MATHEMATICS
COLLECTION DEVELOPMENT POLICY STATEMENT

I. PURPOSE AND PROGRAM DESCRIPTION

A.   Library Collection Development Objective

The library seeks to support curricular and research needs in all areas of pure and applied mathematics, and math education for undergraduate programs and for teaching faculty. The Mathematics department also provides some support for graduate level programs in other departments.

B.   Description of User Groups Supported

User groups supported include undergraduate students and faculty. Changes in the user population during the most recent five years include faculty more actively engaged in research and more participation of undergraduates in research.

C.   New and Expanding Areas of Interest

New areas include applied statistics, machine learning, big data, and related areas of data science, as well as computational mathematics and math biology / biostatistics in support of new proposed tracks in our Applied Mathematics major. Most of the established areas listed are also expanding in scope and depth, including in number theory and cryptanalysis.

New programs:
- Minor in Applied Statistics (focus on statistical reasoning to solve problems)
- Basic Certificate in Data Science (focus on solutions to real-world problems, working with big data sets, use of software such as "R". Research tends toward improved methods for data analysis)

Planning stages for adding two tracks to our B. S. in Applied Mathematics:
- Math Biology (includes modeling, analysis, biostatistics, etc.)
- Computational Math (includes simulation, optimization, mathematical programming, etc.)

D.   Areas of Established Specialization

In areas of applied mathematics: Actuarial mathematics, modeling, simulations, operations research, numerical analysis, optimization, quality control and statistics. In areas of pure mathematics: Algebra, differential equations, discrete mathematics, geometry, topology, and number theory. In areas of mathematics

education: Curricular design, pedagogy, psychology of mathematics, primary and secondary math education, and undergraduate math education.

II. TREATMENT OF SUBJECT DEPTH

A. Treatment of Depth

SUBJECT SUBDIVISIONS	COLLECTING LEVEL
Algebra	4
Calculus	3
*Data Analysis	4
Differential equations	4
Geometry, Analytic	4
Interest	2
Insurance—Mathematics	2
Machine learning	4
Mathematics	3
—History	3
—Study and teaching	4
Mathematical models	4
Numerical analysis	4
Operations research	4
Quality Control	4
Real Analysis	3
Risk Analysis	2
Set theory	3
Statistics	3
Topology	3
Trigonometry	3

B. Specific Delimitations

Formats collected: Journals: extensively. Monographs, Media, Proceedings, and Reference tools: selectively. Maps and Microformat collections: excluded.

Imprint dates collected: Current: extensively. 20th century, and 19th century: selectively. Earlier: excluded.

Chronological focus: Current, 20th century: selectively. 19th century and Earlier: excluded.

Languages collected: English.

Place of Publication: United States: extensively. Elsewhere: selectively.

Significant Publishers/Associations:

AMS (American Mathematical Society)
MAA (Mathematical Association of America)
NCTM (National Council of Teachers of Mathematics)

Springer