

Mathematics Department Plan For Combined Bachelor's and Master's Degrees

September 5, 2003

1. **Purpose:** The Mathematics Department at the University of Utah is a department which is actively engaged in research and education. It has been classified by the National Research Council to belong to Group I of research departments and as such has been successful in training outstanding students at the Bachelor's, Master's and Ph.D. levels. It has been recognized by the National Research Council, the National Science Foundation, and other funding agencies, that there is a shortage of American citizens, nationals, and permanent residents who pursue mathematics and the sciences as careers and efforts are being made on a national level to alleviate this shortage by programs such as VIGRE (Vertical Integration of Graduate Research and Education) and IGRET (Integrative Graduate and Research Training). Both of these programs are designed to increase the flow of talent into our discipline. The Mathematics Department has successfully competed for multiyear training grants in both of these programs (see <http://www.math.utah.edu/vigre> and <http://www.math.utah.edu/grad/mathbiology>).

Most of the talented students entering programs of studies in the mathematical sciences are students who have successfully completed advanced placement courses in Calculus in High School and passed placement tests with high scores. Such students are capable of entering research programs (REU) during their junior (and some cases sophomore) years and will take graduate courses (5000 and 6000 level) in Mathematics during their junior and/or senior years. (Supported by our VIGRE grant we had 15 students involved in REU's during the last year.) Such students will usually, with one more year of study after their senior year, have completed all the requirements for a Master's of Science or Master's of Arts in Mathematics and thus may satisfy the requirements of a combined Bachelor's and Master's degree after five years of study. The undergraduate REU will naturally lead into research on the graduate level and produce students who will have the chance of moving through a demanding Ph.D. program at a faster pace, thus increasing the flow into the mathematics pipeline mentioned above. It is for such and comparable students that our combined program is designed. In summary, our purpose is:

- To attract qualified undergraduate students into the graduate program early.
- Offer qualified students a combined Bachelor's and Master's degree in an accelerated program (at most five years).
- To decrease the time required to obtain graduate degrees.
- To involve students early in their careers in research programs.

2. **Admission to the program:** Undergraduate students wishing to be admitted to the program are strongly encouraged to participate in an REU project early in their program of study. Admission to the combined program will occur at the end of the junior year. To be eligible an applicant must have maintained a cumulative grade point average of at least 3.5 in both his/her overall program of study and in the major, which must be Mathematics. The indications must also be that the student will successfully satisfy the requirements for both the Bachelor's and Master's degrees in Mathematics during a time period, not to exceed one year, after the senior year. The student must apply for admission to the combined program to the Department's Graduate Program by submitting a detailed program of study which has been prepared with the aid of the student's advisor. In addition, the applicant must supply three letters of reference from former or present college teachers. The selection to the program will be made by the Graduate Recruitment Committee and the Director of Graduate Studies will make formal recommendation for admission to the Graduate School. Transfer students may be considered for the program only after completing 24 hours of course work at the University of Utah. Students may receive graduate status after the completion of 122 hours of course work (transfer to graduate status will be decided in consultation with the Director of Graduate Studies).
3. **Advising:** The Director of this Program will be the Director of Graduate Studies, who, together with the Department's Graduate Committee, will appoint a mentor and program committee for the successful applicant. The mentor will usually be the student's REU advisor or undergraduate advisor.
4. **Requirements:** A student must complete the requirements for both degrees (a minimum of 152 credit hours at least 30 of which on the graduate level) and the credits for a given course may not be applied towards both degrees. Enrollment into a Ph.D. program may not occur until completion of the combined programs.
5. **Administration:** The program will be administered jointly by the Graduate School and the Department of Mathematics. The Department will assume primary authority and responsibility reflecting the standards of both the undergraduate and graduate degrees, including any standards of the combined degree.

The Department will ensure that all requirements are met for each degree. Courses taken for the graduate degree will not be eligible for graduate credit until the requirements for both degrees are satisfied.

During the final semester, the graduate program of study will be submitted to the Graduate School and Registrar's office. Courses taken for the Master's degree will then be marked Taken for graduate credit on the official transcript. The Department will notify the Graduate School and Registrar's office of the fulfillment of all degree requirements prior to graduation.

The current Graduate Secretary will handle all the paperwork pertinent to the program.

6. **Degrees:** After successful completion of the requirements for the Bachelor's degree the Department will complete the necessary formalities that the degree will be awarded and the same will happen after the successful completion of the requirements for the Master's degree.

Submitted by: The Department of Mathematics, University of Utah

Chairman: Graeme Milton

September 12, 2003

John G. Francis
Associate Vice President for Undergraduate Studies
Sill Center
Campus

RE: Proposed Combined Bachelor's/Master's Degree in Mathematics

Dear John:

At its meeting of August 25, 2003, the Graduate Council unanimously voted to approve a proposal to create a combined bachelor's/master's degree program in the Department of Mathematics. A copy of the proposal with supporting letters is enclosed.

The combined bachelor's/master's degree concept at the University of Utah was developed in the College of Engineering two years ago. From the College of Science, Mathematics is the only department that wants to offer this option at present. It fits nicely with the department's VIGRE initiative supported by the National Science Foundation.

Upon approval by the Undergraduate Council, please forward this proposal to Senior Vice President Pershing for approval and consideration by the Academic Senate.

Sincerely,

David W. Chapman
Assoc. V.P. for Graduate Studies
Dean, The Graduate School

Encl.

XC: Peter J. Stang, Dean, College of Science
Graeme Milton, Chair, Department of Mathematics
Peter Trombi, Director of Graduate Studies, Department of Mathematics

DSC/dh