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1971

## **Operation Manual - Department of Mathematics**

Prairie View Agricultural and Mechanical College

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DEPARTMENT OF MATHEMATICS

Department of Mathematics

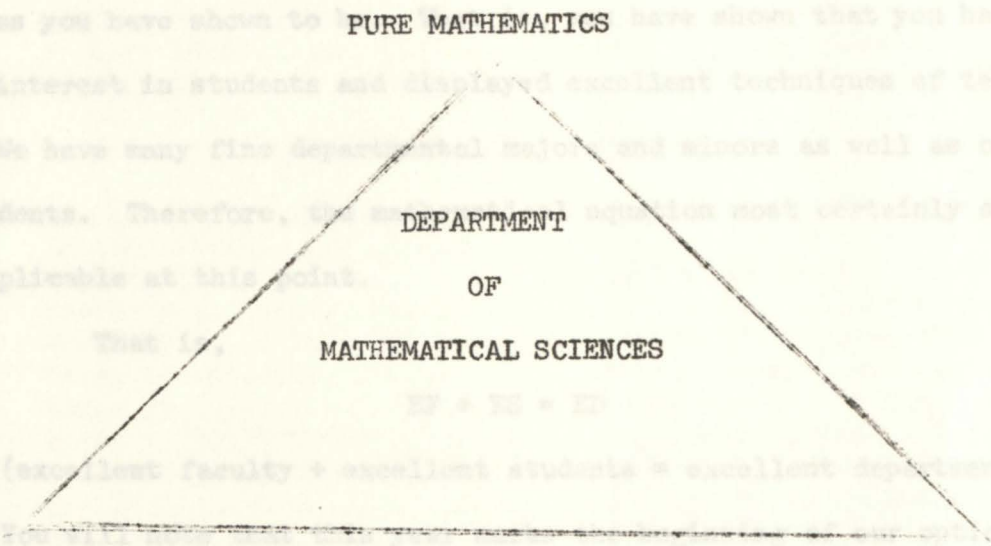
Prairie View Agricultural and Mechanical College  
Prairie View, Texas  
TO THE MATHEMATICS FACULTY

It is indeed a pleasure to greet you at the beginning of a new school year. I am sure that you have enjoyed an interesting summer, whether you were vacationing, studying, or working.

OPERATION MANUAL

" THE MATHEMATICAL TRIANGLE: "   
 TRAINING, SERVICE, RESEARCH

as you have shown to have shown that you have a high interest in students and display excellent techniques of teaching. We have many fine departmental majors and minors as well as other students. Therefore, the following equation most certainly seems applicable at this point.



PURE MATHEMATICS  
COMPUTER SCIENCE  
STATISTICS

Pure Mathematics + Statistics + Computer Science = Strength

STRENGTH: To each area of study in the total college program

- Option I. Mathematics (Teaching Program)
- Option II. Mathematics (Non-teaching)
- Option III. Computer Science (Industrial and Governmental Agencies)
- Option IV. Statistics

Please free to develop proposals and call on us to discuss any idea which will further our goals. Here's hoping you an successful and successful school year.

School Year: 1970 - 71  
A.D. Stewart, Head

REGULAR SESSION DEPARTMENT OF MATHEMATICS  
PRAIRIE VIEW A & M COLLEGE

FROM THE HEAD:  
TO THE MATHEMATICS FACULTY

It is indeed a pleasure to greet you at the beginning of a new school year. I am sure that you have enjoyed an interesting summer, whether you were vacationing, studying, or working.

I'm sure you'll join me in looking to the new school year with promise. Departmental success seems assured with a fine faculty such as you have shown to be. That is, you have shown that you have a high interest in students and displayed excellent techniques of teaching. We have many fine departmental majors and minors as well as other students. Therefore, the mathematical equation most certainly seems applicable at this point.

That is,

$$EF + ES = ED$$

(excellent faculty + excellent students = excellent department).

You will note that this year marks the beginning of our option plan, which is as follows:

- Option I. Mathematics Education (Teaching Program)
- Option II. Pure Mathematics (Non-teaching )
- Option III. Computer Science (Industrial and Governmental Agencies)
- Option IV. Statistics

Please free to develop proposals and call on us to discuss any idea which will further enhance our program. Here's hoping you an eventful and successful school year.



## REGULAR SESSION - 1970-71

## FIRST SEMESTER

September 8-11.....Faculty Conference  
 September 12-13.....Welcome of New Students  
 September 13.....Parent's Convocation  
 September 14-16.....Orientation for New Students  
 September 17-19.....Registration for Freshmen  
 September 21.....Classes Begin For Freshmen  
 September 21-23.....Registration for Upperclassmen  
 September 24.....Classes Begin For Upperclassmen  
 September 24.....Opening Convocation  
 October 5.....Last Day for Registration and Program Changes  
 November 11-12.....Intra-Semester Evaluations  
 November 16.....Intra-Semester Grades Due  
 November 25 (12:30 Noon).....Thanksgiving Recess Begins  
 November 30 (7:30 a.m.).....Classes Resume  
 December 17 (12:30 Noon).....Christmas Recess Begins  
 January 4 (7:30 a.m.).....Classes Resume  
 January 18-23.....Final Examinations  
 January 23.....First Semester Closes

## SECOND SEMESTER

January 24-26.....Orientation for New Students  
 January 25-26.....Mid-Year Faculty Conference  
 January 27-30.....Registration for Second Semester  
 February 1.....Classes Begin  
 February 8.....Last Day for Registration and Program Changes  
 March 17-18.....Intra-Semester Evaluations  
 March 22.....Intra-Semester Grades Due  
 April 7 (12:30 Noon).....Spring Recess Begins  
 April 14 (7:30 a.m.).....Classes Resume  
 May 16.....Commencement and Parents-Alumni Day  
 May 17-22.....Final Examinations  
 May 22.....Second Semester Closes

## SUMMER SESSION 1970-71

## FIRST TERM

May 31-June 1.....Registration for First Term  
 June 2.....Classes Begin  
 June 7.....Last Day for Registration and Program Changes  
 June 8-10.....Final Examinations  
 July 10.....First Term Closes

## SECOND TERM

July 12-12.....Registration for Second Term  
 July 14.....Classes Begin  
 July 19.....Last Day for Registration and Program Changes  
 August 15.....Final Examinations  
 August 19.....Commencement  
 August 19-21.....Final Examinations  
 August 21.....Second Term Closes



## DEPARTMENT OF MATHEMATICS

- I. General Operational Procedures - Department of Mathematics
- II. The mathematics office will be open
  - A. 8:00 A.M. to 5:00 P.M. Monday thru Friday
  - B. 8:00 A.M. to 12:00 noon Saturday
- III. Class Day
  - A. 7:30 A.M. to 5:30 P.M. Monday thru Friday
  - B. 7:30 A.M. to 11:30 A.M. Saturday
- IV. Class Load
  - A. Full time -----12 to 16 semester hours
  - B. Part time -----3 to 9 semester hours
- V. Each staff member is expected to:
  - A. Meet each class promptly
  - B. Promptly notify the head of department when this is not possible
  - C. Post his office hours
  - D. Arrange appointment for personal conferences
  - E. Administer frequent tests in order to properly evaluate the student
  - F. Keep accurate records
  - G. File official complete roll and final grade for each semester in the mathematics office
- VI. Supplies and Teaching Aids

The supply officer will designate a specified time and place each day to issue supplies and aids; also a specified time and place for return of equipment.

### VII. Official Leaves from the College

When a staff member finds it necessary to be absent from the college for periods longer than 5 hours, he should request and execute an official leave form. This is essential since only under these conditions is the staff member covered by workman's compensation.

The sequence of steps for official leave is as follows:

1. Secure official leave form from mathematics office
2. Execute form
3. Return to mathematics office for head of department's approval
4. The head of department will secure the approval of Dean of the School of Arts and Sciences and President of the College.

5. The leave is now official
6. Signed copies are returned to each party involved
7. The staff member should receive his signed copy before leaving  
(With the exception of emergencies)
8. If the leave is to be at college expense, the staff member should discuss it with the department head before executing the leave form
9. Finally, if the leave calls for out-of-state-travel an additional set of forms are to be executed.\*
10. Leave requests should be made at least 72 hours in advance

### III. Communication

Telephone calls, telegrams and stamps for official college business may be obtained from the Mathematics Office.

### IX. Study Leaves

A faculty member who desires a leave for graduate study should present, in writing, his plans to the department head for approval. The department head will in turn secure approvals of the Dean of the School of Arts and Sciences and the President of the College. Such requests should be made early enough so that satisfactory replacements may be made.

### X. Departmental Meetings

- A. General meetings - the second Thursday of each month
- B. Non - Administrative Meetings - at least once each month
- C. Committee meetings - at least once each month

\*Note: For unusually long absences less than 5 hours notify the head of the department.



## PHILOSOPHY, PURPOSES AND OBJECTIVES

### Philosophy

A famous mathematician once remarked that "Mathematics is the Queen of all of the Sciences." We would like to add that mathematics is also the language of science, engineering, technology and the even increasing voice of the social sciences, business, economics, and designers of patterns of our daily lives.

Mathematics is composed of many elements, namely, arithmetic, geometry, algebra, number theory, calculus, differential and integral equations, analysis, topology, logic, probability, statistics, combinations of these elements, mathematics of special areas and applied mathematics.

The department of mathematics at Prairie View A & M College is responsible for the introduction, discussion and dissemination of mathematical ideas, concepts and modern computational techniques (Theoretical and practical) for all students of the college. Therefore, the intrinsic and extrinsic importance of mathematics is obvious. The department is committed to excellence with respect to staff, curriculum and instruction on both the undergraduate and graduate level. Great emphasis and effort are devoted to curricula and programs which provide for (a) well qualified teachers on the secondary level (b) high level performances in industry (c) high level competences in such special areas as engineering and industrial technology (d) opportunities for basic research at the graduate level (master's degree level.)



## Objectives

### General:

- 1) To develop an academic atmosphere which will make studying and learning mathematics exciting and a pleasant experience.
- 2) To develop patterns of mathematical thinking.
- 3) To develop a close coordination among the mathematics, engineering and science faculties in order to maintain a strong and aggressive mathematics program for scientists and engineers based on their experiences and curricula suggestions from professional organizations in the respective areas.
- 4) To develop a modern and well equipped statistical lab to (a) be used as a training system for students and (b) serve the statistical needs of the college at all levels.
- 5) To develop a strong and aggressive program in computer science based in various machine languages, algorithms, numerical analysis, data processing and computerized instructions for students in mathematics, engineering, and the natural sciences at all levels.
- 6) To develop a computer center equipped with a high-speed digital computer with card-reader, printer, plotter, tape units, disks, and other supporting equipment to be used for (1) instruction in the computer science program (2) commercial user outside the college on a time rental basis and (3) college research.

### Specific:

#### Mathematics Majors

- 1) To provide an opportunity and encouragement for the "able undergraduate student" to pursue advanced mathematical topics and engage in basic research which will serve as a foundation for graduate level work in mathematics.
- 2) To develop mathematical attitudes, confidence, and competences such that the student can meet competition at every point with distinction, relative to all rational criteria for employment and academic considerations.



- 3) To develop teachers who understand not only the nominal mathematical content of their own courses, but also modern methodology and related topics which should arise in discussion with able and enthusiastic students.
- 4) To prepare teachers to select intelligently what changes in content, pace and sequence are to be adopted in their schools.

#### Engineering and Science Majors

- 1) To provide an introduction to those branches of mathematics with the average analytical engineer and scientist must be reasonably familiar in order to carry on his work effectively and keep abreast of current development in his field.
- 2) To develop an understanding and appreciation of the basic ideas and underlying concepts of mathematics.
- 3) To teach problems solving through applications of axioms and fundamental theorems of a given mathematical system.
- 4) To familiarize the student with methods of describing and analyzing problems so as to associate the given data with the mathematical theory necessary for solution and interpretation.

#### General Education

- 1) To develop a program which will offer the general education students a thorough appreciation of mathematics relative to its practical uses and impact on our civilization and culture.

#### Elementary Teachers

- 1) To develop an understanding and appreciation of modern elementary mathematics, such that the teacher will make mathematics meaningful and interesting at the elementary school level.

#### Industrial Education Majors

- 1) To develop competence in the basic skills of mathematics and their uses in analyzing and solving problems in Industrial Technology. This program stresses understanding of basic principles as well as mastery of mechanical skills.

MATHEMATICS FACULTY FOR THE SCHOOL YEAR 1970-71  
PRAIRIE VIEW A & M COLLEGE

The Department of Mathematics is indeed fortunate to have a well-trained and highly motivated faculty which is dedicated to:

- A. Improvement and upgrading instruction
- B. High level student achievement
- C. Self-improvement
- D. Research

The Mathematics Faculty together with its academic achievement is listed below:

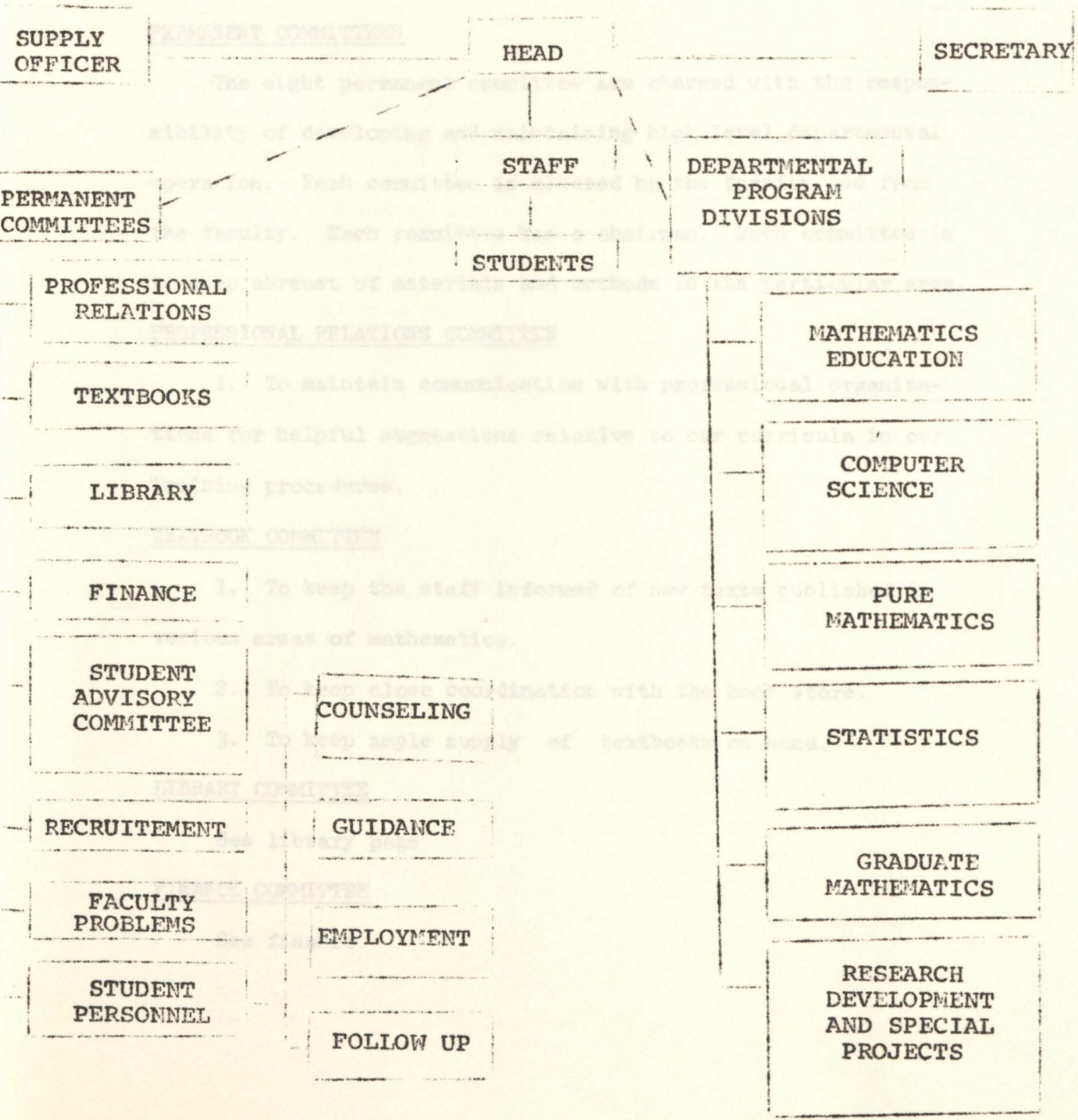
<u>NAME</u>	<u>HIGHEST DEGREE</u>	<u>CREDIT ABOVE DEGREE</u>	<u>RANK</u>
A. D. Stewart	Ph.D.		Head (Prof.)
Clyde Christopher	M.Sc.	73 hours	Assoc. Prof.
Ural Wilson	M.Sc.	51 hours	Assoc. Prof.
Frederick Gray	M.Sc.	52 hours	Assoc. Prof.
Evelyn Thornton	Candidate for Ph.D.		Assoc. Prof.
Frank Hawkins	M.Sc.	44 hours	Asst. Prof.
Samuel Good	M.Sc.	25 hours	Asst. Prof.
Pedro Oliver	Ph.D.		Asst. Prof.
Eric Johnson	M.Sc.	6 hours	Asst. Prof.
Jothi Kariraj*	M.Sc.		Asst. Prof.
P. Ghangurde	Ph.D.		Asst. Prof.
Alexander Durley	M.Sc.		Asst. Prof.
Willie E. Taylor	M.Sc.	39 hours	Instructor
Freddie Frazier	M.Sc.	24 hours	Instructor
Vera Rugeley	M.Sc.	42 hours	Instructor
Wesley Ratcliff	M.Sc.	9 hours	Instructor
Clinnon Harvey*	M.Sc.		Instructor
Wendell Neal*	M.Sc.		Instructor
Charles Richard*	M.Sc.		Instructor

\* Assigned to Freshman Studies Program



# ORGANIZATION OF THE MATHEMATICS DEPARTMENT AT PRAIRIE VIEW A & M COLLEGE

## ADMINISTRATION



The Mathematics Department is organized in a manner to ascertain maximum faculty participation and to render maximum service.

As the organizational chart indicates, there are eight permanent committees and six major divisions.

#### PERMANENT COMMITTEES

The eight permanent committee are charged with the responsibility of developing and maintaining high level departmental operation. Each committee is elected by the faculty and from the faculty. Each committee has a chairman. Each committee is to keep abreast of materials and methods in its particular area.

#### PROFESSIONAL RELATIONS COMMITTEE

1. To maintain communication with professional organizations for helpful suggestions relative to our curricula in our training procedures.

#### TEXTBOOK COMMITTEE

1. To keep the staff informed of new texts published in various areas of mathematics.
2. To keep close coordination with the book store.
3. To keep ample supply of textbooks on hand.

#### LIBRARY COMMITTEE

See library page

#### FINANCE COMMITTEE

See finance



CURRICULUM COMMITTEE

See curriculum page

INSTRUCTION COMMITTEE

See instructional program page

STUDENT PERSONNEL COMMITTEE

See student personnel page

EXECUTIVE COMMITTEE

The chairman of each of the eight permanent committees constitutes the executive committee of the department. This committee is concerned with departmental operations and policies. The chairman of the executive committee will carry on the duties of the head of the department in his absence.

IV. Research Development and Special Projects Division;  
Responsibilities:

- A. Preparing proposals for institutes
- B. Preparing proposals for research grants
- C. Designing special research projects for mathematics students
- D. Directing research for master's degree thesis
- E. Seek assistantships and financial assistance for graduate students to pursue advanced mathematics study.

The Department of Mathematics serves the needs of the college. There is a continuous search for ways and means to improve this service. While students from the five (5) schools and twelve (12) major departments seek mathematics, many exemplify the need for special competencies. The department feels that the five (5) major divisions will best serve the particular needs of all students.

Each division has a director. The director has the responsibility of:

### MAJOR DIVISIONS OF THE DEPARTMENT

- 1) Developing the curriculum for his division
  - I. Mathematics Majors
    - A. Teachers Program
    - B. Pure Mathematics Program
    - C. Computer Science Program
    - D. Statistics Program
  - II. Special Packaged Program
    - A. Engineering
    - B. Industrial Technology
    - C. Elementary Teachers
    - D. Business Administration
  - III. The Graduate Division
    - A. Teacher's Plan
    - B. Non-Teacher's Plan
  - IV. Research Development and Special Projects Division; Responsibilities:
    - A. Preparing proposals for institutes
    - B. Preparing proposals for research grants
    - C. Designing special research projects for mathematics students
    - D. Directing research for master's degree thesis
    - E. Seek assistantships and financial assistance for graduate students to pursue advanced mathematics study.

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Each division has a director. The director has the responsibility of:

- 1) Developing the curriculum for his division
- 2) Recommending and developing staff for the division
- 3) Maintaining high level operation in the division

#### CLASSIFICATION OF COURSES

Lower division mathematics courses: courses numbered 100-200

Upper division mathematics courses: courses numbered 300-400

The courses listed in "5" are offered each semester and thus are available to prospective mathematics majors who need them.

#### Academic Expectation

Mathematics majors are expected to maintain high standards of academic achievement. No grade lower than "C" may be counted toward fulfilling the major requirements. However, their performance at the junior and senior levels is expected to be substantially higher in mathematics courses.

#### Degree Requirements for Mathematics Majors and Minors (B.S. in Mathematics)

##### A. Major requirements (Non-Teaching Program)

1. Three courses of lower division mathematics (elementary calculus sequence)
2. At least twenty-one (21) semester hours of upper division mathematics courses in which one course of differential equations, abstract algebra and two courses of advanced calculus must be included.

##### B. Computer Science Program

1. Three courses of lower division mathematics (elementary calculus sequence)
2. Thirty (30) hours of computer science courses

ADMISSION, ACADEMIC, AND DEGREE REQUIREMENTS FOR STUDENTS  
ENTERING MATHEMATICS PROGRAM (UNDERGRADUATE)

A prospective mathematics major should satisfy the following:

1. Graduate from an accredited high school
2. Stand in the upperhalf of his graduating class
3. High school transcript should show only A's and B's in Mathematics
4. Demonstrate good moral, physical and mental health
5. Should possess a basic background in algebra, geometry, and trigonometry

The courses listed in "5" are offered each semester and thus are available to prospective mathematics majors who need them.

Academic Expectation

Mathematics majors are expected to maintain high standards of academic achievement. No grade lower than "C" may be counted toward fulfilling the major requirements. However, their performance at the junior and senior levels is expected to be substantially higher in mathematics courses.

Degree Requirements for Mathematics Majors and Minors (B.S. in Mathematics)

A. Major requirements (Non-Teaching Program)

1. Three courses of lower division mathematics (elementary calculus sequence)
2. At least twenty-one (21) semester hours of upper division mathematics courses in which one course of differential equations, abstract algebra and two courses of advanced calculus must be included.

B. Computer Science Program

1. Three courses of lower division mathematics (elementary calculus sequence)
2. Thirty (30) hours of computer science courses



### C. Major requirements (Mathematics Education)

1. Three courses of lower division mathematics
2. Twenty-one (21) semester hours of upper division mathematics in which one course of differential equations, abstract algebra, college geometry, statistics must be included.

### D. Minor Requirements in Pure Mathematics

1. Three (3) courses of lower division mathematics (elementary calculus sequence)
2. Nine (9) semester hours of upper division mathematics

### E. Minor Requirements in Statistics

1. Elementary calculus sequence
2. 12-15 hours of statistics

### Transfers

A student who transfers from another accredited institution of higher learning or Junior College and who wishes to major in mathematics must submit to the Department of Mathematics a complete transcript of his academic training. After a careful evaluation of the transcript, the student is advised of his status relative to the college and departmental requirements. The student is then given an advisor who will assist in discussing his schedule and program. No grade of less than "C" will be accepted from another institution. If the student's overall accumulative grade point average is less than 2.00 but greater than 2.00 in mathematics he will be accepted conditionally by the department. The student is expected to attain a 2.00 accumulative grade point average at the end of one semester; otherwise he will be dropped. No student can transfer to the Mathematics department with an accumulative grade point average less than 2.00 in mathematics. The same procedure holds for students who wish to transfer to the mathematics program from other departments and schools within the college.

### Mathematics Probation

A student majoring in mathematics is on "Mathematics Probation" whenever his grade point average in mathematics drops below 2.00. This condition holds regardless of what his overall grade point average may be. If he fails to restore the grade point average in one semester, he will be advised to transfer to another department or school.

### GRADUATE STUDY IN MATHEMATICS

#### Admission, Academic, and Degree Requirements for Students Entering Mathematics Graduate Program

The Department of Mathematics offers the Master of Science Degree in Mathematics with or without a minor in some other field.

The two plans are tailored to the interest of the graduate students. Plan A is designed especially for teachers who will remain as secondary teachers of mathematics. Plan B is designed especially for students who plan to continue graduate study, work toward the Ph.D. Degree in Mathematics or employment in industry.

Graduate students in Plan A or B are expected to write a thesis under the direction of a director who is a staff member in the department of mathematics.



A student who wishes to enter graduate study in mathematics should:

- A. Be a graduate of an accredited college or university
- B. Should have an undergraduate major in Mathematics or its equivalent
- C. Transcript should show grades of A's and B's in Mathematics or at least a B average in Mathematics at the undergraduate level
- D. Should supply the Mathematics Department with a complete transcript of undergraduate and graduate work
- E. Exceptional cases will be considered on an individual basis

A student who does not meet the requirements in (A-D) will be accepted on a probationary basis. He will be advised to enroll in such courses that will clear up any deficiencies that he may have.

#### Academic Expectation

Graduate students in mathematics are expected to maintain high standards of academic achievement. No grade lower than a "B" may be counted toward fulfilling the degree requirements.

#### Master Degree Requirements

##### I. Plan A (Teachers)

- A. Master Degree Requirements with minor in another area
  1. Twenty-one (21) hours graduate mathematics
  2. Nine to twelve (9-12) hours in another area

##### II. Plan B (Non-Teaching)

- A. Master Degree Requirements for advanced graduate work (research)
  1. Thirty-three (33) hours with no minor

A thesis is required with both plans.

will contain pertinent RECRUITMENT concerning the department and the college.

C. A recruitment committee composed of three faculty members and four mathematics students whose major responsibility is to develop forward, aggressive and effective methods and techniques of recruiting high caliber potential mathematics students.

A. The committee will personally contact our many outstanding teachers of mathematics who have passed through the mathematics department. These would recommend and supply information relative to high caliber potential mathematics students in their school. The committee will then contact these students directly. The committee will make available to the high school mathematics teachers, counselors and principals the aggressive mathematics program at Prairie View A & M College, scholarship fund, financial aid programs, and other opportunities and advantages of the college.

B. The preparation and distribution of a series, of several brochures designed to inform high school and junior colleges of the many career opportunities for the mathematician:

1. Teaching of high school mathematics
2. Graduate work
3. Industry

The brochures will contain the philosophy and objectives of the department. Some of the brochures will be pictorial while others



will contain pertinent information concerning the department and the college.

C. The mathematics department plans to organize a "Club" whose membership will be composed of the college (Prairie View) Mathematics Club and high school mathematics and science clubs. The organ of communication among member clubs will be a bi-monthly newsletter. This newsletter would report the activities of the club. The format of the newsletter is:

1. News of high school clubs and club members
2. News of high school teachers
3. News of the Prairie View Mathematics Club
4. News of the Prairie View Mathematics Staff
5. Congratulation Corner
6. Editorial on mathematics education
7. Scholarly articles by club members
8. Mathematics problems for solution
9. News of former club members

D. The department plans to request funds for one or more departmental scholarships to be awarded to entering freshmen majors. The scholarship or scholarships will be awarded on the basis of a standardized examination in mathematics. We recommend that the top award be a \$500 grant, a second award of \$250 and a third award of \$100.

### STUDENT PERSONNEL

The department of mathematics endeavors to develop an academic atmosphere which will make studying and learning mathematics exciting and a pleasant experience. The number of outstanding mathematics majors is rapidly increasing. This phenomenal increase is a consequence of the department's aggressive recruiting program.

The code of the department of mathematics for fulfilling the above aim is stressed in the division of Student Personnel. Below is listed a chart illustrating the increase in number of majors and minors in the department of mathematics:

YEAR	NO. OF MAJORS	NO. OF MINORS
1963-64	60	20
1964-65	103	60
1965-66	120	70
1966-67	125	85
1967-68	130	110
1968-69	133	120
1969-70	140	151

#### Guidance Counseling and Testing

At the beginning of each school year the department of mathematics conducts an orientation program for its freshmen mathematics majors.

The orientation program consists of:

1. Meeting the mathematics staff
2. Meeting the upper class mathematics students

The department administers an A. W. Randall competitive examination for freshman students at the end of the freshman year. The first three places receive awards.



3. The aims and philosophy of the mathematics department is discussed

4. Pep talk from the staff members

5. Meeting the mathematics club officers

Each potential mathematics major is assigned an advisor. The advisor should maintain an anecdotal record, counsel and serve as an arbitrator for the student throughout the student's undergraduate program.

Each freshman mathematics major is required to take a placement examination in mathematics. The results of this examination is used to place the student in a mathematics course that best fits his level of performance.

The department keeps on hand study material for several national, state and local examinations which are administered by the college. The student is encouraged to use these materials to increase his chances for high performances on such tests.

#### Enrichment Program

The department requires all mathematics majors to attend Colloquim. The Colloquim is a regular meeting where special problems or topics in mathematics are discussed. Where possible, students are used to assist instructors as tutors, problem session leaders and clerical assistants.

#### Student Activities

The department administers an A. W. Randall competitive examination for freshman students at the end of the freshman year. The first three places receive awards.

Superior advanced mathematics students are encouraged to write and present results of their own mathematical research to the National Institute of Science.

The department sponsors a Mathematics Club for social outlets. In the spring of each year the Mathematics Club sponsors a mathematics final with a banquet, dance and an outstanding visiting lecturer honoring the graduating seniors.

#### Student Employment and Financial Assistance

In cooperation with college, state and federal agencies the department of mathematics seeks to provide financial assistance for approximately thirty-five needy and deserving mathematics students. These students are employed as keypunch, teacher assistants, clerical assistants, paper graders and tutors.

#### Placement and Follow-up

The department of mathematics keeps an up-to-date folder on student employment, places of employment and time employed in each place.

The student advisors work closely with the placement center. The three (advisor, placement official and student) plan and suggest positions and offers best suited for the student and his future.



CURRICULUM FOR THE DEPARTMENT OF MATHEMATICS  
(Undergraduate)

The mathematics undergraduate curriculum is designed to fulfill the objectives set forth by the department. In particular, the curriculum is not the single-track curriculum. Moreover, the curriculum organized by the department is known as the constant with variable type, which affords a measure of flexibility for the students. That is, the mathematics program consists of several options. These options provide an opportunity for our majors to select a program tailored to his taste and future professions.

These options are:

Option I. Mathematics Education

Option II. Pure Mathematics

Option III. Computer Science

Option IV. Statistics

1. Each option includes the elementary calculus (Sequence-Math 125, 214, and 224).
2. 21 semester hours of upper division with (300-400) level

In addition to requirements are:

Option I

Math 313	Modern Algebra
Math 333	College Geometry
Math 353	Methods of Teaching Mathematics
Math 413	Differential Equations
Math 433	Statistics

Option II

Math 313	Modern Algebra
Math 413	Differential Equations
Math 453	Topology
Math 483	Advanced Calculus

## Option III

Math 143	Computer and Programming
Math 323	Programming Languages
Math 373	Linear Algebra
Math 413	Differential Equations
Math 414	Numerical Analysis I

## Option IV

Math 304	Introduction to Mathematical Statistics I
Math 383	Statistical Methods for Research
Math 404	Introduction to Mathematical Statistics II

Math 153	Algebra - Trigonometry
Math 154	Analytic Geometry with Calculus
Math 254	Integral Calculus
Math 255	Differential Calculus
Math 313	Differential Equations
Math 413	Differential Equations
Math 413	Advanced Math for Engineers

## PROGRAM FOR INDUSTRIAL TECHNOLOGY

Math 113	College Algebra
Math 123	Trigonometry
Math 153	Tech. Math I (Calculus)
Math 154	Introduction to Computational Processes
Math 163	Tech. Math II (Calculus)

## PROGRAM FOR ELEMENTARY EDUCATION MAJORS

Math 263	Structure of the Number System
Math 273	Fundamentals of Algebra
Math 303	Informal Geometry

## PROGRAM FOR BUSINESS ADMINISTRATION MAJORS

Math 112	Data Processing
Math 113	College Algebra
Math 123	Trigonometry
Math 133	Computer Programming (no hall)



The Department of Mathematics is always seeking ways to make its program relative to other areas and discipline of the college. Therefore, the department has consulted with members of other areas of the college and set up a "packaged" curricular suited to special areas.

Some special "packaged" curricular are:

PROGRAM FOR ENGINEERS AND SCIENTISTS

		Credit
Math 117E	Algebra - Trigonometry	5
Math 124E	Analytic Geometry with Calculus	4
Math 224E	Integral Calculus	4
Math 214E	Differential Calculus	4
Math 413E	Differential Equations	3
Math 423E	Differential Equations	3
Math 473E	Advanced Math for Engineers	3

PROGRAM FOR INDUSTRIAL TECHNOLOGY

		Credit
Math 113	College Algebra	3
Math 123	Trigonometry	3
Math 153	Tech. Math I (Calculus)	3
Math 162	Introduction to Computational Processes	2
Math 163	Tech. Math II (Calculus)	3

PROGRAM FOR ELEMENTARY EDUCATION MAJORS

Math 263	Structure of the Number System	3
Math 273	Fundamentals of Algebra	3
Math 383	Informal Geometry	3

PROGRAM FOR BUSINESS ADMINISTRATION MAJORS

		Credit
Math 112	Data Processing	2
Math 113	College Algebra	3
Math 123	Trigonometry	3
Math 133	Computer Programming (co bal)	3

Math 223	Programming Languages	
Math 243	Computer Organization	
Math 263	Systems Programming	
Math 283	Computer Construction	
Math 303	Switching Theory	
Math 323	Sequential Machines	
Math 343	Numerical Analysis	
Math 363	Numerical Analysis	

## MATHEMATICS CURRICULUM

### PURE MATHEMATICS COURSES

		Credit
Math 113	College Algebra	3
Math 115	College Algebra-Trigonometry	5
Math 123	Trigonometry	3
Math 125	Analytic Geometry with Calculus	5
Math 153	Tech. Math I (Calculus)	3
Math 162	Introduction to Computational Processes	2
Math 163	Tech. Math II (Calculus)	3
Math 173	General College Mathematics	3
Math 183	General College Mathematics	3
Math 213	Analytic Geometry	3
Math 214	Differential Calculus	4
Math 224	Integral Calculus	4
Math 263	Structure of the Number System	3
Math 273	Fundamentals of Algebra	3
Math 283	Informal Geometry	3
Math 303	History of Mathematics	3
Math 313	Introduction to Modern Algebra	3
Math 333	College Geometry	3
Math 353	Methods of Teaching Mathematics	3
Math 373	Linear Algebra	3
Math 401	Mathematics Colloquim	1
Math 403	Independent Study	3
Math 413	Differential Equations	3
Math 423	Differential Equations	3
Math 443	Independent Study	3
Math 453	Topology	3
Math 483	Advanced Calculus	3
Math 493	Advanced Calculus	3

### COMPUTER SCIENCE COURSES

		Credit
Math 133	<sup>112</sup> <i>Data Processing</i> Introduction to Computing	3
Math 143	Computer and Programming	3
Math 233	Introduction to Discrete Structures	3
Math 243	Data Structures	3
Math 253	Numerical Calculus	3
Math 323	Programming Languages	3
Math 343	Computer Organization	3
Math 363	Systems Programming	3
Math 383	Computer Construction	3
Math 393	Switching Theory	3
Math 394	Sequential Machines	4
Math 414	Numerical Analysis	4
Math 424	Numerical Analysis	4



## STATISTICS PROGRAM COURSES

DEPARTMENT OF MATHEMATICS  
(Graduate)

		Credit
Math 202	Graphical Methods for the Social Sciences	2
Math 204	Applied Statistics	4
Math 304	Introduction to Mathematical Statistics I	4
Math 383	Statistical Methods for Research	3
Math 404	Introduction to Mathematical Statistics II	4
Math 414	Mathematical Probability	4
Math 433	Elementary Statistics	3
Math 463	Probability and Statistics	3
Math 503	Reading and Research	
Math 513	Seminar	
Math 523	Real Numbers *	
Math 533	Topics & Elementary Functions *	
Math 553	Calculus for High School Teachers	
Math 593	Logic and Geometry *	
Math 600	Thesis	
Math 643	Integrated Geometry *	
Math 703	Modern Algebra	
Math 743	Statistics for High School Teachers	

## Plan B (Non-Teaching) Pure Mathematics

Requirements are 33 semester hours from among those courses:

Math 483	Advanced Calculus**
Math 503	Reading and Research
Math 513	Seminar
Math 543	Fourier Series
Math 600	Thesis
Math 603	Topology
Math 623	Introduction to Partial Differential Equations *
Math 653	Intermediate Analysis
Math 673	Advanced Analysis *
Math 703	Modern Algebra *
Math 723	Analytical Mechanics
Math 763	Intermediate Differential Equations
Math 813	Theory of Matrices
Math 873	Probability
Math 893	Complex Variables *

\* Courses required to make up the semester hours of Plan A and Plan B.

\*\* Not required for students who had Advanced Calculus, or its equivalent, at the undergraduate level.

CURRICULUM FOR THE DEPARTMENT OF MATHEMATICS  
(Graduate)

Plan A (Teacher) Mathematics Education

Requirements are 21 semester hours for Mathematics Majors and 9-12 semester hours for Mathematics Minors from among these courses:

Math 503	Reading and Research
Math 513	Seminar
Math 523	Real Numbers *
Math 533	Topics & Elementary Functions *
Math 553	Calculus for High School Teachers
Math 593	Logic and Geometry *
Math 600	Thesis
Math 643	Integrated Geometry *
Math 703	Modern Algebra
Math 743	Statistics for High School Teachers

Plan B (Non-Teaching) Pure Mathematics

Requirements are 33 semester hours from among these courses:

Math 483	Advanced Calculus**
Math 503	Reading and Research
Math 513	Seminar
Math 543	Fourier Series
Math 600	Thesis
Math 603	Topology
Math 623	Introduction to Partial Differential Equation *
Math 653	Intermediate Analysis
Math 673	Advanced Analysis *
Math 703	Modern Algebra *
Math 723	Analytical Mechanics
Math 763	Intermediate Differential Equations
Math 813	Theory of Matrices
Math 873	Probability
Math 893	Complex Variables *

- \* Courses required to make up the semester hours of Plan A and Plan B.  
 \*\* Not required for students who had Advanced Calculus, or its equivalent, at the undergraduate level.

1. April - 15th, for May graduation

2. December - 15th, for January graduation

3. July - 28th, for August graduation



FURTHER SUGGESTIONS

The following sequence of steps is suggested by the Mathematics Department:

- Chapter 1. Acceptance by the Mathematics Department
2. After the student is accepted he is appointed an advisor (local statement if applicable)
3. Student and advisor must discuss and prepare a program of study to be presented to the head of the department to achieve these results
4. After the student has successfully completed 12 semester hours of graduate mathematics, he should apply for admission to candidacy.\*
- Chapter 5. After the student's application for candidacy has been approved he is appointed an advisory committee who will be responsible for the remainder of the candidate's graduate program
- Chapter 6. The chairman of the committee will, in general, direct the thesis research
- Chapter 7. Application
- Chapter 8. Approximately one month before the date on which the degree is to be awarded, the candidate and his committee should schedule the Comprehensive Oral Examination which includes examination on both thesis and course materials\*
- Chapter 9. Any work done by the student's research advisor should be in accordance with some of the
8. The committee will deliver the candidate to the graduate dean for graduation
9. Four copies of the thesis are required
  - a) Two for the library (William Riley Parker, Revised)
  - b) One for the department (Hilkey, Research in Research, Houghton Mifflin Co.)
  - c) At least one copy for the candidate
10. Important Dates (Francesca Cardoso, Handbook for Research)

The candidates should have his completed and signed thesis in the hands of the department head by the following dates:

1. April - 15th, for May graduation
2. December - 15th, for January graduation
3. July - 28th, for August graduation

## FURTHER SUGGESTIONS

## I. Suggested format for thesis:

## Chapter I. Introduction and Terminology

- A. Complete statement of problem (including a historical statement if applicable)
- B. Statement of results to achieve these results
- C. Methods used to achieve these results
- D. Define all important terms used in the thesis
- E. Explain all symbols

Chapter II. State auxillary lemmas and theorems to be used but not proved in the research.

Chapter III. Proof of basic theorems and lemmas

Chapter IV. Main theorem

Chapter V. Application

Chapter VI. Summary

Any variation from this format should be approved in advanced by the student's research director.

Footnotes, quotations, etc...should be in accordance with some of the standard forms indicated by:

The MLA Style Sheet compiled by William Riley Parker, Revised ed., New York, 1954

Hillway, Tyrus. Introduction to Research, Houghton Mifflin Co. Boston, 1964

Gatner, Ellito S. and Francesco Cordasco. Handbook for Research and Report Writing, Barnes and Noble, Inc.,

NOTE: A candidate should not expect to begin and complete his thesis research during a single summer.



### INSTRUCTIONAL PROGRAM

The Mathematics Staff operates on the theory that one learns mathematics only by doing mathematics. That is, by doing mathematics one learns, computing techniques, properties of numbers, rules and relationships, and theorems, etc.

Thus one soon learns patterns of Mathematical Thinking which in turn leads to construction of mathematical proofs of theorems. Finally, one is led to discover new theorems and new proofs of theorems. Therefore, the Mathematics Staff is committed to providing opportunities for the orderly development of Mathematical Thinking on the part of the student.

The staff seeks only to provide opportunities for learning Mathematics, develop interest in Mathematics and encourage the students relative to Mathematics. In this way, the student will discover the beauty and importance of Mathematics.

#### Organization of Instruction

The organization of instruction, like the mathematics curriculum, is divided into five categories. While each of the instructional programs stress "good" mathematics, each program has its own goals to be achieved. This may necessitate special emphasis especially at intermediate levels. Thus, there are mathematics instructional programs designed especially for:

1. Mathematics majors and minors
2. Students of engineering and technology



3. Students of general education
4. Students of statistics and computer science
5. Graduate students

The organization of instruction is designed to achieve the maximum competencies on the part of the student in his particular category.

#### Methods and Techniques of Instruction

Teaching methods have very little meaning without the personality of the professor. The goals to be achieved are the same for all the staff members. However, different methods may be employed to arrive at these goals. Some general methods used by the staff members at some time are:

- a) lectures by the professor
- b) lectures by the students
- c) problem solving by the students
- d) interchange of ideas between students and professors
- e) use of equipment
  - 1) overhead projector
  - 2) movie films
  - 3) filmstrips

The following guideline characterizes the thinking of the staff relative to the relationship between the professor, his area of specialization and instruction:

- 1) No staff member shall teach an undergraduate course in which he has not had proper training; or a graduate course without 30 hours above the masters degree.



- 2) Staff members who participate in the preparation of elementary and secondary teachers should have teaching experience on the elementary and secondary level.
- 3) On the graduate level, staff members will be assigned to teach in their areas of specialization, if at all possible.
- 4) The staff shall meet at least once each semester to discuss methods of teaching and content of courses.

### Supervision

The Head of the Department, together with the six division directors, supervise the mathematics instruction program. This supervision takes the form providing:

1. Supplies
2. Teaching Aids
3. Textbooks for each course
4. Course outline for each course
5. Special conferences with new staff members
6. Other helpful assistance when needed

### Evaluation

The evaluation of instruction and/or appraisal of student progress must take into consideration of the objectives of the course, the subject matter (concepts and generalizations), and methods and organization (learning experiences and sequence)... In effect, evaluation addresses itself to the appraisal of these elements (1) What was done (2) the level of subject matter mastery and (3) the learning experiences and sequence employed.

There is also another important criteria for evaluating the instructional program. Namely, the level of performance of mathematics graduates in professional pursuits and positions.

The performance level and success of the mathematics graduates yield a measure of the instructional program. The department is pleased with the performance level of its graduates of the past four years: Twenty are employed in industry or the federal government; forty are employed as teachers of secondary mathematics in several states; and six are full-time graduates of which four are graduate teaching assistants.

Comments from these graduates and their supervisors indicate that they are meeting competition well and performing at high-levels.



RANK, QUALIFICATIONS, AND DUTIES RELATIVE TO THE DEPARTMENT OF  
MATHEMATICS

Usual Formal Requisites	Other Qualifications	Duties
<b>Instructor</b>		
<p>Master's Degree or its equivalent in advanced study or two years of pertinent professional experience. Exceptions may be made for high scholastic record and superior recommendation. Appointment shall be on an annual basis.</p>	<p>Satisfactory indication of personal and professional traits required for the duties to be assigned; high standards of scholarship and promise of growth and development in his professional field.</p>	<p>Teaching, research or administrative duties under the supervision of or in coordination with one or more senior staff members.</p>
<b>Assistant Professor</b>		
<p>Ph.D. or Master's Degree with four years of pertinent professional experience including college teaching. Appointment shall be on an annual basis.</p>	<p>Demonstrated ability in teaching and research, creative work, administrative work. Definite record of professional qualifications and scholarship in publication or equivalent accomplishments, evidence of professional growth and continuing promise, superior personal traits.</p>	<p>Teaching, research or administrative activities to be pursued with minimum supervision on and direction by senior departmental staff members.</p>
<b>Associate Professor</b>		
<p>Ph.D., or equivalent Degree plus four years or a Master's Degree plus eight years of pertinent professional experience, including responsible leadership in his field of work and college teaching.</p>	<p>Those of Assistant Professor plus established reputation in scholarship and unquestioned ability to perform the duties of the position in a commendable manner, including continuing demonstrated ability in teaching and research, creative work, or administrative.</p>	<p>To assume responsibility for the direction and development of a major phase of the subject matter field; to lend advice and assistance to junior staff members in their teaching, research.</p>



## PROFESSOR

Ph.D. in mathematics and all those of lower rank.

Salary: \*\$11,000-\$14,000  
All those of lower ranks: comprehensive knowledge and understanding of his field; established of his field; in the contribution to the field; scholarship and professional grasp of his subject recognized by colleagues.

Same as for Associate Professor but with greater leadership responsibilities and more active participation in selection of new staff members.

PROFESSOR AND HEAD  
OF DEPARTMENT

All those of lower rank

Salary:  
Those of professor plus indicated ability as an administrator and coordinator of activities pertaining to the department and with other related departments.

To administer and coordinate the works of the department to maintain and implement progressive and constructive teaching, research and extension activities within the department; to retain and perform on a limited basis one or more of the duties of a professor.

## GENERAL

While the foregoing requested shall serve as a guide in appointment or promotion in rank, prime consideration shall be given to the quality of work, attention to duty, and cooperative attitude of the person concerned. Promotion to higher rank will not normally be given for less than three years service in any rank. Service at other comparable institutions may be counted.

The rank of Associate Professor and Professor are regarded as "Continuous" to the extent permitted by State Legislative act and contingent upon satisfactory performance.

The rank of Instructor and Assistant Professor are considered annual appointments. These in effect, however, are continuous where the individual is developing progressively toward the qualifications of the Associate Professor rank (again subject to State Legislative acts).



The rank of Distinguished Professor is reserved for those few individuals of national and international reputation who possess unusual qualities and achievements which can in a unique way, contribute to the institutional goals and objectives. The request for such rank is initiated by the Dean of the College Concerned.

The special rank of Professor Emeritus is awarded after their retirement to Professors who have given unusually meritorious service to the University. The request for such rank is initiated by the Dean of the College Concerned.

Faculty problems and grievances are studied and resolved in accordance with the schematic diagram shown on page 30-a.

The individual to whom this report is submitted should be given the opportunity to make suggestions regarding his work and to record, for the period covered, his activities that seem to him not significant. It will be preserved as a part of his permanent personnel record and will be used by his Department Head as one of the bases for completion of his Faculty Evaluation (Form 3).

- A. What do you regard as the greatest handicaps or obstacles to your effectiveness and service?  
(Use supplemental pages if needed)
- B. What new or changed opportunities for service or development do you desire the University to provide for you?

- C. Activities for the Period \_\_\_\_\_ to \_\_\_\_\_  
Note: Report on the following points in the areas listed, unless you say that do not apply.

(Use supplemental sheets as needed)

1. Relationships to students and student activities
2. Research projects undertaken and research projects completed in the period by this report.
3. Productive and creative activities (These may include reorganization of old courses, development of new courses, exercises, revisions and improvement, new syllabi, new research techniques not otherwise published, etc.)
4. Professional Activities and responsibilities outside the University
5. Community and public relations.
6. Honors and distinctions received during the period covered by this report.
7. Administrative and committee assignments and activities (Departmental, college, and university.)
8. Activities relating to teaching (not included in No. 1)
9. Activities relating to research (not included in No. 2)
10. Activities relating to extension (not included in No. 3)
11. List of publications (not included in any previous individual Faculty Member's Annual Report).
12. Others.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_



## FACULTY EVALUATION

## INDIVIDUAL FACULTY MEMBER'S ANNUAL REPORT

(Copies to the Faculty Members, Head of Department, and Dean, Feb. 15 each year)

Name \_\_\_\_\_ Title \_\_\_\_\_

Department \_\_\_\_\_ Period \_\_\_\_\_

This report is intended to provide an opportunity for the individual to make suggestions regarding his work and to record, for the period covered, his activities that seems to him not significant. It will be preserved as a part of his permanent personnel record and will be used by his Department Head as one of the bases for completion on his Faculty Evaluation (Form 3).

- A. What do you regard as the greatest handicaps or obstacles to your effectiveness and service?  
(Use supplemental pages if needed)
- B. What new or changed opportunities for service or development do you desire the University to provide for you?

- C. Activities for the Period \_\_\_\_\_ to \_\_\_\_\_  
Note: Report on the following points in the order listed, omitting any that do not apply.

(Use supplemental sheet as needed)

1. Relationships to students and student activities
2. Research projects undertaken and research projects completed in the period by this report.
3. Productive and creative activities (these may include reorganization of old courses, development of new courses, exercise revision and improvement, new syllabi, new research techniques not otherwise published, etc.)
4. Professional Activities and responsibilities outside the University
5. Community and public relations.
6. Honors and distinctions received during the period covered by this report.
7. Administrative and committee assignments and activities (departmental, college, and university.)
8. Activities relating to teaching (not included in No. 3)
9. Activities relating to research (not included in No. 3).
10. Activities relating to extension (not included in No. 3).
11. List of publications (not included in any previous Individual Faculty Member's Annual Report).
12. Others.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_



## FACULTY EVALUATION FORM

(Administrator's Instrument)

Name \_\_\_\_\_

Department \_\_\_\_\_

Date \_\_\_\_\_

Merit Increment Schedule

Please indicate your evaluation of the staff member by marking an X in one of the items in the left-hand column. The numbers in the left-hand column correspond with the evaluations on the accompanying table.

Areas of Competence

- |        |  |
|--------|--|
| 1. ( ) | 1. Teaching, Activity and Effectiveness, i.e., knowledge of subject matter, uses of related materials, frequent revisions of course content to keep it up-to-date, maintenance of classroom interest, uses of visual and other modern teaching aids, development of classroom participation, classroom mannerisms, success in developing intellectual curiosity in students as well as utilizing their time efficiently, adequacy of testing techniques. Considers the learning process and adjusts methods appropriately for the subject taught and level of understanding of the student.  |
| 2. ( ) |  |
| 3. ( ) |  |
| 4. ( ) |  |
| 5. ( ) |  |
| 1. ( ) | 2. Professional Growth and Development-Participates actively in seminars, meetings, et cetera of a professional nature in area of specialization; continues advanced study by attendance in summer school and leaves of absence (for credit); belongs to a national professional organization and makes special contributions to this organization; is resourceful in searching for and assembling new information; obtains and reads current publications in areas of interest - both general and specific  |
| 2. ( ) |  |
| 3. ( ) |  |
| 4. ( ) |  |
| 5. ( ) |  |
| 1. ( ) | 3. <u>Scholarly Accomplishment - Quality of work, publications artistic creativity, et cetera.</u> Seeks to insure soundness, up-to-dateness and breadth of information in area of specialization. Conducts and reports research (this factor might include an evaluation of both quality and quantity of research in progress or books) an evaluation here might well include quality and quantity of books, non-research memographs, and articles published in professional journals, general magazines, etc. Is generally accepted by his peer in his line of endeavor as both a contributing and/or creative practitioner of some respectable professional responsibility. |
| 2. ( ) |  |
| 3. ( ) |  |
| 4. ( ) |  |
| 5. ( ) |  |



1. ( ) 4. Contributions to the College and Loyalty to the Institution strives to become a contributing, participating member of planning groups involved in projecting a positive institutional image; assume willingly extra-curricular department, college, and university activities; under this topic, one might consider student counseling activity, availability to students, committee contributions, recruiting activity, efforts to maintain pertinent library source material in his field, etc. Public Service: this factor may include all non-academic contributions to the community affairs when requested--especially through the public school or civic organization; remains positive in terms of remarks and deeds in relation to the institution; refrains from activities which are demoralizing to the institution through constructive efforts within the particular school employment.
1. ( ) 5. Personal Characteristics - A positive attitude and outlook toward the activities of the school; an optimistic attitude toward youth, fairmindedness and impartiality in dealing with students; in general good health - physically, mentally, emotionally; skillfulness in human relationships; friendly, tolerant, and helpful in relationships with students and family members; cooperative; possesses a sense of humor; time conscious punctual in regard to class and other responsibilities.

The budget is administered by the head of the department. The budget requested and funds received may not coincide. The budget allocations must be based on the funds actually received.

#### Notes

#### Secretary:

The mathematics department has grown rapidly and is rendering more service to the college and its students. The department is continuously instituting new programs.

Therefore, a full-time secretary is required for efficient departmental operation. Among her many duties the secretary is expected to



## FINANCE

Formulation of the mathematics budget is based on five areas of financial responsibility. These areas are:

1. Salaries (Staff)
2. Wages - secretary and student employment
3. Other expenses - supplies, travel, etc.
4. Capital outlay - permanent equipment
5. Library

Staff salaries are discussed under "Staff" and library budget under "Library".

#### Administration of Budget

The budget is administrated by the head of the department. The budget requested and funds receives may not coincide. The budget allocations must be based on the funds actually received.

#### Wages

##### Secretary:

The mathematics department has grown rapidly and is rendering more service to the college and its students. The department is continuously instituting new programs.

Therefore, a full-time secretary is required for efficient departmental operation. Among her many duties the secretary is expected to

## FINANCE

evaluate transcripts, supervise student employment, make out payrolls, prepare proposals for: Elementary School Personnel Institute, Institute in Mathematics for High School Students, Institute in Mathematics for High School Teachers, and In-Service Institute in Mathematics. In the absence of the department head the secretary will supply pertinent information.

## Student Employment:

The mathematics department is rapidly expanding its programs of which some are:

1. Computer Science Programming
2. Statistical Analysis
3. Teacher Training Program
4. Increase in Number of Majors
5. Increase in Number of Minors
6. Increase Course Offerings Requested by Other Department and Schools

In each of these programs, student assistance is essential for efficient operation. Students assist the staff in the following ways:

1. Key-Punch-Operators
2. Lab Assistants
3. Lab Instructors
4. Clerical Assistants
5. Teacher Assistants
6. Paper Graders



## 7. Tutors

## 8. Problem Session Instructors

This operation requires a minimum of 25 students for the school year 1968-69 to be employed by the mathematics department on the EOA and 5 students on the state. The student wages on the EOA (25%) amounts to approximately \$2700.00 per school year.

TRAVEL EXPENSES	School Year 1969-70	\$1100.00
-----------------	---------------------	-----------

The department has funds for travel to enable staff members to attend regional and national meetings and trips which may be necessary to consult with the National Science Foundation relative to grants. Modern Mathematics is most important to the college curriculum and in order for the staff to keep abreast of the modern trends it is of utmost importance that the college be represented at as many professional meetings as possible.

A. The Mathematical Association of America, Inc. (Texas section)	\$100
B. American Mathematical Society (National) January, 1970	\$300
C. American Mathematical Society (National) August, 1970	\$300
D. National Council of Teachers of Mathematics, April, 1970	\$300
E. National Council of Teachers of Mathematics, December, 1970	\$200
F. The Mathematical Association of America, Inc. (Texas section)	\$100
G. American Mathematical Society (National) August, 1971	\$300
H. American Mathematical Society (National) January, 1971	\$300
I. National Council of Teachers of Mathematics, April, 1971	\$300
J. National Council of Teachers of Mathematics, December, 1971	\$200



## OTHER EXPENSES (Annually)

A. Supplies and teaching material \$1200.00

This includes paper, stencils, teaching aids, and other items used as instructional aids for the staff of the mathematics department. In addition, films, transparencies, copy paper and programming sheets. Departmental stationery, ink and other necessary items for maintaining an efficient operation and office will be purchased.

B. General expenses \$200.00

This item includes telephone bills, covering long distance calls for one year.

C. Teaching aids \$500.00

D. Maintenance and repairs \$600.00

This includes general repair and up-keep of the first floor of the Old Science Building and the second floor. In addition, bulletin boards, clock, six typewriters and 12 calculators to be serviced.

## CAPITAL OUTLAY School Year 1969-70

The department is badly in need of basic equipment for efficient operation. Therefore, the department of mathematics hopes to purchase the following permanent equipment to enhance its program:

1. Ditto duplicating machine		\$350.00
2. Desks	(2)	\$319.00
3. Chairs	(3)	\$113.85
4. Chairs	(6)	\$224.50
5. File cabinets	(4)	\$300.00
6. Typing tables	(4)	\$ 73.20
7. Overhead projector		\$200.00
8. Air conditioners	(3)	<u>\$750.00</u>
		\$2330.55



School Year 1970-71

1. Video tape system	\$7500.00
2. Tape recorders	400.00
3. Tape system supplies	<u>500.00</u>
	<b>\$8400.00</b>

PHYSICAL FACILITIES

The department of mathematics is located on the first floor of the Old Science Building. On this floor are located five offices, four classrooms and one computing laboratory.

To be sure, the physical facilities are far from adequate for the large and expensive program carried on by the department. This is amply illustrated by the facts that the department has offices in other buildings. It has three offices in Spence Hall and one in the Administration Building. The department is forced to seek classrooms in other buildings. In many cases these rooms are not suitable for mathematics instruction due to inadequate board space. The department has enough lab coats additional equipment for instructional purposes. However, basic supplies are adequate for staff use.

The department is making a study of the needs to be satisfied at a later date.

## School Year 1970-71

1. Video tape system	\$7500.00
2. Tape recorders	400.00
3. Tape system supplies	500.00

## PHYSICAL FACILITIES

The department of mathematics is located on the first floor of the Old Science Building. On this floor are located five offices, four classrooms and one computing laboratory.

To be sure, the physical facilities are far from adequate for the large and expensive program carried on by the department. This is exemplified by the facts that the department has offices in other buildings. It has three offices in Spence Hall and one in the Electronics Building. The department is forced to seek classrooms in other buildings. In many cases these rooms are not suitable for mathematical instructions due to inadequate board space. The statistical-mathematics lab needs additional equipment for instructional purposes. However, basic supplies are adequate for staff use.

The department is making a study of its needs to be submitted at a later date.



## THE LIBRARY

During the first semester of each year the mathematics department is allocated funds with which to purchase mathematics journals, books, films, filmstrips, etc. for the library.

The chairman of the library committee obtains book requests from each staff member throughout the first semester. During the early part of the second semester the chairman will process the book requests and submit the same to the Acquisitions Librarian.

The department of mathematics has developed a definition of a minimum college undergraduate mathematics library. This definition is based on (1) the recommendations of the Committee on the Undergraduate Program in Mathematics of the Mathematical Association of America and (2) the American Association for the Advancement of Science Book List for Young Adults.

These recommendations call for the following list of books, periodicals, journals, etc.:

- |   |           |
|---|-----------|
| 1. CUPM lists 300 books at approximately      | \$3000.00 |
| 2. AAAS lists 150 books at approximately      | \$1200.00 |
| 3. Journals at approximately                  | \$2000.00 |
| a. The American Mathematical Monthly          |           |
| b. Mathematics Magazine                       |           |
| c. The Mathematics Teacher                    |           |
| d. The Arithmetic Teacher                     |           |
| e. Mathematics Student Journal                |           |
| f. Mathematics Log                            |           |
| g. School Science & Mathematics               |           |
| h. Pi Mu Epsilon Journal                      |           |
| i. University of Oklahoma Mathematics Letters |           |



The above three listings will constitute a well stocked undergraduate mathematics library which meets the standard of all undergraduate recommendations.

Objectives:

1. Provide the student with introductory material in various fields of mathematics which he may not previously have encountered.
2. Provide the student whose interest has been aroused by his teacher with reading material collateral to his course work.
3. Provide the student with reading at a level beyond that ordinarily encountered in his undergraduate curriculum.
4. Provide the faculty with reference material.
5. Provide the general reader with elementary material in the field of mathematics.

Areas:

The areas of mathematics comprising this basic library list are (a) background and orientation (b) algebra (c) analysis (d) applied mathematics (e) geometry-topology (f) logic, foundation and set theory (g) probability-statistics (h) number theory (i) teacher education (j) mathematics for liberal arts and general education and (k) miscellaneous.

Sources for Book List:

1. Journal of the Mu Alpha Theta, National High School & Jr. College Mathematics Club, Box 504, University of Oklahoma, Norman, Okla.
2. The American Association for the Advancement of Science Book List for Young Adults, Washington, D.C.
3. CUPM Book List, Berkely, California



### Graduate Mathematics Library

The department is also building a strong library to support its graduate program. Graduate students and the mathematics faculty will look to the library for assistance in their research.

The mathematics department will stock many of the leading journals and monographs. Some of these are:

1. Mathematical Gazette
2. Scripta Mathematica
3. Society for Industrial and Applied Mathematics Review
4. The Fibonacci Quarterly
5. Bulletin of the American Mathematical Society
6. Journal of Differential Equations
7. Journal of Algebra
8. The Athena Series (Selected Topics in Mathematics) by Holt Publishing Company
9. Blaisdell Scientific Paperbacks by Blaisdell Publishing Company
10. The Carus Mathematical Monographs by MAA
11. Library of Mathematics by Free Press
12. The MAA Studies in Mathematics by MAA
13. MSG New Mathematical Library by Random House
14. University Mathematical Texts by Interscience Publishers
15. Topics in Mathematics by D. D. Heath Publishers
16. The Slaughter Memorial Papers by MAA
17. Exploring Mathematics On Your Own by Webster Publishers (A Division of McGraw-Hill)

18. Experiences in Mathematical Discovery by NCTM
19. Mathematical Studies by Van Nostrand
20. Cambridge University Press Mathematical Paperbacks by  
Cambridge University Press

Sources:

1. American Mathematical Society Press
2. Academic Press
3. Pergamon Press
4. Other Standard Book Publishers

#### PROFESSIONAL RELATIONS

The mathematics department has many important connections, relationships and affiliations with professional and scientific organizations.

1. Mathematical Association of America
2. American Mathematical Society
3. National Institute of Science
4. Association of Computing Machinery
5. National Council of Teachers of Mathematics
6. I.B.M. Corporation
7. Institute of Mathematical Statistics
8. CUPM
9. Texas Section of Mathematics Association
10. Texas Academy of Science



11. Pi Mu Epsilon Honorary Mathematical Society

12. Society for Industrial and Applied Mathematics

Many of the staff members serve on important committees and hold offices in these organizations.

The department has direct contact with several industrial organizations through their college representatives. These representatives serve as advisor relative to what industry is looking for in an applicant. The department's representatives and industry's representatives frequently contact and consult with each other.

This mathematics department and the mathematics department of Texas A & M University have an excellent cooperative plan. This is only natural and should be expected since the two institutions are in the same system.

#### ACCREDITATION AND STANDARDS

The mathematics program is fully accredited by the Texas Education Agency.

1. The mathematics program meets the standards set forth by the Mathematics Association of America's Committee on the Undergraduate Program in Mathematics. (CUPM)
2. The mathematics program also meets the standards of the Texas Education Agency's committee on secondary mathematics.
3. Mathematics students perform at a high level on the National Teacher Examination.
4. Mathematics students perform at a high level on the Graduate Record Examination.
5. Mathematics students performance is on par with the student from other universities and colleges and at the graduate level.