Appendix IV
Four-Year College Survey

Conference Board of the Mathematical Sciences

SURVEY OF UNDERGRADUATE PROGRAMS
in the
MATHEMATICAL SCIENCES
1995

GENERAL INSTRUCTIONS

You are asked to report on undergraduate programs in the mathematical sciences (including applied mathematics, statistics, operations research) and computer science under the direction of your department. This questionnaire is being sent to each department in the mathematical sciences on your campus. Do not include data for branches or campuses of your institution that are budgetarily separate from your department.

Because departments vary in course offerings and faculty composition, some questions (or parts of questions) may not be applicable to your department. Please read the instructions carefully and complete all pertinent questions.

If you have any questions, please contact Don Rung, Survey Director, by phone at 814-865-3611 or by email at rung@math.psu.edu.

Please return your completed questionnaire by November 1, 1995, to:

CBMS Survey
Attn: Michael Neuschatz
American Institute of Physics
One Physics Ellipse
College Park, MD 20740-3834

1.   Name of your institution: _____

Name of your department: _____

2.   A.   Your department offers programs leading to the following degrees (check all boxes that apply):

	None	Baccalaureate	Master's	Doctoral
Mathematics	☐	☐	☐	☐
Statistics	☐	☐	☐	☐
Computer Science	☐	☐	☐	☐

B.   Your academic calendar is:

☐ Semester   ☐ Trimester   ☐ Quarter   ☐ 4-1-4   ☐ Other (specify)

3.   Regular Undergraduate Program Courses, Fall 1995
The following instructions apply throughout Question 3. Please read them carefully before you begin filling out the tables.

- The undergraduate courses in the following tables are listed in approximate catalogue order in four groups corresponding to mathematics, statistics, operations research, and computer science. The format for reporting information about courses differs somewhat from section to section, with more information asked about calculus coiurses, less for the advanced courses.

- Throughout Question 3. count each lecture offering with separately scheduled recitiation/problem sessions as one section. For certain courses, primarily for the mainstream calculus series, a row is provided in which to list, for the same course, all lecture sections with recitation/problem sessions separately from all sections without recitation/problem sessions.

- Faculty holding joint appointments with another department should be counted in column #4 if they are tenured or tenure-eligible within your department; otherwise, report them in column #5 or #6 according to their budget level within your department.

- Report a section of a course as taught by a *Graduate Teaching Assistant*(TA) only when that course is taught independently by the TA; that is, the course is the TA's "own" course.

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Column #3, how many sections are taught by: (note: column #3 = #4+#5+#6+#7)			
			Tenured or Tenure-eligible Faculty (4)	Other Full-time Faculty (5)	Part-time Faculty (6)	Graduate Teaching Assist. (7)
3.A. MATHEMATICS						
Remedial Level						
1. Arithmetic/Basic Math						
2. Pre-algebra						
3. Elementary Algebra (high school)						
4. Intermediate Algebra (high school)						
5. Other remedial level courses (* Also see Question 3E, page 7)						
Introductory Level, including pre-calculus						
6. College Algebra						
7. Trigonometry						
8. College Algebra & Trig. (combined)						
9. Elementary Functions,Precalculus Mathematics						
10. Analytic Geometry						
11. Mathematics for Liberal Arts						
12. Finite Mathematics						
13. Business Mathematics						
14. Mathematics for Elementary School Teachers						
15. Other introductory level courses						

3. Regular Undergraduate Program Courses, Fall 1995 (continued)

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Col. 3, how many sections are taught by:				Of the number in Col. 3, how many sections:				
			Tenured or Tenure-eligible Faculty (4)	Other Full-time Faculty (5)	Part-time Faculty (6)	Graduate Teaching Assist. (7)	use a "reform" text[b] (8)	use graphing calcula-tors (9)	include writing components such as reports or projects (10)	require computer assign-ments (11)	assign group projects (12)
3.A. MATHEMATICS (cont.)											
16. Mainstream[a] Calculus I:											
16.1. Lecture with separately scheduled recit./problem sessions[c]											
16.2. Regular sections with enrollments of 60 or less											
16.3. Regular sections with enrollments above 60											
17. Mainstream Calculus II:											
17.1. Lecture with separately scheduled recit./problem sessions[c]											
17.2. Regular sections with enrollments of 60 or less											
17.3. Regular sections with enrollments above 60											
18. Mainstream Calculus III (and IV, etc):											
18.1. Lecture with separately scheduled recit./problem sessions[c]											
18.2. Regular sections with enrollments of 60 or less											
18.3. Regular sections with enrollments above 60											
19. Non-Mainstream Calculus I:											
19.1. Lecture with separately scheduled recit./problem sessions[c]											
19.2. Regular sections with enrollments of 60 or less											
19.3. Regular sections with enrollments above 60											

[a] A calculus course is mainstream if it leads to the usual upper division mathematical sciences courses.
[b] Include all sections for which the primary text (or set of notes, etc.) generally reflect the pedagogical principals of the reform calculus movement
[c] Remember: A calculus class along with its recitation/problem sessions is to be counted as one section.

3. Regular Undergraduate Program Courses, Fall 1995 (Continued)

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Col. 3, how many sections are taught by:			
			Tenured or Tenure-eligible Faculty (4)	Other Full-time Faculty (5)	Part-time Faculty (6)	Graduate Teaching Assist. (7)
3.A. MATHEMATICS (cont.)						
Calculus Level						
20. Non-mainstream Calculus II (and III, etc.)						
21. Differential Equations						
22. Discrete Mathematics						
23. Linear Algebra or Matrix Theory						
24. Other calculus level courses						
Advanced Level			If not offered in Fall 95, is it scheduled in Winter/Spring 96? Y(es)/N(o) (4)			
25. Introduction to Proofs						
26. Modern Algebra I (and II)						
27. Number Theory						
28. Combinatorics						
29. Actuarial Mathematics						
30. Logic/Foundations of Mathematics						
31. Discrete Structures						
32. History of Mathematics						
33. Geometry						
34. Mathematics for Secondary School Teachers (methods, etc.)						
35. Advanced Calculus I (and II) and/or Real Analysis						
36. Advanced Mathematics for Engineering and Physics						
37. Advanced Linear Algebra						
38. Vector Analysis						
39. Advanced Differential Equations						
40. Partial Differential Equations						

3. **Regular Undergraduate Program Courses, Fall 1995 (Continued)**

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	If not offered in Fall 95, is it scheduled in Winter/Spring 96? Y(es)/N(o) (4)
3.A. MATHEMATICS (cont.)			
Advanced Level (cont.)			
41. Numerical Analysis			
42. Applied Mathematics (Mathematical Modeling)			
43. Complex Variables			
44. Topology			
45. Senior Seminar/Independent Study in Mathematics			
46. Other advanced level courses			

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Col. 3, how many sections require computer assignments (4)	Of the number in Col. 3, how many sections are taught by:			
				Tenured or Tenure-eligible Faculty (5)	Other Full-time Faculty (6)	Part-time Faculty (7)	Graduate Teaching Assist. (8)
3.B. STATISTICS							
Elementary Level							
47. Elementary Statistics: (no calculus prerequisite)							
47.1. Lecture with separately scheduled recit./problem sessions[a]							
47.2. Regular sections with enrollments of 60 or less							
47.3. Regular sections with enrollments above 60							
48. Probability and Statistics (no calculus prerequisite)							
49. Other elementary level courses							

[a] Remember: An elementary statistics class along with its recitation/problem sessions is to be counted as one section.

3.   Regular Undergraduate Program Courses, Fall 1995 (Continued)

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	If not offered in Fall 95, is it scheduled in Winter/Spring 96? Y(es)/N(o) (4)
3.B. STATISTICS (cont.)			
Upper Level			
50. Mathematical Statistics (calculus prerequisite)			
51. Probability (calculus prerequisite)			
52. Stochastic Processes			
53. Applied Statistical Analysis			
54. Design and Analysis of Experiments			
55. Regression (and Correlation)			
56. Senior Seminar/Independent Studies in Statistics			
57. Other upper level courses			
3.C. OPERATIONS RESEARCH			
58. Intro. to Operations Research			
59. Intro. to Linear Programming			
60. Other O.R. courses			

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Col. 3, how many sections are taught by:			
			Tenured or Tenure-eligible Faculty (4)	Other Full-time Faculty (5)	Part-time Faculty (6)	Graduate Teaching Assist. (7)
3.D. COMPUTER SCIENCE						
Lower Level						
61 . Computers and Society						
62. Introduction to Software Packages						
63. Issues in Computer Science						
64. Computer Programming I (C 101 '91)[a]						
65. Computer Programming II (C 102 '91)[a]						
66. Advanced Programming & Data Structures						

[a] Refers to courses described in Computing Curriculum 1991, Report of the ACM/IEEE-CS Joint Curriculum Task Force, ACM 1991

3.   Regular Undergraduate Program Courses, Fall 1995 (Continued)

Name of Course (or equivalent) (1)	Total Enrollment Fall 95 (2)	Total Number of Sections (3)	Of the number in Col. 3, how many sections are taught by:			
			Tenured or Tenure-eligible Faculty (4)	Other Full-time Faculty (5)	Part-time Faculty (6)	Graduate Teaching Assist. (7)
3.D. COMPUTER SCIENCE (cont.)						
Lower Level (cont.)						
67. Database Management Systems						
68. Discrete Mathematics						
69. Other lower level courses						
Middle Level						
70. Intro. to Computer Systems						
71. Assembly Language Programming						
72. Intro. to Computer Organization						
73. Intro. to File Processing						
74. Other middle level courses						
Upper Level						
75. All upper level courses combined						

3.E. Outside Remedial Enrollment

If any of the remedial level courses (Numbers 1-5, Question #3A, page 2) are taught outside of your department (but within your institution) and have not been reported in Question #3A, report the total of all such outside enrollments for Fall 1995. _____

4.   Previous Year's Enrollment Figures:

Responses to this question will be used to project total enrollment for the current academic year, 1995–96, by the pattern of enrollment for the previous academic year. 1994–95.

The total student enrollment in your undergraduate courses was _____ for fall 1994 and

was_____ for the entire academic year 1994–95.

5. Mathematical Sciences Faculty Profile, Fall 1995

5.A. Faculty Counts, Fall 1995

In each of tables 5.A.1 and 5.A.2 report the number of faculty that belong in each box. Include all departmental faculty according to tenure or tenure-eligible status, distinguishing between such faculty on leave and not on leave. For faculty members with joint appointments, report them as *Tenured or Tenure-eligible* if that describes their status within your department; otherwise, report them as *Other Full-time* or *Part-time* according to their budget level within your department for fall 1995. Do not report any TA's in any of the Tables for Question 5.

If your institution does not recognize tenure, please check here ☐ then report full-time faculty who are "permanent" in the *Tenured* column, otherwise use the *Other full-time* column.

Note: Tables 5.A.1 and 5.A.2 count the same population of faculty, and should have the same total when summed.

5.A.1 By Highest Degree and Gender		Type of Appointment:				Other full-time	Part-time (not TAs)
		Tenured		Tenure-eligible			
		Not on leave	On leave	Not on leave	On leave		
With doctorate	Male						
	Female						
Without doctorate	Male						
	Female						

5.A.2 By Ethnic/racial Status and Gender		Type of Appointment:			
		Tenured	Tenure-eligible	Other full-time	Part-time (not TAs)
American Indian, Eskimo, Aleut	Male				
	Female				
Asian, Pacific Islander	Male				
	Female				
Black (non-Hispanic)	Male				
	Female				
Mexican American, Puerto Rican, or other Hispanic	Male				
	Female				
White (non-Hispanic)	Male				
	Female				
Status not known	Male				
	Female				

5.B   Faculty Age Profile

For the tenured and tenure-eligible faculty reported in 5.A, report the number that belong in each of the boxes below. If your institution does not recognize tenure, please use the *Tenured faculty* line to report on your "permanent" full-time faculty.

Faculty Category		Year of Birth									
		Before 1926	1926-1930	1931-1935	1936-1940	1941-1945	1946-1950	1951-1955	1956-1960	1961-1965	After 1965
Tenured faculty	Male										
	Female										
Tenure-eligible faculty	Male										
	Female										

5.C   Retirements and Deaths

For the period from 1 September 1994 through 31 August 1995, report the number of your tenured or tenure-eligible faculty [if your institution does not recognize tenure, report on those who are "permanent" full-time] who:

retired from full-time service _____   died while in full-time service _____ .

6.   Departmental Information

6.A   Teaching Load

For fall 1995, the expected (or typical) teaching load for the tenured or tenure-eligible faculty

reported in Question 5.A above is_____classroom contact hours per week.

6.B   Office Facilities

For the tenured or tenure-eligible faculty reported in Question 5.A, how many have:

a private, fully enclosed office? _____

a two-person, fully enclosed office?   _____

other office facilities? _____

6.C   Departmental Baccalaureate Degrees

6.C.1   Report the number of your departmental majors awarded a baccalaureate degree by your institution,

between July 1, 1994 and June 30, 1995 (include double majors): _____

6.C.2   Of the number in 6.C.1, report the number who majored in:
(enter each major only once. Use the "Other" category for any major that does not fit the existing categories)

Area of Major	Male	Female
Mathematics (including applied)		
Mathematics Education		
Statistics		
Computer Science		
Actuarial Mathematics		
Operations Research		
Joint Computer Science and Mathematics		
Joint Mathematics and Statistics		
Other tracks in your department		

6.D   Undergraduate Advising within the department.

6.D.1   Which intended or declared departmental majors are assigned a department advisor?
Mark (X) all that apply.

☐   All first and second year intended or declared departmental majors.

☐   All third and fourth year departmental majors.

If none of the above apply, then check one of the following:

☐   A. Departmental majors primarily are advised by an advising office.

☐   B. Departmental majors are advised in a variety of ways not covered in the above categories.

IF YOU CHECKED EITHER A. OR B. ABOVE, PLEASE SKIP TO QUESTION 6D.3

6.D.2   How often are department majors required to meet with their departmental advisor in formally
scheduled meetings? Mark (X) all that apply.

☐   There are no such required meetings.

☐   There is at least one required, formally scheduled meeting per year.

☐   There is at least one required, formally scheduled meeting during the student's third
and fourth years.

6.D.3   How many of your tenured and tenure-eligible faculty are assigned to advise undergraduate

departmental majors this fall? _____

6.D.4   Which of the following groups have primary responsibility for informing your departmental majors
about the following topics? Mark (X) only one column in each row.

Topic	Primary Source of Information				
	Department advisor	Career services office	Outside speakers	Math club	Other
Non-teaching careers					
K-12 teaching					
Graduate school					

6.E   Departmental Computer Facilities

6.E.1   Of the total full-time faculty reported in Q 5.A.1, how many have a computer, or terminal to a computer, in their office?_____Of this number, how many have access from their offices to the Internet? _____

6.E.2   Among the full-time faculty in your department not counted above, how many have access to a computer or terminal only at other locations on campus? _____
Of this number, how many have access to the Internet through such shared machines? _____ _____

6.E.3   Does your department have any departmental staff for computer systems support ? ___ Yes ___ No
If yes, what is the total full-time-equivalent (FTE) of this staff?_____FTE

7.   The approximate number of hours required to complete this questionnaire was: _____

If you have found some question(s) difficult to interpret or answer, please let us know. We welcome comments or suggestions for future surveys.

_____

_____

_____

Information supplied by: _____

Title and Department: _____

Institution and Campus: _____

_____
Street   City   State   Zip

Telephone: _____   Date: _____

| Please return completed questionnaire by November 1, 1995, to: CBMS Survey, ATTN: Michael Neuschatz American Institute of Physics One Physics Ellipse College Park, MD 20740-3834 | Thanks to all who helped in completing this survey; I appreciate the time spent. *Donald C. Rung* |