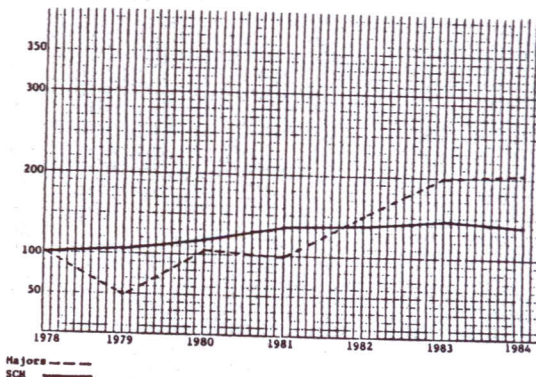


## DEPARTMENT OF MATHEMATICAL SCIENCES

1984-85

Faculty FTE	42.04
Student Credit Hours	34,544
Majors	38 (SP85)
Graduate Students	37

Program Description

Undergraduate - Bachelor of Science (Emphases in: Applied Statistics, Math Education, Statistics, Numerical Analysis, Operation Research, Pure Mathematics)

Graduate - Master of Science  
Doctor of Philosophy

Special Department Needs

New faculty positions  
Equipment maintenance  
Secretarial help is needed

Department Plans for the Future

Continue development of computer aided instruction  
Continue strong interactions with the Computing Research Laboratory  
Increase faculty numbers in order to decrease high student/faculty ratio  
Improve operation of Math Learning Center

Department Research

Research Interests  
Algebra  
Topology  
Analysis  
Statistics  
Numerical methods  
Mathematical computing

Funded Projects: 6 totaling \$152,405

## DEPARTMENT OF MATHEMATICAL SCIENCES

1985-86

Faculty FTE	41.70
Student Credit Hours	33,397
Majors	33 (SP86)
Graduate Students	38

Program Description

Undergraduate - Bachelor of Science  
 Graduate      Master of Science (Emphases in: Applied Statistics,  
                   Math Education, Statistics, Numerical Analysis, Operation  
                   Research, Pure Mathematics)  
                   Doctor of Philosophy

Special Department Needs

New faculty positions to decrease high student/faculty ratio  
 Budgeted positions (5) for College Instructors now on salary savings  
 Computer maintenance, including fulltime support personnel  
 Additional secretarial help  
 Professional staff to assist with advising and institutional studies

Department Plans for the Future

Develop new programs to attract more students into mathematics  
 Continue development of computer aided instruction  
 Strengthen association with Computing Research Laboratory  
 Retain the remedial mathematics program within the department, as needed  
 Work to improve mathematics education in the public schools of New Mexico

Department Research

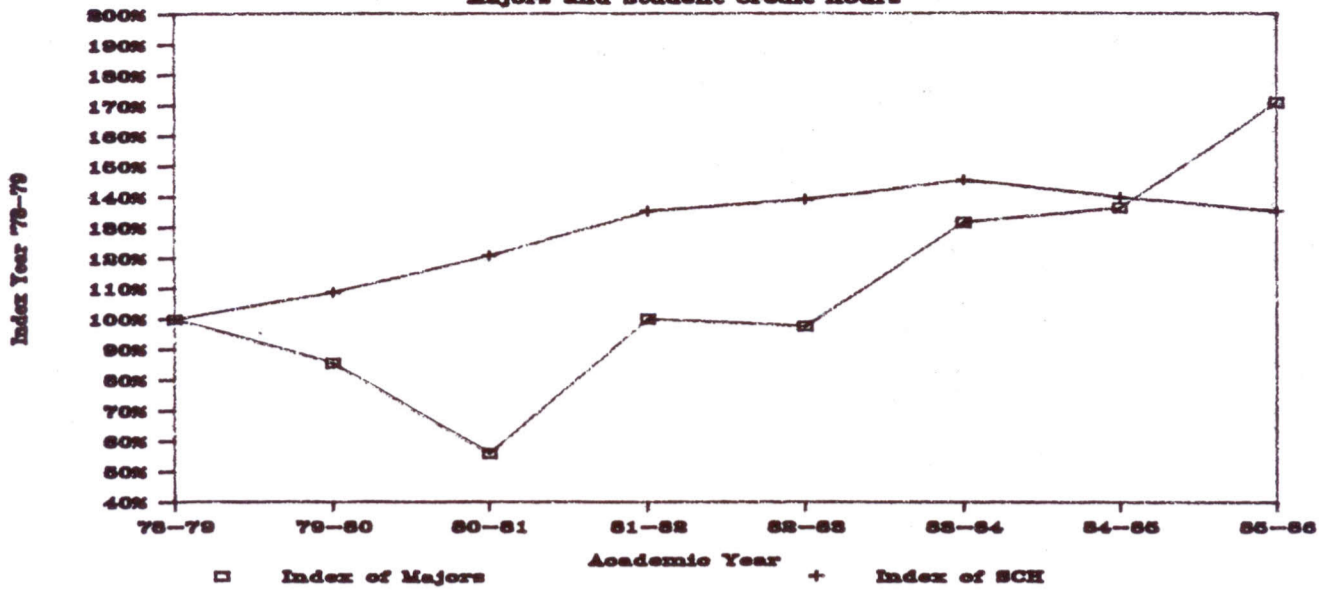
Research Interests

Algebra and logic:	abelian groups, algebraic K-theory, foundations, universal algebra
Analysis:	functional analysis, harmonic analysis, differential equations
Geometry and topology:	algebraic topology, differential geometry
Constructive mathematics:	algebra, analysis, topology
Applied mathematics:	computer vision, mathematical biology, mathematical physics, numerical analysis, optimization, word processing
Statistics:	random sets, statistical distribution theory, statistics of stochastic processes

Funded Projects: 10 totaling \$163,445

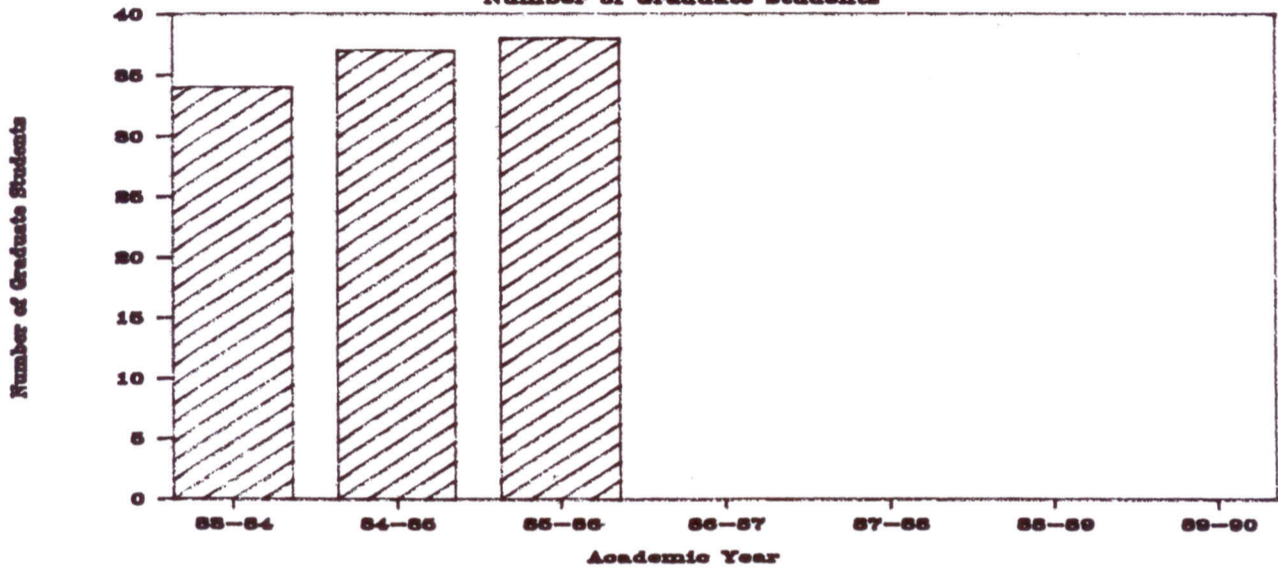
### Mathematics Department

Majors and Student Credit Hours



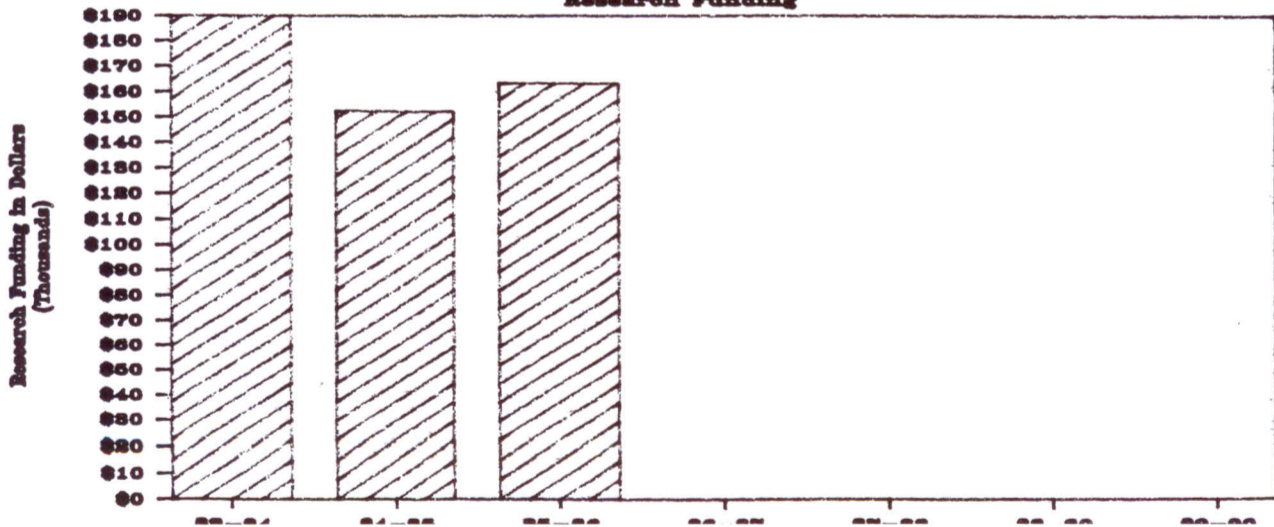
### Mathematics Department

Number of Graduate Students



### Mathematics Department

Research Funding



## DEPARTMENT OF MATHEMATICAL SCIENCES

1986-87

Faculty FTE	42.50
Student Credit Hours	34,608
Majors	35 (SP87)
Graduate Students	47

Program Description

Undergraduate - Bachelor of Science  
 Graduate Master of Science (Emphases in: Applied Statistics, Math Education, Statistics, Numerical Analysis, Operation Research, Pure Mathematics)  
 Doctor of Philosophy

Special Department Needs

New faculty positions to support research programs and to decrease high student/faculty ratio  
 Budgeted positions for College Instructors now on salary savings  
 Increase in department operating budgets for computer management and maintenance, including fulltime support personnel

Department Plans for the Future

Develop new programs to continue to attract more undergraduate and graduate majors  
 Strengthen research programs and increase productivity of the faculty  
 Work to improve mathematics education in the public schools of New Mexico

Department Research

## Research Interests

Algebra and logic:	abelian groups, algebraic K-theory, foundations, universal algebra
Analysis:	functional analysis, harmonic analysis, differential equations
Geometry and topology:	algebraic topology, differential geometry
Constructive mathematics:	algebra, analysis, topology
Applied mathematics:	computer vision, mathematical biology, mathematical physics, numerical analysis, optimization, word processing
Statistics:	random sets, statistical distribution theory, statistics of stochastic processes

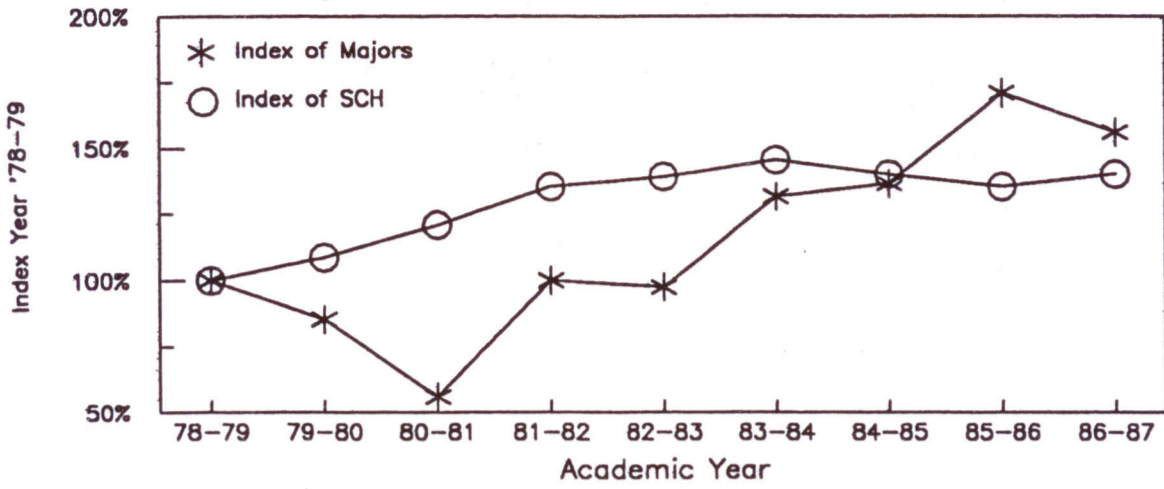
Funded Projects: 4 totaling \$52,403

Special Accomplishments During the Year

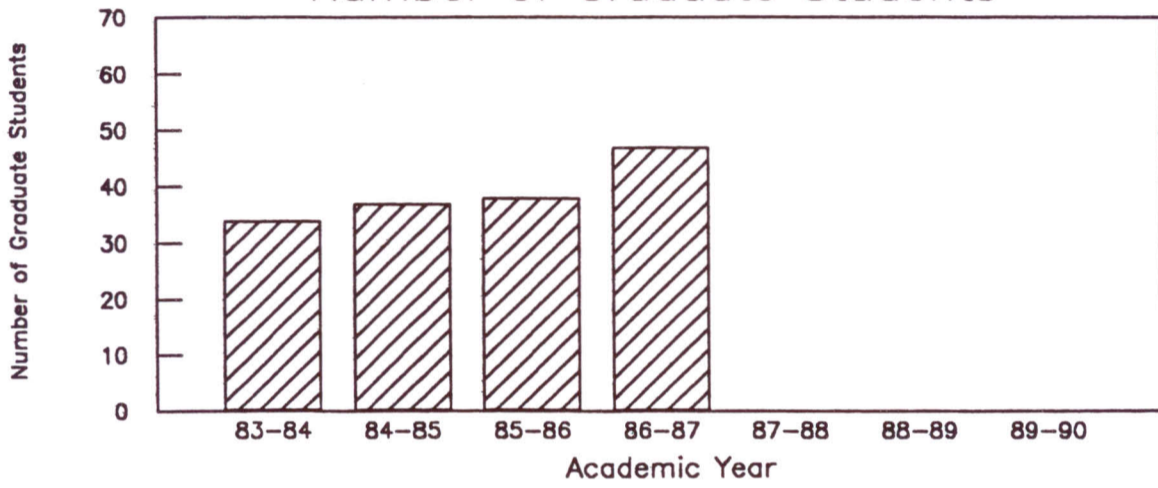
During 1986-87 the Department of Mathematical Sciences actively sought scholarship support and awarded a number of scholarships to mathematics majors. A system was worked out in cooperation with the College of Education so that mathematics faculty would become actively involved in advising for the mathematics programs of Mathematics Education students, for both elementary and secondary level majors. Much time and energy was absorbed by the planning for the move into the new building for Math, Psychology, and Computer Science, which was in the final stages of

# Mathematics Department

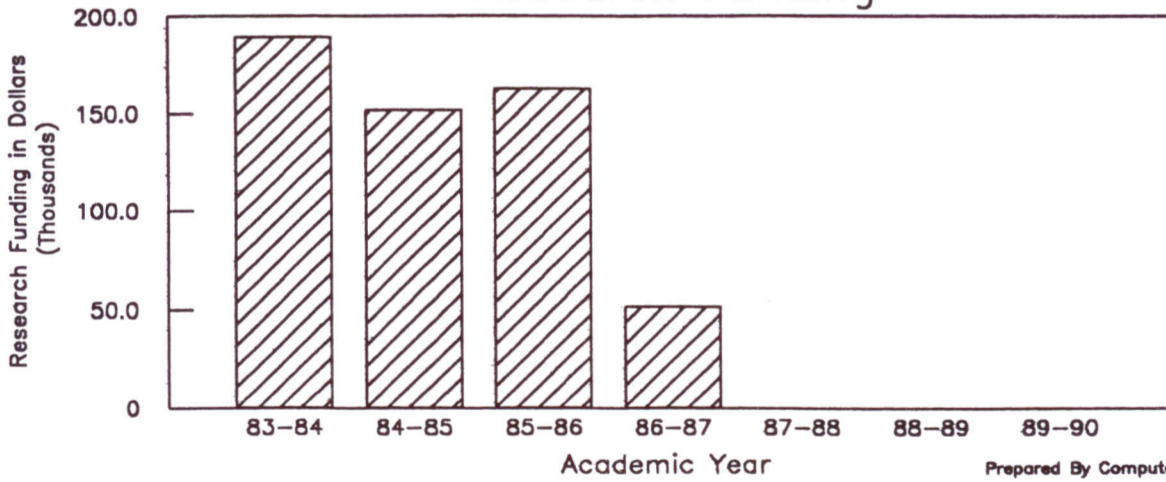
## Majors and Student Credit Hours



## Number of Graduate Students



## Research Funding



## DEPARTMENT OF MATHEMATICAL SCIENCES

1989-90

Faculty FTE	43.10
Student Credit Hours	31,808
Majors	39 (SP90)
Graduate Students	34 (Full & Part Time)

Program Description

Undergraduate - Bachelor of Science  
 Graduate - Master of Science (Emphases in: Applied Statistics, Math Education, Statistics, Numerical Analysis, Operation Research, Pure Mathematics)  
 Doctor of Philosophy

Special Department Needs

Administrative support for departmental instructional program  
 New faculty positions for research and teaching  
 Increase in department operating budgets  
 New computer equipment to replace and/or enhance current equipment  
 Computer maintenance, including full-time support personnel

Department Plans for the Future

Host national research conference on Homotopy Theory in December  
 Continue three year curriculum study on the teaching with projects and expand to high school courses, with support from the National Science Foundation  
 Expand capabilities and services of the mathematics undergraduate student computer facility supporting mathematics and statistics courses  
 Develop curriculum for General Education in mathematics and statistics

Department Research

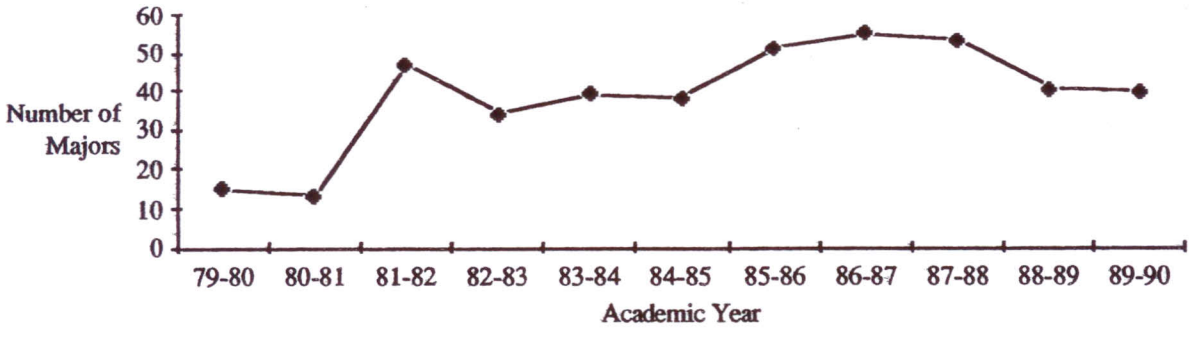
Research Interests  
 Algebra, analysis, geometry, topology, logic, constructive mathematics, mathematics curriculum, applied mathematics, statistics and probability  
 Funded Projects: 4 totaling \$233,594

Special Accomplishments During the Year

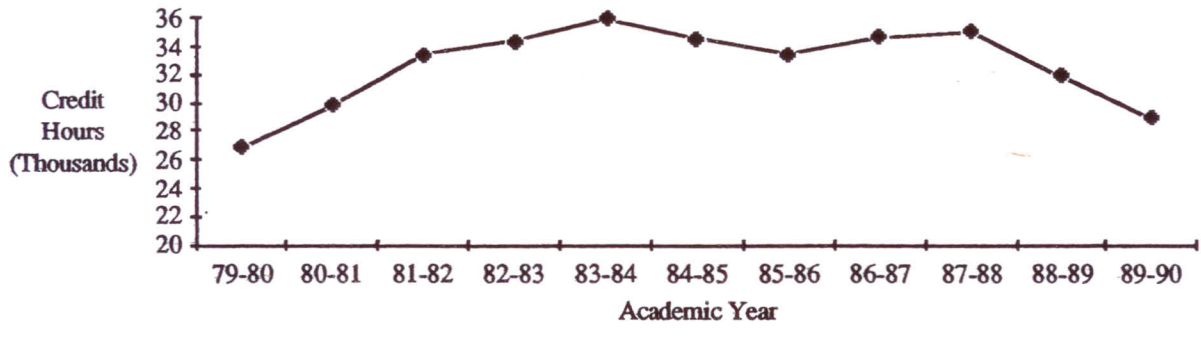
Hosted national research conference in December on Knots and Braids. Developed new honors course Mathematics - Spirit and Method. In April, at the Annual Mathematics Honors Assembly, 44 undergraduates, including 23 mathematics majors were honored for accomplishments in mathematics; 5 scholarships were awarded to mathematics majors. Hosted, through the local chapter of national mathematics honorary Pi Mu Epsilon, mathematics contest for high school students from Las Cruces, Mayfield and Oate. Five faculty members were supported by grant from National Science Foundation for study on teaching of calculus and development of student projects in the calculus curriculum.

# Mathematics Department

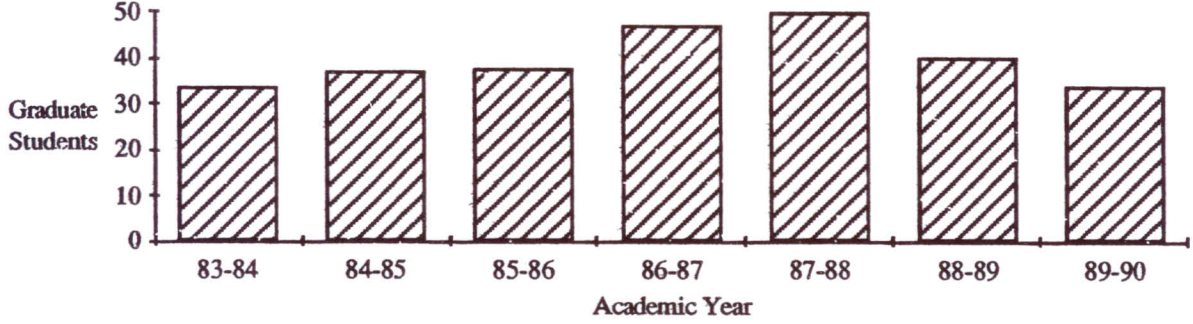
## Majors



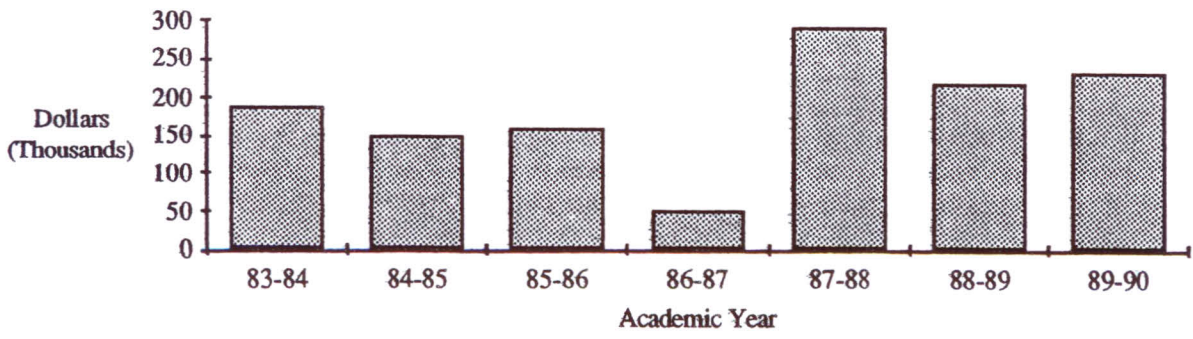
## Student Credit Hours



## Number of Graduate Students



## Research Funding



DEPARTMENT OF MATHEMATICAL SCIENCES

1990-91

Faculty FTE	40.6
Student Credit Hours	26,739
Majors	34 (FA90)
Graduate Students	40 (Full & Part Time)

Program Description

Undergraduate - Bachelor of Science  
Graduate - Master of Science (Emphases in: Applied Statistics, Math Education, Statistics, Numerical Analysis, Operations Research, Pure Mathematics)  
- Doctor of Philosophy

Special Department Needs

Administrative support for departmental instructional program  
New faculty positions for research and teaching  
Increase in department operating budgets  
New computer equipment to replace and/or enhance current equipment  
Computer maintenance, including full-time support personnel

Department Plans for the Future

Host national research conference on Computers in Mathematical Research in December  
Continue curriculum study on teaching with projects in university and high school courses, with support from the National Science Foundation  
Expand capabilities and services of the mathematics undergraduate student computer facility supporting mathematics and statistics courses  
Implement courses for general education in mathematics and statistics

Department Research

Research Interests  
Algebra, analysis, geometry, topology, logic, constructive mathematics, mathematics curriculum, applied mathematics, statistics and probability  
Funded Projects: 7 totaling \$497,239

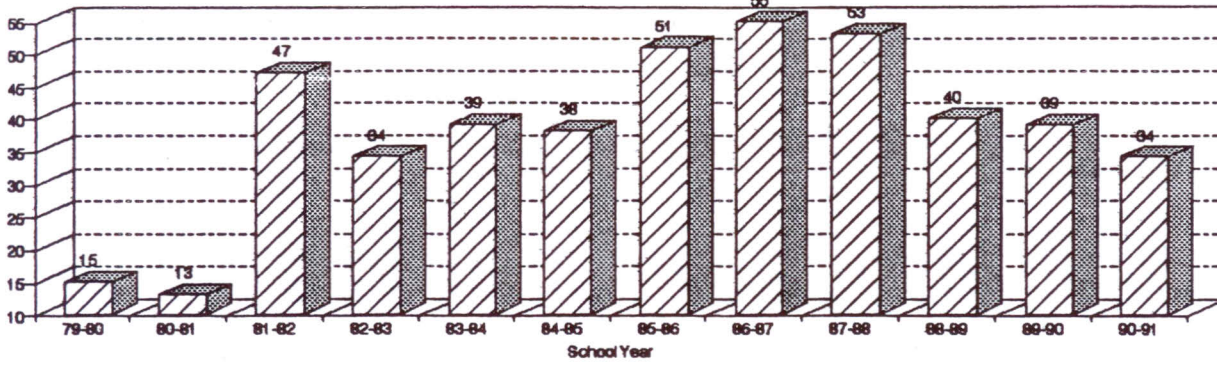
Special Accomplishments During the Year

The department hosted a national research conference in December on Homotopy Theory with partial support from National Science Foundation; and hosted the annual meeting of Southwest Section of Mathematical Association of America and New Mexico Mathematical Association of Two Year Colleges (the latter was cohosted by DABCC). In April, at the Annual Mathematics Honors Assembly, 52 undergraduates, including 12 mathematics majors, were honored for accomplishments in mathematics; 7 department scholarships were awarded to mathematics majors. The department hosted, through the local chapter of national mathematics honorary Pi Mu Epsilon, mathematics contests for high school students from four local high schools. Five faculty members were supported by grants from National Science Foundation for development of student projects in calculus, advanced calculus, and secondary school mathematics courses.

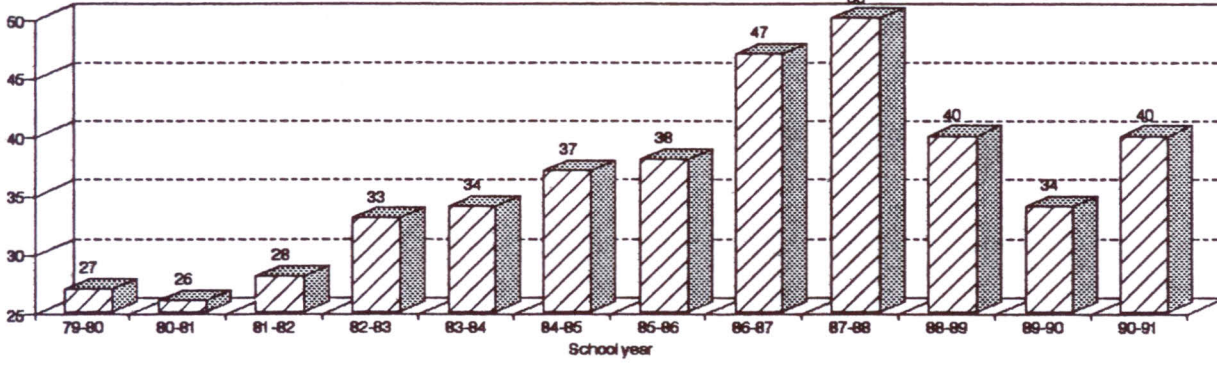


# Mathematical Sciences

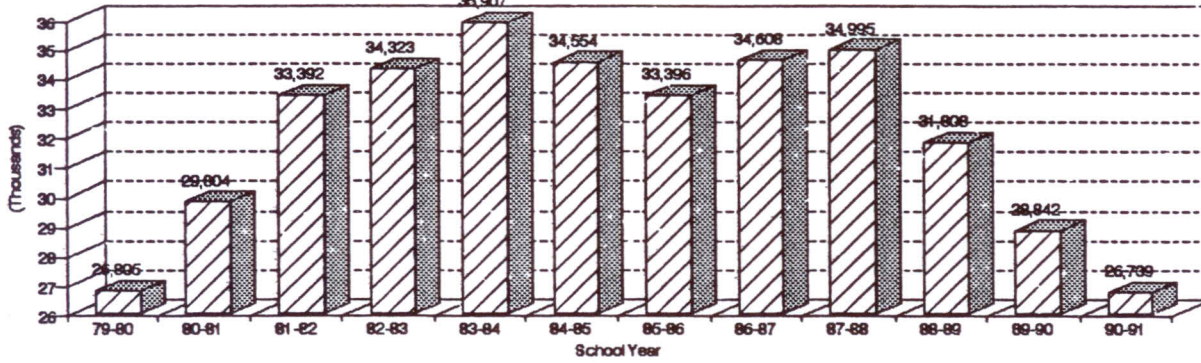
## Undergraduate Majors by Year



## Graduate Students by Year



## Student Credit Hours by Year



## Research Funding by Year

