



**B.S. in Mathematics**  
**Applied Mathematics**  
**MATHBS-MATHAPPL.2018**  
**48-51 credits**

Effective Date: 9/2018

<b>Name of Student:</b>		
<b>Student ID #:</b>		Graduation Date
<b>Home Country:</b>	<input type="checkbox"/> IWORK	
<b>Advisor:</b>	Name	Date

The Applied Mathematics track prepares students for careers in government service, industry, areas of research, or gradated study in other fields other than pure mathematics.

<b>Core Requirements</b>						<b>27 Credits</b>
<i>Course #</i>	<i>Title</i>	<i>Hr.</i>	<i>Prerequisites</i>	<i>Offered</i>	<i>Sem.</i>	<i>Grade</i>
MATH 121	Principles of Statistics	3	MATH 107 or 110	F,W,S		
MATH 212	Calculus I	5		F,W,S		
MATH 213	Calculus II	5	MATH 212	F,W		
MATH 214	Multivariable Calculus	5	MATH 213	W,S		
MATH 301	Foundations of Mathematics	3	MATH 212	F-even, W-even, S-odd		
MATH 334	Differential Equations	3	MATH 214	W-even, S-odd		
MATH 343	Elementary Linear Algebra	3	MATH 212	F-odd, W-odd, S-even		
<b>Applied Cluster (Each student will take a set of courses from one of the following clusters)</b>						<b>12-15 Credits</b>
<b>Physics Cluster (mrs 1487)</b>						
PHYS 121/L	General Physics I/Lab	4	MATH 212 and either High School Trigonometry or MATH 111	F,W		
PHYS 220/L	General Physics II/Lab	4	PHYS 121 and completion of MATH 213 recommended	F,W		
PHYS 221/L	General Physics III/Lab	4	PHYS 121 and completion of MATH 213 recommended	S		
<b>Statistics Cluster (mrs 1485)</b>						
MATH 421	Mathematical Statistics	3	MATH 214	F		
PSYC 205	Applied Social Statistics	3	PSYC 111 and MATH 107 or MATH 110 or equivalent	F,W		
PSYC 405	Multivariate Statistics	3	PSYC 205 or Permission of Instructor	Variable		
Course approved by Mathematics Department		3	Based on the selected course, all prerequisites in catalog must be met	Variable		
<b>Biology Cluster (mrs 1486)</b>						
MATH 421	Mathematical Statistics	3	MATH 214	F		
BIOL 112	Biology I-Cell and Molecular Biology	3		F,W,S		
BIOL 340	Biostatistics	3	BIOL 113, CHEM 105/L	S		
BIOL 376	Genetics	3	BIOL 113, CHEM 105/L	F,W		
<b>Computer Science Cluster (mrs 1488)</b>						
(MATH 311**)	Introduction to Numerical Methods	3	MATH 213	Variable		
CIS 202	Object-Oriented Programming I	3	CIS 101	F,W,S		
CS 203	Object-Oriented Programming II	3	CIS 202	F		
CS 301	Algorithms and Complexity	3	CS 203 and CIS 206	W		
CS 320	Introduction to Computational Theory	3	CS 203 and CIS 206	W		
<b>Pre-Engineering Cluster – Choose 2 Physics courses plus the others (mrs 1484)</b>						
PHYS 121	General Physics I	3	MATH 212 and either High School Trigonometry or MATH 111	F,W		
PHYS 220	General Physics II	3	PHYS 121/L. Completion of MATH 213 recommended	F,W		
PHYS 221	General Physics III	3	PHYS 121. Completion of MATH 213 recommended	S		
MATH 311**	Introduction to Numerical Analysis	3	MATH 213	Variable		
CIS 202	Object-Oriented Programming I	3	CIS 101	F,W,S		
CS 203	Object-Oriented Programming II	3	CIS 202	F		
<b>Math Cluster (mrs 1489)</b>						
MATH 111	Trigonometry and Analytic Geometry	3	Recommended MATH 110 or proficiency	F,W,S		
MATH 302	Foundations of Geometry	3	MATH 212	F-odd		
MATH 308	Mathematics Using Technologies	3	MATH 121, 212	S-even		
MATH 377	Secondary Mathematics Teaching Methods	2	MATH 212	F-even		
MATH 490R	Mathematics Seminar	2		S		
4 classes	Subjects in which math is applied as approved by the math department chair	12	Variable	Variable		



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**Advanced Math Electives (Choose 9 more credits from the following) Minimum 9 Credits**  
 (Other courses may be approved by Math Department Chair)

MATH 311	Introduction to Numerical Methods	3	MATH 213	Variable		
MATH 332	Introduction to Complex Variables	3	MATH 214	W-odd, S-even		
MATH 421	Mathematical Statistics	3	MATH 214	F		
MATH 441	Introduction to Analysis I	3	MATH 214	F		
MATH 442	Introduction to Analysis II	3	MATH 441	W		
MATH 471	Abstract Algebra I	3	MATH 301	F		
MATH 472	Abstract Algebra II	3	MATH 471	W		
MATH 490R	Mathematics Seminar	2		S		

**\*\*MATH 311 is required for the Advanced Math Elective for the CS Cluster and the Pre-Engineering Cluster**

\*\*\*Must have a minimum of 2.0 cumulative GPA in these courses for graduation.

No more than one "D" grade will be allowed in any 300/400 level courses.