

**Statistical Abstract of
Undergraduate Programs in
the Mathematical Sciences
in the United States**

Fall 2000 CBMS Survey

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David Lutzer
James Maxwell
Stephen Rodi

Foreword

Every five years since 1965, the Conference Board of the Mathematical Sciences (CBMS) has sponsored a national survey of undergraduate mathematical sciences in the United States. With National Science Foundation (NSF) support, the eighth CBMS survey was conducted in the fall term of 2000, using a stratified random sample of the roughly 2,500 programs and departments of mathematics and statistics in two and four-year colleges and universities in the nation. This report presents the findings of the fall 2000 survey, hereafter called CBMS2000.

Like its predecessors since 1965, the CBMS2000 survey collected data on enrollment, curriculum, bachelors degrees granted, course availability, and faculty demographics. Furthermore, following the pattern of recent CBMS reports, the CBMS2000 survey collected detailed information about first-year courses in calculus and statistics. In addition, the CBMS2000 Steering Committee decided to include a list of special one-time topics thought by various professional society committees to be particularly timely. These were: the continuing impact of the calculus-reform movement; the mathematical education of pre-service K-8 teachers; special academic support programs available to undergraduates, including placement testing; the use of distance learning to teach mathematics and statistics; dual enrollment, a relatively new way for high school students to receive college credit for courses taken in high school; and the educational background of faculty members teaching statistics courses in fall 2000.

Chapters 1 and 2 of this report summarize the findings of CBMS2000 and, to a greater degree than ever before in CBMS survey reports, integrate and interrelate data on two-year and four-year programs. Chapters 3, 4, and 5 continue longitudinal studies of four-year colleges and universities, presenting data in finer detail than was possible in the first two chapters. Data in those three chapters provide separate profiles of the undergraduate mathematical sciences in the nation's bachelors, masters, and doctoral departments, and also compare educational practice

and faculty demographics in the nation's mathematics and statistics departments. Chapter 5 focuses on educational practices in first year courses in calculus and statistics. Chapter 6 describes educational practices in the nation's two-year college mathematics programs, while Chapter 7 studies personnel and administrative issues in those programs.

The CBMS2000 survey differs from its predecessors in significant methodological ways. Previous studies sampled two separate universes, namely two-year colleges and four-year colleges and universities. The CBMS2000 survey sampled from three disjoint populations in the United States: two-year college mathematics programs (about 1,000 programs); four-year college and university mathematics departments (about 1,430 bachelors, masters, and doctoral departments); and four-year college and university statistics departments (about 70 bachelors, masters, and doctoral departments). The response rates were 60% for two-year college mathematics programs, 70% for four-year college and university mathematics departments, and 78% for statistics departments in four-year colleges and universities. Details appear in Appendix II.

Separate computer science departments were not included in the CBMS2000 survey, following the pattern established in CBMS1995. However, because many mathematics departments also teach computer science courses, enrollment tables and bachelors degree tables include data on computer science as offered by mathematics programs and departments. Data on computer science enrollments in separate doctoral computer science departments may be found in the annual "Taulbee" surveys published by the Computing Research Association [TaulbeeReport].

To put CBMS2000 data in context, this report contains substantial data from its predecessors in 1995 [CBMS1995] and 1990 [CBMS1990] and makes occasional reference to departmental guidelines published by the Mathematical Association of America [MAAGuidelines]. In several places, this report corrects typographical errors in those earlier reports, and in such cases the corrections are indicated in footnotes.