

M.A.-to-M.S. Redesignation Justification

The Department of Mathematics' Master's program requires modernization and diversification, in part to make the program more competitive, and hence, attract more capable students. Also, our current program is not compliant with Executive Order 1071. Therefore, the Department proposes implementing the changes recommended herein and redesignating the awarded degree from the current M.A. in Mathematics to M.S. in Mathematics.

The justifications for the M.A. to M.S. degree redesignation include the following.

- The Department wishes to be consistent with the corresponding process of B.A. to B.S. redesignation, which has become effective as of Fall 2018.
- The Department wants to better align our Mathematics Graduate Program with those on the other 22 campuses of the CSU system. According to the Committee's study held in Spring 2017, Fresno State is one of only six CSU campuses to offer an M.A., but not an M.S. in Mathematics. In fact, of the 18 CSU campuses offering Master's degrees in mathematics, seven only offer an M.S. This is detailed in the attached spreadsheet.
- During the 2016-17 AY, we had a site visit to review our programs. The visit occurred on Sept. 28th and 29th, 2016. The review panel consisted of Prof. Kim Morin, Theatre Arts, CSU Fresno, Dr. Saeed Attar, Professor of Chemistry, Director of Honors College, CSU Fresno, and Dr. Ivona Grzegorzcyk, Professor and Chair, Department of Mathematics, California State University, Channel Islands.

A conversion from M.A. to M.S. was one of the recommendations of the Program Review Committee.

- Our current program is not compliant with Executive Order 1071, and so we will merge our two options into a single option-less program. Advising and mentoring will be provided to students in order to guide them in course-paths that will give them what they need for whatever plans they have after graduation.
- The Department's conversion effort also reflects the results of a survey of both undergraduate and graduate math majors administered by the Graduate Program Redesign Committee in Spring 2017. Thirty-two undergraduate students responded to their survey, representing approximately a 22.5% response rate. Of those students, only 30 (5 freshmen, 9 juniors, 12 seniors, and 4 super seniors) actually completed it. Seventeen of these students indicated interest in pursuing graduate studies, 16 of whom said they wanted to pursue a Master's degree, one wanted to pursue a Ph.D., and 9 wanted to pursue both. Of all of the respondents, 15 indicated a preference in pursuing a M.S. degree, while only 2 indicated interest in an M.A. and 11 had no preference between the M.A. and M.S. degrees. In response to interest in pursuing a Master's degree at Fresno State (as opposed to elsewhere), 18 of 26 respondents said they preferred Fresno State. Of all respondents, 16 indicated a preference for an M.S. and 9 indicated no preference, which is similar to the results stated above. Finally, 25 of the 30 undergraduate respondents indicated that a comprehensive redesign of the Master's program would make them

more interested in pursuing graduate studies at Fresno State. The graduate students responded at a higher rate, and we received 14 responses of the 15 students enrolled in the program. Of the graduate student responses, 13 indicated interest in teaching at the community college level after graduation. Interestingly, only 3 students indicated a desire to earn a doctoral degree at some point, while 5 did not and 6 were not sure. When asked if they thought that a Master of Science (M.S.) degree or a Master of Arts (M.A.) degree would better prepare them for their career/educational objectives, 4 students indicated that the M.S. would be better preparation; 1 indicated that the M.A. would be better; 6 said either degree; and 3 were not sure. Finally, when asked if they would be interested in getting an M.S. degree, instead of the M.A. that we currently offer, the vast majority (9 students) responded affirmatively.

- The Department also believes that this conversion has the potential to attract highly qualified international students, as some international students appear to perceive that an M.S. degree is better than an M.A.
- It is possible that this change will also be a useful tool in recruiting talented faculty.
- The proposed new program provides a graduate curriculum that is more modern, diversified, and better equipped for in-depth explorations of various areas of contemporary mathematics, and mathematics education, as well as the creation of additional choices for Master's theses and research projects.
- The proposed changes create the potential for the program's future growth and development, such as the development of further options along the same lines as the B.S. program.