

Name:

Date:

PeopleSoft ID:

# Checklist for BS in Mathematics - Data Science Option

Tr	UH	<b>MATHEMATICS (46 Hours; MUST have 30 advanced hours):</b>	
		MATH 2413	Calculus I Fall, Spring, Sum
		MATH 2414	Calculus II Fall, Spring, Sum
		MATH 2415	Calculus III Fall, Spring, Sum
		MATH 2131	Linear Algebra Lab Fall, Spring, Sum
		MATH 2318	Linear Algebra Fall, Spring, Sum
		MATH 3325	Transition to Advanced Mathematics Fall, Spring, Sum
		MATH 3331	Differential Equations Fall, Spring, Sum
		MATH 3333	Intermediate Analysis Fall, Spring, Sum
		MATH 3338	Probability Fall, Spring, Sum
		MATH 3349	Inferential Statistics
		MATH 4389	Survey of Undergraduate Mathematics Fall, Spring, Sum
		MATH 3	3 hours APPROVED advanced MATH elective *
		MATH 43	3 hours 4000-level MATH elective **

<b>*Elective Must Come From List Below:</b>	
<b>(Check Catalog for Pre-Requisites)</b>	
MATH 3330	Abstract Algebra
MATH 3334	Advanced Multivariable & Vector Calculus
MATH 4315	Graph Theory with Applications
MATH 4320	Introduction to Stochastic Processes
MATH 4331	Introduction to Real Analysis I
MATH 4335	Partial Differential Equations
MATH 4339	Multivariate Statistics
MATH 4364	Intro to Numerical Analysis in Scientific Computing
MATH 4366	Numerical Linear Algebra
MATH 4377	Advanced Linear Algebra I

Can be satisfied by any 4000-level MATH elective

<b>MATH SENIOR SEQUENCE (6 Hours):</b>	
	MATH 4322 Introduction to Data Science and Machine Learning
	MATH 4323 Data Science and Statistical Learning

<b>COMPUTER SCIENCE REQUIREMENTS (6 Hours):</b>	
	COSC 1336 Computer Science & Programming
	COSC 2306 Data Programming
	OR 2436 Programming and Data Structures

<b>NSM Natural Sciences (14 Hours):</b>	
	1 hr Natural Sciences Lab***
	1 hr Natural Sciences Lab***
	3 hours NSM Approved Natural Science***
	3 hours NSM Approved Natural Science***
	3 hours NSM Approved Natural Science
	3 hours NSM Approved Natural Science

\*\*\*Indicates ALL courses must be in the same subject and approved for NSM majors

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

Tr	UH	<b>COMMUNICATION (6 Hours):</b>
		ENGL 1301 First Year Writing I
		ENGL 1302 First Year Writing II

### STATE REQUIREMENTS (12 Hours):

		American History (3 Hours)
		American History (3 Hours)
		GOVT 2305 U.S. Government: Congress, President, and Court
		GOVT 2306 U.S. and Texas Constitutions and Politics

### FROM APPROVED CORE LIST (12 Hours): Choose from UH Core Website

		Language, Philosophy & Culture (3 Hours)
		Creative Arts (3 Hours)
		Social & Behavioral Sciences (3 Hours)
		Writing in the Disciplines (3 Hours)

Students are strongly encouraged to fulfill the NSM Capstone by completion of a minor in Computer Science or a minor in Data Science-Computer Science  
See Undergraduate Catalog for requirements.

### NSM CAPSTONE (Minimum 6 Advanced Hours):

- Must choose from one of the following:
- |  |  |
|--|--|
| <input type="checkbox"/> Minor         | <input type="checkbox"/> Senior Research Project |
| <input type="checkbox"/> Double Major  | <input type="checkbox"/> Senior Honors Thesis    |
| <input type="checkbox"/> Double Degree | <input type="checkbox"/> teachHouston            |

Tr	UH	

### FREE ELECTIVES

(Additional hours to complete a total of 120 hours.)

Tr	UH	Must complete at least 36 advanced hours)

## RULES YOU NEED TO KNOW:

- MINIMUM of a 2.00 GPA in cumulative, major, and minor GPA to graduate
- PRE-REQ RULE:** Must earn C- or better in pre-requisite for MATH courses
- C- RULE:** MAXIMUM of 6 hours of grades below C- allowed in MATH courses
- LAST 30 hours must be exclusively completed at UH
- MAXIMUM of 6 W's allowed during entire undergraduate career
- MINIMUM of 36 advanced hours and 120 total hours to graduate
- MAXIMUM of 66 lower level transfer hours may be applied towards UH degree