the mathematical skills of all UNCP students.
3. Foster student research within the department.
4. Continue to promote the teaching of mathematics and the licensure process as a viable option for the mathematics major.

Goals related to the Computer Science program:

1. Achieve ACM accreditation.
2. Continue curriculum review and development in accordance with the ACM guidelines and industry needs.
3. Develop tracks for the B.S. degree in Computer Science that reflect the needs of the students and the strengths of the faculty.
4. Seek increased marketability of majors through certification programs.

Goals related to the Graduate program:

1. Investigate developing a masters degree program in conjunction with the Business School.
2. Investigate developing a masters degree program in computer science.

3. Offer graduate students in Mathematics Education the opportunity to work with faculty as teaching assistants.
4. Establish a Mathematics and Science Network Center to assist public (and private) schools in our service region.

In the Detail Section we will itemize student behavioral objectives. To assess the extent to which our efforts are being realized, we plan to develop a questionnaire to use in interviews with our graduating seniors. The responses given at these interviews will be used when we consider modifying our departmental programs. We will also revise the questionnaire periodically.

Portfolios developed by our graduate students will be used to evaluate our graduate programs. Our graduate students prepare these portfolios as a part of each graduate course they take. A student's portfolio will be reviewed at the time the student takes the comprehensive examination for the degree.

The department will pursue the following initiatives in the near future. We are requesting the indicated resources in support of the initiatives.

1. Set up and maintain a departmental computer lab used only by departmental majors. This will put us in line with almost every other school which offers computer science degrees.

We request a budget increase of \$5,000 per year to support a departmental computer lab. Also we need one of the four computer labs that are already planned for the renovated science building to be designated a departmental lab. We assume that UCIS will outfit the lab with the usual hardware and software.

2. Institute class sizes that allow students to be given the personal attention that learning the material we offer requires.

Our service load in math has risen from an enrollment of about 1200 in 1999-2000 to over 1900 in 2003-2004, an increase of over 60%. We request two new faculty for the department - one PhD in computer science or in mathematics with a masters in computer science, and one at the instructor level to teach service courses in mathematics. We will cover any additional sections needed with part-time faculty until additional requests can be made.

3. Provide students with a Math/CS resource center and lab with a full-time staff.

We request redesignation of the student lounge in the plans for the renovated science building as a Math/CS resource center and lab. Graduate assistanceships and/or work-study students to staff the lab.

4. Make more of our courses web-assisted and make more of them available online.

No additional resources are requested for this initiative.

5. Develop a Math/Science Education Division within the department to foster the growth and maintain the quality of these education programs.

The concept of such a division is a result of talks initiated, I think, by the Deans of Arts and Sciences and Education.

Appendix A was prepared by the faculty of the proposed Math/Science Education Division . They are requesting two rooms (which may already be in the plans as Science Ed rooms) and a startup budget of \$25,000 for supplies and the purchasing of mathematics and science education related technologies. After the initial investment, they project that the division will need an annual budget of approximately \$6,000-\$8,000 for materials and supplies. They propose a half-time teaching load for a Director of the program, a half-time teaching load for the grant writer, and a one course per term reduction for the lab coordinator. They think that they will eventually need four additional faculty members be added to the division. This would include 2 in mathematics education and 2 in science education.

6. Develop and offer new courses in bioinformatics as part of a computational science initiative of a consortium of UNC schools - ASU, NCA&T, UNCG, UNCP, and WCU.

We are working with faculty from these other institutions to prepare a grant proposal responding to an RFP on computational science issued by the UNC Office of the President. We have contacted Lynda Parlett regarding some matching funds for this proposal. We also need letters of support from UNCP.