# Check List for BS in Mathematical Biology

## Mathematics (27 Hours)
- Math 2413 (1431) Calculus I Fall, Spring, Sum
- Math 2414 (1432) Calculus II Fall, Spring, Sum
- Math 2318 (2331) Linear Algebra Fall, Spring, Sum
- Math 2415 (2433) Calculus III Fall, Spring, Sum
- Math 3331 Differential Equations Fall, Spring, Sum
- Math 3338 Probability Fall, Spring, Sum
- Math 3339 Statistics for the Sciences Fall, Spring, Sum
- Math 43__ 4000-level Math elective

## Biology (23 Hours)
- Biol 1106 (1161) Biology for Science Majors I Lab Fall, Sum
- Biol 1306 (1361) Biology for Science Majors I Fall, Sum
- Biol 1107 (1162) Biology for Science Majors II Lab Spring, Sum
- Biol 1307 (1362) Biology for Science Majors II Spring, Sum
- Biol 3301 Genetics Fall, Spring
- Biol 3306 Evolutionary Biology Fall, Spring
- Biol 3311 Genetics Laboratory (WID) Fall, Spring
- Biol 3324 Human Physiology Fall, Spring
- Biol 4374 Cell Biology Fall, Spring

## Biochemistry (3 Hours)
- BCHS 3304 General Biochemistry I Fall, Spring

## Interdisciplinary Courses (6 Hours)
- Biol/Math 4309 Mathematical Biology Spring
- Biol/Math 4310 Biostatistics Fall

## Core (Check UH Catalog or UH Core Website for Pre-Requisites)

### Communication (6 Hours)
- ENGL 1303 First Year Writing I
- ENGL 1304 First Year Writing II

### State Requirements (12 Hours)
- American History (3 Hours)
- American History (3 Hours)
- Govt 2305 (POLS 1337) U.S. Government: Congress, President, and Court
- Govt 2306 (POLS 1338) U.S. and Texas Constitutions and Politics

### From Approved Core List (12 Hours)
- Creative Arts (3 Hours)
- Language, Philosophy & Culture (3 Hours)
- Social & Behavioral Sciences (3 Hours)
- Writing in the Disciplines (3 Hours)

### Examples of 4000-Level Math Electives
- F Math 4320 Introduction to Stochastic Processes
- F Math 4322 Introduction to Data Science and Machine Learning
- F Math 4323 Data Science and Statistical Learning
- F Math 4331 Introduction to Real Analysis
- F Math 4335 Partial Differential Equations
- F Math 4339 Multivariate Statistics
- S Math 4350 Differential Geometry
- **Math 4362 Theory of Ordinary Differential Equations
- F Math 4364 Numerical Analysis
- S Math 4380 Mathematical Introduction to Options

### Chemistry (12 Hours)
- Chem 1111 (1111) Fundamentals of Chemistry I Lab
- Chem 1311 (1331) Fundamentals of Chemistry I
- Chem 1112 (1112) Fundamentals of Chemistry II Lab
- Chem 1312 (1332) Fundamentals of Chemistry II
- Chem 2123 (3221) Organic Chemistry I Lab
- Chem 2323 (3331) Organic Chemistry I

### University Physics (8 Hours)
- Phys 2125 (1121) University Physics Lab I
- Phys 2325 (1321) University Physics I
- Phys 2126 (1122) University Physics Lab II
- Phys 2326 (1322) University Physics II

### Free Electives
- (Additional hours to complete a total of 120 hours and 36 advanced hours as needed)

### Rules You Need to Know:

1. Minimum of a 2.00 GPA in cumulative, major, and minor GPA to graduate
2. Pre-Req Rule: Must earn C- or better in pre-requisite for Math and Biol courses
3. C-Rule: Maximum of 6 hours of grades below C- allowed in UH Math and Biol courses
4. Last 30 hours must be exclusively completed at UH
5. Maximum of 6 W's allowed during entire undergraduate career
6. Maximum of 5 W's allowed during entire undergraduate career
7. Maximum of 36 advanced hours and 120 total hours to graduate

### NSM Capstone:

By virtue of the interdisciplinary nature of the program, students who complete the requirements for the B.S. degree in Mathematical Biology have satisfied the NSM Capstone.

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Note: Students who plan to apply for medical school should include Chem 2325 and Chem 2125 in their free elective hours.