MARYVILLE UNIVERSITY

MATHEMATICAL SCIENCE

Minimum of **120** credit hours required for a Bachelor of Arts degree.
Last **30** credit hours must be from Maryville University

NAME: _____ **REVIEWER:** _____ **DATE:** _____

I. MCORE (36 Hours)	Credits	SEM/YR	Grade	Notes
A. Social Discovery (6)				
CORE 101: Discovering Community	3			
Student Choice	3			
CORE 401: Senior Capstone				In Major: DSCI 498
B. Civic Discovery (6)				
CORE 201: Discovering the Nation	3			
Student Choice	3			
C. Cultural Discovery (6)				
CORE 301: Discovering the World	3			
Student Choice	3			
D. Creative Discovery (9)				
COMP 104: Writing Across the Disciplines II	3			
Student Choice	3			
Student Choice	3			
F. Scientific Discovery (9)				
MATH 102: Everyday Data	3			
Student Choice	3			
Student Choice	3			
II. Major Requirements (84 Hours)	**Credits**	**SEM/YR**	**Grade**	**Notes**
A. Other (14 hours)				
COMP 101 Writing Across the Disciplines I	3			
COMM 110 Public Speaking	3			
MATH 151 Calculus I	4			
MATH 152 Calculus II	4			
B. Math Core (37 hours)				
MATH 251 Calculus III	4			
MATH 300 Algebraic Structure and Proofs	3			
MATH 312 Number Theory with Applications	3			
MATH 316 Applied Linear Algebra	3			
MATH 320 Applied Differential Equations	3			
MATH 370 Probability I	3			
MATH 371 Probability II	3			
MATH 372 Mathematical Statistics	3			
MATH 430 Fundamental Analysis	3			
MATH 460 Optimization	3			
MATH 470 Introduction to Abstract Algebra	3			
DSCI 498 Capstone Project	3			Senior Capstone
C. Data Science Minor Required (18 hours from DSCI)				
DSCI 200 Foundations of Data Science	3			
DSCI 201 Math Modeling -Excel	3			
DSCI 302 Introduction to R	3			
DSCI 303 Introduction to Python	3			
DSCI 304 Introduction to SQL	3			
DSCI 408 Machine Learning	3			
D. Elective from MATH, ACSC, COSC, and DSCI (15 hours)	**15**			
Degree Total	**120**			

SAMPLE COURSE PLAN

This is an example of the sequence of course work to complete this major.

Fall of Freshman Year	Credits	Spring of Freshman Year	Credits
CORE 101: Discovering Community	3	CORE 201: Discovering the Nation	3
COMP 101 Writing Across the Disciplines I	3	COMP 104: Writing Across the Disciplines II	3
MATH 102 Everyday Data	3	MATH 152 Calculus II	4
DSCI 200 Foundations of Data Science	3	DSCI 304 Introduction to SQL	3
MATH 151 Calculus I	4	DSCI 201 Math Modeling-Excel	3
Total	**16**	**Total**	**16**
Fall of Sophomore Year	**Credits**	**Spring of Sophomore Year**	**Credits**
CORE 301: Discovering the World	3	MATH 371 Probability II	3
MATH 370 Probability I	3	DSCI 303 Introduction to Python	3
MATH 251 Calculus III	4	MATH 300 Algebraic Structure and Proofs	3
COMM 110: Public Speaking	3	MATH 316 Applied Linear Algebra	3
MCORE Elective	3	MCORE Elective	3
Total	**16**	**Total**	**15**
Fall of Junior Year	**Credits**	**Spring of Junior Year**	**Credits**
MATH 372 Mathematical Statistics	3	MATH 320 Applied Differential Equations	3
DSCI 302 Introduction to R	3	DSCI 408 Machine Learning	3
MATH 312 Number Theory with Applications	3	MCORE Elective	3
MCORE Elective	3	MCORE Elective	3
Elective from ACSC, COSC, DSCI, and MATH	3	Elective from ACSC, COSC, DSCI, and MATH	3
Total	**15**	**Total**	**15**
Fall of Senior Year	**Credits**	**Spring of Senior Year**	**Credits**
MATH 460 Optimization	3	CORE 401: DSCI 498 Capstone Project	3
MATH 470 Introduction to Abstract Algebra	3	MATH 430 Fundamental Analysis	3
MCORE Elective	3	MCORE Elective	3
Elective from ACSC, COSC, DSCI, and MATH	3	Elective from ACSC, COSC, DSCI, and MATH	3
Elective from ACSC, COSC, DSCI, and MATH	3		
Total	**15**	**Total**	**12**

Notes:

Students enrolled in the B.S. in Mathematical Science program must complete 18 credit hours of Data Science courses to automatically earn a Minor in Data Science. Recommended courses include: DSCI 200, 201, 302, 303, 304, and 408.

- Students must also complete 18 credit hours of electives chosen from MATH, DSCI, COSC, and ACSC courses. Recommended electives include MATH 311, 330, 405, DSCI 307, 314, 318, 412, 417, 419, COSC 140, 150, 151, 170, 220, 350, 435, 440, 441, 445.
- Students who qualify for Early Access programs are encouraged to consider enrolling in Early Access M.S. in Artificial Intelligence, Data Science, and Actuarial Science.
- Bachelor's + Post-Bachelor Certificates (15 credits): Fundamentals of AI, Machine Learning, Big Data, Advanced AI.

Revised: July 14, 2025