

Responses to Guiding Questions for Faculty

Workshop on Education Research Positions in STEM Disciplinary Departments

from Chris Rasmussen, Department of Mathematics and Statistics, San Diego State University, based on conversations with five math ed faculty members.

1. What are your responsibilities for teaching, research, and service? (e.g., teaching loads, courses, coaching/mentoring roles, types of research, liaison roles with education department)?

Prior to 2002 the teaching load was 3 courses per semester for all faculty members in Department of Mathematics and Statistics. After 2002, the teaching load for research-active faculty was decreased to 2 courses per semester. This was done to promote and support faculty research. Faculty who are not research active are still required to teach 3 courses per semester. Grant related work often results in faculty teaching only 1 course per semester. The courses typically taught by our group include: graduate courses in mathematics education (Master and Doctoral level), graduate mathematics courses for students enrolled in the Masters of Arts in Teaching program, junior and senior level math content courses for prospective secondary school teachers, and math content courses for prospective elementary school teachers. On occasion math ed faculty also teach math content courses not specific for prospective teachers (such as differential equations). In the past few years the math content courses for prospective elementary school teachers has mostly been taught by lecturers.

Service requirements for untenured faculty are, theoretically, supposed to be minimal. However, due to shortage of faculty the one untenured faculty member is the advisor of the M.A.T.S. program and coordinates a tutoring program that connects prospective secondary school math teachers with local high schools. Tenured faculty are expected to serve on and chair department and university level committees, to mentor and supervise graduate students, advise prospective secondary school math teachers, and take care of all other education related activities. This latter responsibility includes liaison with the School of Education and serve as point/contact person

There is a strong expectation for research. There is no particular expectation for the type of research conducted, only that it is published in high quality, peer-reviewed journals. Book chapters and conference proceedings are not strongly considered in the tenure and promotion process. It is expected that faculty seek external funding. Many math ed faculty, by the very nature of their work, conduct research in school settings. This tends to be very time intensive.

2. In what ways (if any) do your responsibilities differ from your non-education focused colleagues?

Math education faculty generally have the same department and university level responsibilities as our non-education colleagues. This includes committee work as well as advising for the secondary school teacher program, department yearly review, and yearly assessment reports (non-education colleagues have similar responsibilities for their division, such as applied math or

statistics). The advising for prospective teachers, however, involves additional work as this must be coordinated with the 5th year credentialing program.

Additional responsibilities include liaison with the Liberal Studies Program (for prospective elementary school teachers) and coordination with state credentialing programs. The work with the Liberal Studies Program includes scheduling, enrollment trends, monthly meetings, order course material, and reviewing portfolios. Coordinating with the California Commission on Teacher Credentialing also is a responsibility unique to the math ed faculty. This responsibility includes responding to how the program fits new standards (official report is prepared every five years) and keeping courses up to date with changing standards. Our non-education colleagues tend not to need to respond to changing standards and course needs.

Another area of difference in responsibilities is running the Joint Doctoral Program (JDP) (joint with UCSD) in math and science education. The coordinator of this program does, however, receive from the College of Sciences a reduced teaching load for this responsibility. Other faculty members, however, serve on JDP committees without reduced departmental and university wide committee responsibility. A final difference is the involvement of Math education faculty in the Center for Research in Mathematics and Science Education (CRMSE). Involvement in CRMSE requires some additional responsibilities such as attending meetings, but it also makes conducting research, especially in local schools, easier. CRMSE, which has a strong national and international reputation as a place of excellence in mathematics education, helps us attract new faculty and visibility within the department and the college. The director of CRMSE is funded by the College of Sciences and, like the coordinator for the JDP, receives a reduced teaching load. While the current director of CRMSE is from Biology, the past director was from math education.

3. What positions have you held and do you currently hold in your department?

Two faculty members have moved from Assistant to Associate Professor within the last four years. Another faculty member is an Assistant Professor. Newly hired within the last two years are an Associate and a full Professor.

4. In what ways (if any) do your current position and your career prospects differ from your non-education focused colleagues (e.g., title and rank, paths to tenure, resource issues, joint appointments with other departments)?

The Mathematics Department Chair has never been a mathematics educator. However, this year's search for an external chair allows for this possibility. Another difference is the extent to which the university and college level retention, tenure and promotion committee understands mathematics education research in terms of quality and quantity produced. In the past some faculty members have experienced difficulty at these levels because there was no one on the committee with the required background to evaluate the candidate.