



Appendix 1: Methodology

Developed by the authors in consultation with Westat, Inc. and the CBMS Survey Steering Committee (listed below), this survey was sent to chairpersons of 855 two-year mathematics programs, 85 statistics programs, and 1,342 mathematics programs in the US under the management of Westat. These effectively constituted a census of four-year mathematics and statistics programs, and a random sample of two-year programs. For the purpose of this survey, a two-year mathematics program is one housed in an institution whose degrees awarded (undergraduate and graduate combined) consist of at least 51% associate recipients. Generally, the categories of level, institutional size, highest degree offered, and control were obtained from the Integrated Postsecondary Education Data System (IPEDS) operated

by the US Education Department’s National Center for Education Statistics (NCES).

Usable responses were received from 81 two-year mathematics, 26 statistics, and 402 four-year mathematics programs. The data were weighted to adjust for the probability of selection and nonresponse. For consistency, statistics in this report are designed to match the appendix tables. When two different responses are summed, however, the actual statistics sometimes differ slightly because of rounding and other issues (such as missing data). The following table provides illustrative standard errors and confidence intervals for the survey statistics.

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CBMS Survey Steering Committee
Ed Aboufadel, Grand Valley State University
Elizabeth Burroughs, Montana State University
Beth Chance, California Polytechnic State University, San Luis Obispo
Ted Coe, Northwest Evaluation Association
T. J. Hitchman, University of Northern Iowa
Dennis Pearl, Penn State University
Emily Puckette, Sewanee: The University of the South
April Strom, Maricopa Community Colleges
Linda Zientek, Sam Houston State University

Sections are taught only online, with an opportunity to meet synchronously online (Q1b)

College type	Percent	Standard Error of Percent	95% Confidence Limits for Percent	
Two-year colleges				
Almost all	22.2063	4.7267	12.8857	31.5269
More than half	29.4794	5.4213	18.7892	40.1696
Less than half	48.3143	6.0481	36.3881	60.2404
Total	100.0000			
Statistics				
Almost all	23.0769	8.5427	6.0918	40.0621
More than half	34.6154	9.6460	15.4365	53.7943
Less than half	42.3077	10.0172	22.3909	62.2245
Total	100.0000			
Four-year colleges				
Almost all	23.1738	2.2736	18.6905	27.6571
More than half	23.9295	2.2562	19.4805	28.3784
Less than half	52.8967	2.5279	47.9119	57.8815



Appendix 2: Tables

	Only online and asynchronously	Only online, meet synchronously	Only face-to-face	Mixture of online and face-to-face
Total	15	49	10	26
4-year math	6	47	16	30
Statistics	19	58	.	15
2-year math	24	52	3	23
4-year math departments only				
Highest degree offered				
Doctoral	7	52	11	27
Master's	7	42	24	31
Baccalaureate	4	38	21	39
Institution size				
Under 5,000	3	34	26	35
5,000 - 9,999	10	66	8	22
10,000 - 19,999	10	41	7	34
20,000 or more	9	75	1	16
Control of institution				
Public	10	56	7	23
Private	3	39	24	36

Table 2. Percentages of departments answering "yes" to the question, "Which of these changes have occurred in your department in response to the COVID-19 pandemic?" Note that these percentages do not constitute distributions.										
	Term was subdivided	Term was shortened	Some class sizes were reduced	Some class sizes were increased	Some classes were cancelled	Additional full-time faculty hired	Additional part-time faculty hired	Full-time faculty reduced	Part-time faculty reduced	Full-time faculty asked to teach more classes
Total	7	19	45	27	33	5	19	9	22	20
4-year math	6	31	43	27	27	4	16	11	17	18
Statistics	.	12	35	38	19	8	.	.	4	4
2-year math	9	5	49	26	43	5	24	7	30	23
4-year math departments only										
Highest degree offered										
Doctoral	4	26	36	34	28	6	18	11	18	19
Master's	4	36	54	16	23	2	9	11	14	16
Baccalaureate	8	13	61	26	36	1	12	10	22	10
Institution size category										
Under 5,000	7	37	52	20	23	2	12	10	13	17
5,000 - 9,999	5	29	27	26	34	3	13	13	19	19
10,000 - 19,999	3	29	43	32	32	5	19	19	25	32
20,000 or more	3	18	28	47	25	10	30	9	21	9
Control of institution										
Public	3	28	40	36	29	6	19	14	23	21
Private	8	35	45	20	25	3	13	9	12	16





Table 3. Percentages of departments responding "almost all" or "more than half" to the question, "During the summer and/or fall of 2020, what proportion of instructional staff in your department received training in the following?"

	Online teaching effectiveness	Face-to-face teaching with social distancing
Total	68	16
4-year math	66	18
Statistics	58	24
2-year math	70	12
4-year math departments only		
Highest degree offered		
Doctoral	65	18
Master's	64	18
Baccalaureate	80	22
Institution size category		
Under 5,000	70	24
5,000 - 9,999	61	13
10,000 - 19,999	57	17
20,000 or more	68	8
Control of institution		
Public	57	9
Private	74	27



Table 4a. Percentages of departments' responses to the question, "Please state how strongly you personally agree or disagree with the following statements about your department's experiences and plans relating to the COVID-19 pandemic in fall 2020."

	Learning outcomes are better with a face-to-face course experience		Students have a choice of which mode of instruction they receive		Students have the equipment and internet connections required for online courses	
	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree
Total level	72	11	47	38	52	30
4-year math	74	7	42	45	59	20
Statistics	65	8	31	58	69	4
2-year math	69	15	54	29	42	43
4-year math departments only						
Highest degree offered						
Doctoral	71	9	42	45	56	20
Master's	76	4	43	44	60	23
Baccalaureate	82	4	41	43	67	12
Institution size category						
Under 5,000	78	6	41	45	58	23
5,000 - 9,999	68	8	41	48	52	23
10,000 - 19,999	69	11	52	41	66	15
20,000 or more	72	7	37	46	62	15
Control of institution						
Public	69	9	46	42	61	19
Private	78	6	38	47	56	21

Note: the percentages responding "undecided" or "not applicable" are not shown.



Table 4b. Percentages of departments' responses to the question, "Please state how strongly you personally agree or disagree with the following statements about your department's experiences and plans relating to the COVID-19 pandemic in fall 2020."

	Have access to adequate equipment and technology for teaching online		Prefer to teach face-to-face		Have a choice of which mode of teaching they provide	
	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree
Total	74	14	73	13	55	35
level						
4-year math	76	12	75	12	57	34
Statistics	96	4	62	15	77	15
2-year math	69	17	72	15	51	37
4-year math departments only						
Highest degree offered						
Doctoral	78	13	71	14	55	37
Master's	71	14	82	11	59	33
Baccalaureate	82	8	80	4	65	20
Institution size category						
Under 5,000	70	16	81	8	58	33
5,000 - 9,999	77	13	69	16	66	29
10,000 - 19,999	80	10	69	15	57	36
20,000 or more	91	4	69	16	47	38
Control of institution						
Public	82	10	73	11	59	33
Private	71	15	77	12	56	34

Note: the percentages responding "undecided" or "not applicable" are not shown.



Table 5. Percentages of departments' responses to the question, "During the terms listed below, what proportion of your department's instructional staff were/are adequately prepared to teach online?"

	Winter/spring 2020				Fall 2020			
	Almost all	More than half	Less than half	Almost none	Almost all	More than half	Less than half	Almost none
Total	9	16	50	24	59	31	9	1
level								
4-year math	10	12	42	36	54	35	11	1
Statistics	12	19	38	31	73	27	.	.
2-year math	9	21	61	9	65	27	7	1
4-year math departments only								
Highest degree offered								
Doctoral	7	14	42	37	54	34	12	0
Master's	14	8	41	37	53	38	8	1
Baccalaureate	8	12	45	35	58	33	8	.
Institution size category								
Under 5,000	13	12	41	33	54	34	11	1
5,000 - 9,999	5	16	45	34	55	34	11	.
10,000 - 19,999	8	10	34	48	50	33	17	.
20,000 or more	4	9	49	38	57	38	4	.
Control of institution								
Public	8	15	44	34	49	39	12	.
Private	11	10	41	38	59	31	9	1



Table 6. Percentages of departments in agreement or disagreement with statements describing course delivery planning. The lead question was, "How has the COVID-19 experience influenced your department's plans for the future (after fall 2020)? Only report on changes that your department is considering because of your COVID-19 experience. Do not consider changes that you would have made anyway."

	We are considering offering a greater number of distance learning classes		We are considering offering a broader range of distance learning formats		Additional faculty are showing interest in participating in distance learning	
	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree	Strongly agree or agree	Disagree or strongly disagree
Total	47	31	37	37	45	30
level						
4-year math	35	40	26	43	39	36
Statistics	54	15	38	23	35	19
2-year math	61	22	50	30	52	23
4-year math departments only						
Highest degree offered						
Doctoral	39	34	32	36	45	28
Master's	34	44	19	50	36	43
Baccalaureate	14	63	18	59	22	55
Institution size category						
Under 5,000	27	51	20	51	28	49
5,000 - 9,999	45	21	31	32	50	23
10,000 - 19,999	40	33	32	37	53	18
20,000 or more	46	31	37	35	51	22
Control of institution						
Public	46	28	38	31	52	21
Private	25	51	17	53	28	48



Table 7. Percentage of departments experiencing various changes in fall enrollments from 2019 to 2020

	Decrease of at least 10 percent	Decrease of at least 5 but less than 10 percent	Change (increase or decrease) of less than 5 percent	Increase of at least 5 but less than 10 percent	Increase of at least 10 percent
Total	31	16	36	5	12
level					
4-year math	27	18	39	8	8
Statistics	5	11	53	11	21
2-year math	37	14	31	1	16
4-year math departments only					
Highest degree offered					
Doctoral	25	18	43	8	6
Master's	27	19	32	10	12
Baccalaureate	38	13	33	8	10
Institution size category					
Under 5,000	33	15	32	9	12
5,000 - 9,999	32	38	21	6	2
10,000 - 19,999	26	11	55	4	4
20,000 or more	9	14	59	13	5
Control of institution					
Public	25	20	42	8	5
Private	29	15	36	9	10