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

Fall 2010 CBMS Survey

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Contents

Acknowledgments . . . . . **xvii**

Foreword . . . . . **xix**

Chapter 1. Summary of CBMS2010 Report **1**

TABLE S.1 Enrollment (in 1000s) in undergraduate mathematics, statistics, and computer science courses taught in mathematics and statistics departments of four-year colleges and universities, and in mathematics programs of two-year colleges. Also NCES data on total fall enrollments in two-year colleges and four-year colleges and universities in fall 1995, 2000, 2005, and 2010 5

TABLE S.2 Total enrollment (in 1000s), including distance-learning enrollment, by course level in undergraduate mathematics, statistics, and computer science courses taught in mathematics and statistics departments at four-year colleges and universities, and in mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010 7

TABLE S.3 Combined total of all bachelors degrees in mathematics and statistics departments at four-year colleges and universities between July 1 and June 30 in 1989–1990, 1994–1995, 1999–2000, 2004-2005, and 2009-2010 by selected majors and gender 10

TABLE S.4 Percentage of sections (excluding distance-learning and dual-enrollment sections) in various types of courses taught by different types of instructors in mathematics and statistics departments of four-year colleges and universities, and percentage of sections taught by full-time and part-time faculty in mathematics programs of public two-year colleges in fall 2010. Also total enrollments (in 1000s), excluding distance-learning and dual enrollments 13

TABLE S.5 Percentage of fall 2010 sections (excluding distance-learning sections) in courses of various types taught in mathematics and statistics departments of colleges and universities by various types of instructors, and percentage of sections taught by full-time and part-time faculty in mathematics programs at public two-year colleges in fall 2010, with data for fall 2005 from CBMS2005 Table S.6 and data for fall 2000 from CBMS2000 tables E.12 to E.18. Also total enrollments (in 1000s) 15

TABLE S.6 Percentage of fall 2010 sections in Mainstream Calculus I and II (not including distance-learning sections) taught by various kinds of instructors in mathematics departments at four-year colleges and universities by size of sections with fall 2005 data from CBMS2005 Table S.7. Percentage of sections taught by full-time and part-time faculty in mathematics programs at public two-year colleges in fall 2005 and 2010. Also total enrollments (in 1000s) and average section sizes 18

TABLE S.7 Percentage of sections in Non-Mainstream Calculus I and II, III, etc. taught by various kinds of instructors in mathematics departments at four-year colleges and universities by size of sections, and percentage of sections taught by full-time and part-time faculty in mathematics programs at public two-year colleges in fall 2010. Also total enrollments (in 1000s) and average section sizes 20

TABLE S.8 Percentage of sections in elementary probability and statistics courses taught by various types of instructors in mathematics departments at four-year colleges and universities by size of sections, and percentage of sections taught by full-time and part-time faculty in mathematics programs at public two-year colleges in fall 2010. Also total enrollments (in 1000s) and average section sizes 21

TABLE S.9 Percentage of sections in elementary statistics for non-majors/minors (no Calculus prerequisite) and (Calculus prerequisite) taught by various kinds of instructors in statistics departments at four-year colleges and universities by size of sections in fall 2010. Also, total enrollments (in 1000s) and average section sizes 24

TABLE S.10 Percentage of sections of Mainstream Calculus I and II taught using various instructional methods in mathematics programs in public two-year college mathematics programs in fall 2010. Also total enrollments (in 1000s) and average section sizes 26

TABLE S.11 Percentage of sections of Non-Mainstream Calculus I taught using various instructional methods in mathematics programs at public two-year colleges in fall 2010. Also total enrollments (in 1000s) and average section sizes. 27

TABLE S.12 Percentage of sections of Elementary Statistics at mathematics programs at public two-year colleges taught using various instructional methods in fall 2010. Also total enrollment (in 1000s) (distance-learning courses excluded) and average section sizes. 28

TABLE S.13(A) Percentages of mathematics and statistics departments at four-year colleges and universities that use various practices to teach Introductory Statistics with no calculus prerequisite (for non-majors/minors) in the majority of the sections in fall 2010 29

TABLE S.13(B) Percentage of sections of College Algebra in which various practices in teaching are used by mathematics departments at four-year colleges and universities in fall 2010 32

TABLE S.14 Number of full-time and part-time faculty in mathematics departments at four-year colleges and universities, in doctoral statistics departments at universities, and in mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010. 33

TABLE S.15 Number of full-time faculty who are tenured and tenure-eligible (TTE), postdocs, and other full-time (OFT) in mathematics and doctoral statistics departments of four-year colleges and universities, and in mathematics programs at two-year colleges, in fall 2005 and fall 2010 37

TABLE S.16 Gender among full-time faculty in mathematics and doctoral statistics departments of four-year colleges and universities by type of appointment, and among permanent full-time faculty in mathematics programs at two-year colleges in fall 2005 and fall 2010. Also gender among doctoral and masters degree recipients 38

TABLE S.17 Percentage of all tenured and tenure-eligible faculty in mathematics departments of four-year colleges and universities in various age groups, and average age, by gender in fall 2010. Percentage full-time permanent faculty in mathematics programs at public two-year colleges, by age, and average ages in fall 2010. Also, historical data from fall 2005 that can be found in Table S.18, p. 39, of CBMS2005. 40

TABLE S.18 Percentage of tenured and tenure-eligible faculty belonging to various age groups in doctoral and masters statistics departments (combined) at universities by gender and average ages in fall 2010. Also average ages for doctoral statistics departments in fall 2005 43

TABLE S.19 Percentage of gender and of racial/ethnic groups among all tenured, tenure-eligible, postdoctoral, and other full-time faculty in mathematics departments of four-year colleges and universities in fall 2010 44

TABLE S.20 Percentage of gender and of racial/ethnic groups among all tenured, tenure-eligible, postdoctoral, and other full-time faculty in doctoral and masters statistics departments (combined) at universities in fall 2010. 45

TABLE S.21 Number of deaths and retirements of full-time faculty from mathematics departments and from doctoral statistics departments by type of department 46

Chapter 2. CBMS2010 Special Projects 47

TABLE SP.1 Percentage of mathematics departments whose institutions offer certification programs for some or all grades K-8, and also for secondary teachers, by type of department in fall 2010. 48

TABLE SP.2 Percentage of mathematical programs at public two-year colleges (TYCs) having organized programs that allow various types of pre- and in-service teachers to complete their entire mathematics course or licensure requirements in fall 2010 49

TABLE SP.3 Percentages of four-year mathematics departments in universities and four-year colleges that offer K-8 teacher certification programs having various characteristics, by type of department, in fall 2010 50

TABLE SP.4 Percentage of public two-year colleges (TYCs) that are involved with teacher preparation, in various ways, in fall 2010 50

TABLE SP.5 Among all four-year colleges and universities with a K-8 certification program, the percentage of mathematics departments requiring various numbers of mathematics courses for "early" grades certification (if there is a distinction), by type of department, in fall 2010. Also the average number of various courses taught in mathematics and education departments required for "early" grades certification (if there is a distinction), by type of department, in fall 2010 51

TABLE SP.6 Among mathematics departments at four-year colleges and universities having K-8 certification programs, the percentage of mathematics departments offering various core courses specifically designed for pre-service elementary teachers by type of department in fall 2010. 52

TABLE SP.7 Among mathematics departments at four-year colleges and universities having K-8 certification programs and offering courses in core areas described in Table SP.6, the percentage of the faculty who generally teach these courses by rank and by the type of the mathematics department in fall 2010 53

TABLE SP.8 Among all four-year colleges and universities offering certification programs for pre-service mathematics secondary teachers, the percentage offering team-taught courses with education departments, by type of department, in fall 2010. 53

TABLE SP.9 Among four-year colleges and universities with secondary pre-service teaching certification programs, for various courses, the percentage of mathematics departments whose program requires the course, or whose students generally take the course, or who offer a special course in the given subject that is designed for secondary teachers, by type of department, in fall 2010 54

TABLE SP.10 Percentage of mathematics, statistics, and public two-year college departments offering distance learning, and use of various practices with regard to distance learning, in fall 2010 55

TABLE SP.11 Percentage of public two-year colleges (TYCs) with various practices in distance-learning courses in fall 2010 57

TABLE SP.12 Percentage of four-year mathematics and statistics departments, and public two-year college (TYC) programs, with courses offered in both distance and non-distance-learning formats, and comparison of various practices in the distance-learning and non-distance-learning formats, by type and level of department, in fall 2010 57

TABLE SP.13(A) Percentage of four-year mathematics departments offering various upper-level mathematics courses by distance learning, by department type, in fall 2010 58

TABLE SP.13(B) Percentage of four-year mathematics and statistics departments offering upper-level statistics courses by distance learning, by department type, in fall 2010 59

TABLE SP.14 Percentage of mathematics and statistics departments in four-year colleges and universities, and of mathematics programs at public two-year colleges, that offer various kinds of special opportunities for undergraduates, by type of department, in fall 2010 60

TABLE SP.15 Percentage of mathematics and statistics departments in four-year colleges and universities, and of mathematics programs in public two-year colleges, that offer various additional special opportunities for undergraduates, by type of department, in fall 2010 61

TABLE SP.16 Percentages of four-year mathematics and statistics departments offering various numbers of courses team-taught with a member of another department in spring or fall 2010 62

TABLE SP.17 Percentage of all four-year mathematics departments offering new interdisciplinary courses in the last five years and, among those offering new courses in the given area, the average number of new courses offered, by type of department, in fall 2010 63

TABLE SP.18 Percentage of departments offering dual-enrollment courses taught in high school by high school (HS) teachers, enrollments in various dual-enrollment courses in spring 2010 and fall 2010, compared to total of all other enrollments in fall 2010, and (among departments with dual-enrollment programs) percentage of various departmental controls over dual-enrollment courses, by type of department 65

TABLE SP.19 Percentage of departments in four-year colleges and universities and in public two-year colleges that assign their own full-time or part-time faculty members to teach, in high schools, courses that award both high school and college credit, and number of students enrolled, in fall 2010 66

TABLE SP.20 Percentage of four-year mathematics departments requiring certain courses (or exit exam) in all, some, or none of their majors, by type of department, in fall 2010 67

TABLE SP.21 Percentage of statistics departments requiring certain courses (or exit exam) in all, some, or none of their majors, by type of department, in fall 2010 68

TABLE SP.22 Percentages of four-year mathematics departments offering varying numbers of tracks in their major, by level of department, in fall 2010 69

TABLE SP.23 Percentage of mathematics departments offering various upper-division mathematics courses at least once in the two academic years 2009-2010 and 2010-2011, plus historical data on the two-year period 2004-2006, by type of department 70

TABLE SP.24 Percentage of mathematics and statistics departments offering various undergraduate statistics courses at least once in two academic years 2004-2005 and 2005-2006 and at least once in the two academic years 2009-2010 and 2010-2011, by type of department . . . 72

TABLE SP.25 Departmental estimates of the percentage of graduating mathematics or statistics majors from academic year 2009-2010 who had various post-graduation plans, by type of department, in fall 2010 73

TABLE SP.26 Percentage of four-year mathematics and statistics departments undertaking various assessment activities during the last six years, by type of department, in fall 2010. 74

Chapter 3. Mathematical Sciences Bachelors Degrees and Enrollments in Four-Year Colleges and Universities 75

TABLE E.1 Bachelors degrees in mathematics, mathematics education, statistics, and computer science in mathematics departments and in statistics departments awarded between July 1, 2009 and June 30, 2010, by gender of degree recipient and type of department 78

TABLE E.2 Enrollment (in thousands) in undergraduate mathematics, statistics, and computer science courses (including distance-learning enrollments) in mathematics and statistics departments by level of course and type of department in fall 2010 82

TABLE E.3 Number of sections (not including distance learning) of undergraduate mathematics, statistics, and computer science courses in mathematics and statistics departments by level of course and type of department, in fall 2010 with fall 2005 figures in parentheses 85

TABLE E.4 Enrollments in distance-learning courses (meaning courses in which the majority of the instruction occurs with the instructor and the students separated in time and/or space (e.g., courses in which the majority of the course is taught online, or by computer software, by television, or by correspondence)) and other sections for various freshman and sophomore courses, by type of department, in fall 2010 87

TABLE E.5 Percentage of sections, excluding distance learning, of mathematics, statistics, and computer science courses taught by tenured/tenure-eligible or permanent faculty (TTE), other full-time faculty (OFT), part-time faculty (PT), graduate teaching assistants (GTA), and other unknown (Unk) in mathematics departments and statistics departments by type of department in fall 2010, with fall 2005 figures in parentheses 89

TABLE E.6 Number of sections, not including distance learning, of precollege-level courses in mathematics departments taught by various types of instructor, by type of department in fall 2010, with fall 2005 figures in parentheses 91

TABLE E.7 Number of sections (excluding distance learning) of introductory-level courses (including precalculus) in mathematics departments taught by various types of instructors, by type of department in fall 2010, with fall 2005 figures in parentheses. 92

TABLE E.8 Number of sections (excluding distance learning) of calculus-level courses in mathematics departments taught by various types of instructor, by type of department in fall 2010, with fall 2005 figures in parentheses 92

TABLE E.9 Number of sections (excluding distance learning) of elementary-level statistics taught in mathematics departments and statistics departments, by types of instructor and type of department, in fall 2010, with fall 2005 figures in parentheses. 93

TABLE E.10 Numbers of sections (excluding distance learning) of lower-level computer science taught in mathematics departments, by type of instructor and type of department in fall 2010, with fall 2005 figures in parentheses. 94

TABLE E.11 Number of sections (excluding distance learning) of middle-level computer science taught in mathematics departments, by type of instructor and type of department in fall 2010, with fall 2005 figures in parentheses. 94

TABLE E.12 Number of sections of advanced mathematics (including operations research) and statistics courses in mathematics departments, and number of sections of advanced statistics courses in statistics departments, taught by tenured/tenure-eligible/permanent (TTE) faculty, and total number of advanced-level sections, by type of department in fall 2010 with fall 2005 data in parentheses 95

TABLE E.13 Average section size (excluding distance learning) for undergraduate mathematics, statistics, and computer science courses in mathematics and statistics departments, by level of course and type of department in fall 2010, with fall 2005 data, when available, in parentheses. Also, all departments' average section sizes from previous CBMS surveys. 96

TABLE E.14 Average recitation size in Mainstream Calculus I and II and other Calculus I courses and in elementary statistics courses that are taught using lecture/recitation method, by type of department in fall 2010, with fall 2005 data in parentheses 97

TABLE E.15 Number of freshmen (in 1000s) entering in Fall 2010 with AP credit for Calculus I in Mathematics Departments (Elementary Statistics in Statistics Departments) and the average of the ratio of number of freshmen with AP credit to the number of freshmen by type of department in fall 2010 98

Chapter 4. Faculty Demographics in Mathematical Sciences Departments of Four-Year Colleges and Universities 99

TABLE F.1 Number of faculty, and of female faculty (F), in various types of mathematics departments and PhD and MA statistics departments, by highest degree and type of department, in fall 2010. 103

TABLE F.1.1 Number of faculty, and of female faculty (F), in mathematics departments combined and of statistics departments combined in fall 2010 104

TABLE F.2 Number of tenured, tenure-eligible, postdoctoral, and other full-time faculty in mathematics departments at four-year colleges and universities by gender and type of department in fall 2010 105

TABLE F.3 Number of tenured, tenure-eligible, other full-time, and postdoctoral faculty in statistics departments, by gender, in fall 2010 and 2005 106

TABLE F.4 Percentage of tenured and tenure-eligible mathematics department and statistics department faculty at four-year colleges and universities belonging to various age groups by type of department and gender in fall 2010 108

TABLE F.5 Percentages of full-time faculty belonging to various ethnic groups, by gender and type of department, in fall 2010 111

TABLE F.6 Percentages of part-time faculty belonging to various ethnic groups, by gender and type of department, in fall 2010 112

Chapter 5. First-Year Courses in Four-Year Colleges and Universities 113

TABLE FY.1 Percentage of sections (excluding distance-learning sections) of certain introductory-level courses taught by various types of instructors in mathematics departments in fall 2010, by type of department. Also average section sizes and enrollments (not including distance-learning enrollments) 116

TABLE FY.2 Percentage of sections of College Algebra in which various practices in teaching are used by mathematics departments at four-year colleges and universities in fall 2010 118

TABLE FY.3 Percentage of sections (excluding distance-learning sections) in Mainstream Calculus I and Mainstream Calculus II taught by various types of instructors in four-year mathematics departments in fall 2010, by size of sections and type of department. Also average section sizes and enrollments (not including distance-learning enrollments) 119

TABLE FY.4 Percentage of four-year mathematics departments with various practices in teaching Honors Calculus in fall 2010, by type of department 120

TABLE FY.5 Percentage of sections (excluding distance-learning sections) in Non-Mainstream Calculus I and in Non-Mainstream II, III, etc. taught by various types of instructors in mathematics departments in fall 2010, by size of sections and type of department. Also average section size and enrollments (not including distance-learning enrollments) 121

TABLE FY.6 Percentage of sections (excluding distance-learning sections) in Elementary Statistics (non-Calculus) and Probability and Statistics (non-Calculus) taught by various types of instructors in mathematics departments in fall 2010, by size of sections and type of department. Also average section size and enrollments (not including distance-learning enrollments) 123

TABLE FY.7 Percentage of mathematics departments using various practices in the teaching of Elementary Statistics (no calculus prerequisite) in fall 2010 by type of department 125

TABLE FY.8 Percentage of statistics departments using various practices in the teaching of Introductory Statistics for non-majors/minors (no calculus prerequisite) in fall 2010 by type of department 127

TABLE FY.9 Percentage of sections (excluding distance-learning sections) in Introductory Statistics (non-Calculus for non-majors/minors) and Introductory Statistics (Calculus prerequisite for non-majors/minors) taught by various types of instructors in statistics departments in fall 2010, by size of sections and type of department. Also average section size and total (non-distance-learning) enrollments 129

Chapter 6. Enrollment, Course Offerings, and Instructional Practices in Mathematics Programs at Two-Year Colleges 131

TABLE TYE.1 Total institutional enrollment (in thousands) and percentage of part-time enrollments in two-year colleges in fall for 1975 through 2005 and projected enrollments for fall 2010 133

TABLE TYE.2 Enrollments in mathematics and statistics (no computer science) courses in mathematics programs at two-year colleges in fall 1980, 1985, 1990, 1995, 2000, 2005, and 2010 135

TABLE TYE.3 Enrollment in thousands in mathematics and statistics courses (not including dual enrollments) in mathematics programs at two-year colleges in fall 1990, 1995, 2000, 2005, and 2010 137

TABLE TYE.4 Enrollment in 1000s (not including dual enrollments) and percentages of total enrollment in mathematics and statistics courses by type of course in mathematics programs at two-year colleges in fall 1990, 1995, 2000, 2005, and 2010 138

TABLE TYE.5 Percentage of two-year college mathematics programs teaching selected mathematics courses in fall 2005 and in fall 2010 140

TABLE TYE.6 Percentage of two-year college mathematics programs teaching selected mathematics courses in the fall terms of 1995, 2000, 2005, and 2010 141

TABLE TYE.7 Average on-campus section size by type of course in mathematics programs at two-year colleges in fall 2000, 2005, and 2010. Also percentage of sections with enrollment above 30 in fall 2005 and 2010 142

TABLE TYE.7.1 Average distance-learning section size by type of course in mathematics programs at public two-year colleges in fall 2010. Also percentage of sections with enrollment above 30 in fall 2010. 142

TABLE TYE.8 Average on-campus section size for public two-year college mathematics program courses in fall 2010 143

TABLE TYE.8.1 Average distance-learning section size for public two-year college mathematics program courses in fall 2010 144

TABLE TYE.9 Number of sections and number and percentage of sections taught by part-time faculty in mathematics programs at public two-year colleges by type of course in fall 2005 and 2010 145

TABLE TYE.10 Percentage of on-campus sections using different instructional methods by course in mathematics programs at public two-year colleges in fall 2010. 146

TABLE TYE.11 Percentage of mathematics programs at public two-year colleges whose institutions made various options available to students in developmental mathematics in fall 2010 147

TABLE TYE.11.1 Percentage of mathematics programs at public two-year colleges reporting the use of various technologies in specific courses in fall 2010. 147

TABLE TYE.11.2 Percentage of mathematics programs reporting status of “College Algebra” at public two-year colleges in fall 2010 147

TABLE TYE.12 Percentage of distance-learning enrollments (= distance-learning courses are courses in which the majority of instruction occurs with the instructor and the students separated by time and/or place) among all enrollments (excluding dual enrollments) at public two-year colleges in fall 2005 and 2010, and total enrollments (in 1000s) in those courses 150

TABLE TYE.12.1 Percentage of mathematics programs reporting use of distance learning in public two-year colleges. 151

TABLE TYE.13 Percentage of two-year colleges offering various opportunities and services to mathematics students in fall 2000, 2005, and 2010 152

TABLE TYE.14 Estimated enrollment (in 1000s) in mathematics and statistics courses taught outside of mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010 153

TABLE TYE.15 Estimated enrollment (in 1000s) in mathematics courses taught outside of mathematics programs at public two-year colleges, by division where taught, in fall 2010 154

TABLE TYE.16 Percentage of two-year colleges in which some of the precollege (remedial) mathematics course offerings are administered separately from, and not supervised by, the mathematics program---e.g., in a developmental studies department or program---by type of course in fall 1995, 2000, 2005, and 2010 155

Chapter 7. Faculty, Administration, and Special Topics in Mathematics Programs at Two-Year Colleges 157

TABLE TYF.1 Number of full-time permanent, full-time temporary faculty, and part-time faculty paid by two-year colleges (TYC) and by a third party (e.g., dual-enrollment instructors) in mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010 160

TABLE TYF.2 Teaching assignment for full-time permanent faculty, and teaching and other duties of part-time faculty, in mathematics programs at two-year colleges in fall 2010, with 2005 data in parentheses 161

TABLE TYF.3 Number of full-time permanent faculty in 2009-2010 who were no longer part of the faculty in 2010-2011 162

TABLE TYF.4 Percentage of full-time permanent faculty in mathematics programs at two-year colleges by highest degree in fall 1990, 1995, 2000, 2005, and 2010. 163

TABLE TYF.5 Percentage of full-time permanent faculty in mathematics programs at public two-year colleges by field and highest degree in fall 2010 164

TABLE TYF.6 Percentage of part-time faculty in mathematics programs at two-year colleges (including those paid by a third party, as in dual-enrollment courses) by highest degree in fall 1990, 1995, 2000, 2005, and 2010 164

TABLE TYF.7 Percentage of part-time faculty in mathematics programs at two-year colleges (including those paid by a third party, as in dual enrollments) by field and highest degree in fall 2010, with 2005 data in parentheses. 165

TABLE TYF.8 Number and percentage of total full-time permanent faculty in mathematics programs at two-year colleges by gender in fall 1995, 2000, 2005, and 2010 166

TABLE TYF.9 Percentage of full-time permanent faculty and part-time faculty in mathematics programs at public two-year colleges by gender in fall 2010. Also masters degrees in mathematics and statistics granted in the U.S. to citizens and resident aliens, by gender, in 2008-2009. Part-time faculty paid by a third party are not included 167

TABLE TYF.10 Percentage and number of ethnic minority full-time permanent faculty in mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010 168

TABLE TYF.11 Percentage of full-time permanent faculty in mathematics programs at two-year colleges by ethnicity, in fall 1995, 2000, 2005, and 2010 169

TABLE TYF.12 Number and percentage of full-time permanent faculty in mathematics programs at two-year colleges by ethnic group and percentage of women within each ethnic group in fall 2010 170

TABLE TYF.13 Percentage of full-time permanent faculty and of full-time permanent faculty under age 40 in mathematics programs at public two-year colleges by ethnic group in fall 2010. Also U.S. masters degrees in mathematics and statistics granted in the U.S. to citizens and resident aliens by ethnic group in 2008-2009 170

TABLE TYF.14 Percentage of ethnic minority part-time faculty in mathematics programs at public two-year colleges in fall 2000, 2005, and 2010. 171

TABLE TYF.15 Number and percentage of part-time faculty in mathematics programs at public two-year colleges by ethnic group and percentage of women within each ethnic group in fall 2010 171

TABLE TYF.16 Percentage and number of full-time permanent faculty in mathematics programs at two-year colleges by age in fall 1995, 2000, 2005, and 2010 172

TABLE TYF.17 Percentage of full-time permanent faculty in mathematics programs at public two-year colleges by age and by gender and percentage of women by age in fall 2010 173

TABLE TYF.18 Percentage of newly appointed full-time permanent faculty in mathematics programs at two-year colleges coming from various sources in fall 2005 and 2010. 174

TABLE TYF.19 Percentage of full-time permanent faculty newly hired for mathematics programs at two-year colleges by highest degree in fall 2005 and 2010 174

TABLE TYF.20 Percentage of full-time permanent faculty newly hired for mathematics programs at two-year colleges by ethnic group in fall 2005 and 2010. Also percentage of women within each ethnic group in fall 2010 175

TABLE TYF.21 Percentage of two-year colleges that require periodic teaching evaluations for all full-time or all part-time faculty in fall 2005 and 2010. 175

TABLE TYF.22 Percentage of mathematics programs at public two-year colleges using various methods of evaluating teaching of part-time and full-time faculty in fall 2010 175

TABLE TYF.23 Percentage of two-year colleges that require some form of continuing education or professional development for full-time permanent faculty, and percentage of faculty using various methods to fulfill those requirements, in mathematics programs at two-year colleges in fall 2005 and 2010 176

TABLE TYF.24 Percentage of program heads classifying various problems as “major” in mathematics programs at two-year colleges in fall 1995, 2000, 2005, and 2010 177

TABLE TYF.25 Percentage of program heads of mathematics programs at public two-year colleges classifying various problems by severity in fall 2010 178

TABLE TYF.26 Percentage of mathematics programs at public two-year colleges by type of administrative structure on their own campus in fall 2005 and 2010. 179

Bibliography 183

Appendix I. Enrollments in Department Courses in Four-Year Colleges and Universities: 2000, 2005, and 2010 185

Appendix II. Sampling and Estimation Procedures. 193

Appendix III. List of Responders to the Survey 205

Appendix IV. Four-Year Mathematics Questionnaire 213

Appendix V. Two-Year Mathematics Questionnaire. 249

Appendix VI. Four-Year Statistics Questionnaire 283

Appendix VII. Tables of Standard Errors 303

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Richelle (Rikki) Blair
Ellen E. Kirkman
James W. Maxwell

Foreword

Every five years since 1965, the Conference Board of the Mathematical Sciences (CBMS) has sponsored a national survey of undergraduate mathematical and statistical sciences in the nation's two- and four-year colleges and universities. The 2010 CBMS survey, conducted with NSF support, is the tenth report in this series. The CBMS surveys study two-year college mathematics programs and the undergraduate programs of mathematics departments and statistics departments at four-year colleges and universities. Three different instruments are sent to a stratified random sample of these three populations, and this report presents the estimates computed using the responses to these questionnaires. This is the first of the CBMS surveys that could be completed online.

This report is organized as follows.

- Chapter 1 gives an overview of the results of the 2010 CBMS survey; tables in this chapter are designated with the label S, for "summary". The tables in this chapter are broken down into more detail in later chapters.
- Chapter 2 reports on the special projects of the 2010 survey; tables in this chapter are designated with the label SP, for "special project". The special projects in 2010, which were determined after consultation with representatives of the professional societies, are the mathematical education of pre-college teachers, practices in distance-learning courses, academic resources available to undergraduates, interdisciplinary courses in four-year mathematics departments, trends in dual enrollments, requirements in the national majors in mathematics and statistics in four-year departments, availability of upper-level classes in four-year mathematics departments and statistics departments, estimates of post-graduation plans of graduates of four-year mathematics departments and statistics departments, and assessment in four-year mathematics departments and statistics departments.
- Chapter 3 focuses on course enrollments and the numbers of undergraduate degrees awarded by mathematics and statistics departments at four-year colleges and universities, including data on who is teaching courses; tables in this chapter are labeled by E, for "enrollment".
- Chapter 4 concerns the demographics of faculty in mathematics and statistics departments of four-year colleges and universities; tables in this chapter are labeled by F, for "faculty". As explained in this chapter, these data were obtained from the Annual Survey, conducted by the American Mathematical Society.
- Chapter 5 studies courses taught primarily to beginning students in mathematics and statistics departments at four-year colleges and universities; tables in this chapter are labeled by FY, for "first year".
- Chapter 6 focuses on enrollments, course offerings, and instructional practices at two-year colleges; tables in this chapter are labeled with TYE, for "two-year enrollment".
- Chapter 7 presents faculty demographics and special topics at two-year colleges; tables in this chapter are labeled with TYF, for "two-year faculty".

Other important information is included in appendices:

- Appendix I contains the enrollments (both with, and without, distance-learning enrollments) for each individual course listed on the four-year mathematics and statistics department questionnaires, along with past enrollments (with distance-learning enrollments included). Standard errors for the 2010 course enrollments are also included.
- Appendix II contains details about the survey procedure.
- Appendix III gives the list of responders to the 2010 survey.
- Appendices IV, V, and VI give the actual questionnaires used in the CBMS survey. The instruments themselves can be useful in interpreting the results of the survey.
- Appendix VII gives the standard errors for each of the tables. It is important to remember that the survey is based on a sample, and the numbers provided in the tables are estimates that are subject to sampling error.

Throughout this report, enrollments do not include dual enrollments, unless indicated by table caption. Depending upon the caption on the table, enrollments may, or may not, include distance-learning enrollments. One can use Appendix I to find enrollments of courses at four-year departments for fall 2010 with, or without, distance-learning enrollments included (this is not the case for previous CBMS surveys, as past appendices give enrollments only with distance-learning enrollments included). In the text of this report, whether the enrollments cited include, or do not include, distance-learning enrollments is generally determined by the comparable historical data available.

This report refers to earlier CBMS reports (called CBMS2005, CBMS2000, etc.). This report and the preceding four CBMS reports are available online at: http://www.ams.org/profession/data/cbms-survey/cbms-reports. Other references can be found in the bibliography at the end of the report.