



**Bachelor of Arts Degree
With Major in
Mathematics**

**Department of Computer and Mathematical Sciences
University of Houston-Downtown**

The Bachelor of Arts degree in Mathematics is designed to provide students with the foundation of a liberal arts education and a broad overview of mathematics and its applications. The program is interdisciplinary in nature and offers students a large choice of electives to pursue a well-rounded study in the humanities and fine arts, the physical, biological, and social sciences, as well as in mathematics. This degree is especially suitable for students wanting to enter a professional field, such as secondary teacher certification, while acquiring a strong background in mathematics. Many organizations depend on quantitative reasoning and mathematical models to solve problems. The mathematical component of this plan is designed to prepare students to develop and use analytical skills and problem-solving skills, to master mathematical techniques required in related fields of application, and to enter the employment market with relevant and proficient mathematical tools. This degree offers many features to enhance a student's educational experience: the choice of an approved university minor; sustained development of writing and speaking proficiency; and extended general education requirements that permit more study of liberal arts disciplines. The BA degree is especially appropriate for students who wish to combine an extensive study of mathematics with a second concentration in such fields as education, business, the natural sciences or social sciences, and it prepares students for various graduate or professional programs including mathematics education, medicine or law.

The degree requires a minimum of 120 semester credit hours as indicated below. No grade of "D" in any course in the CMS Department may be applied toward satisfying the requirements of any degree in the department. Any course substitution must be approved by the department chair. The format of the degree is given in six sections: General Education Requirements, Mathematical Sciences Requirements, Humanities Requirements, Minor, Electives, and Urban Education Component.

DEGREE REQUIREMENTS

A. General Education Requirements (46 hours)

i. Common Core Requirements (43 hours)

ENG 1301 and 1302 – Composition I, II

ENG 23XX – Any literature course

COMM (3 hours selected from COMM 1301,1303,1304,1305,3302,3304,3306 or other approved course)

Fine Arts (3 hours selected from ART, DRA, MUS or other approved fine arts discipline)

HIST (6 hours selected from HIST 1305, 1306, 2303, 2309 or other approved course)

POLS 2303 and 2304 – U.S. Government I, II

Natural Sciences (6 hours selected from BIOL, CHEM, GEOL, MBIO, NS or PHYS or other approved courses)

Social/Behavioral Sciences* (Approved 3 hours in ANTH, CJ, ECO, GEOG, PSY, SOC or other human behavior discipline)

Mathematics (MATH 2405 is used here)

Computer Literacy (CS 1305 is used here)

ii. Writing Skills Requirement (3 hours)

ENG 3302 – Business and Technical Report Writing

iii. Writing Proficiency Examination

Writing Proficiency Exam (WPE must be taken and passed after completion of 60 credit hours and before completion of 75 hours. Transfer students with more than 75 hours must attempt the exam in their first semester at UHD.)

B. Mathematical Sciences Requirements (35 hours)

i. Mathematical Sciences Core (26 hours⁺)

MATH 2307 – Linear Algebra

MATH 2402 – Calculus II

MATH 2405 – Discrete Mathematics⁺

MATH 3306 – Intro. to Modern Algebra **OR** MATH 3307 – Intro. to Real Analysis

MATH 4294 – Senior Seminar (must be taken before either 4395 or W-course)

MATH 4395 – Senior Project or an approved W-course*

MATH 2401 – Calculus I

MATH 2403 – Calculus III

MATH 3302 – Probability & Statistics

⁺Math 2405 is counted in Section A-Common Core Requirements.

*To satisfy Integrative Experience. Based on their performance in Math 4294, students are required to participate in Math 4395 or assigned an approved writing course in the major. The approved writing courses are Math 4301 (Advanced Numerical Methods for Science and Engineering), Math 4304 (Methods of Applied Mathematics), Math 4312 (History of Applied Mathematics), and Math 4315 (Mathematical Modeling).

ii. Mathematical Sciences Electives: Nine hours of additional upper level mathematical sciences courses, not including Math 3321 and Math 3322. Students interested in secondary teacher certification are encouraged to choose Math 3303 (Geometry for Teachers) or Math 3311 (Geometry), Math 3312 (Set Theory) and Math 3313 (Mathematics Topics for Secondary Teachers) as their mathematical sciences electives.

iii. Computer Science Requirements⁺

CS 1305 – Introduction to Computer Technology

⁺CS 1305 is counted in Section A-Common Core Requirements.

C. Humanities Requirements (9 hours chosen from at least two of the following categories)

- a. Humanities and Visual and Performing Arts - ART, DRA, MUS
- b. Political and Social Sciences - ECO, GEOG, HIST, PHIL, POLS
- c. Behavioral Sciences – ANTH, PSY, SOC
- d. English and Speech – ENG, COMM
- e. Languages – FREN, SPAN

D. Minor (18 hours minimum).

Any university approved minor may be chosen to satisfy this requirement, or secondary teacher certification in mathematics.

E. Urban Education Component*: Students seeking secondary teacher certification should complete a formal application in the Urban Education Department, must meet with a UE advisor for specific information about certification, and may replace section D with:

Pre-block courses	Block I	Block II	Block III
SOSE 3306	SED 3301	SED 3302	READ 4321
ETC 3301	SED 3312	SED 3307	SED 4301
PED 3301			SED 4302
READ 3309			

(The courses in each block must be taken concurrently.)

F. Electives: (enough hours to complete a minimum of 120 hours total)

*Section E will be regularly revised based on updates from the Urban Education Department.