

College of Science, Department of Mathematics  
Bachelor of Science in Mathematics, **Applied Computational Mathematics Option**  
For students graduating in calendar year **2021**

**I. Curriculum for Liberal Education (CLE) Requirements (38 credits)**

**Area 1: Writing and Discourse (6 credits).**

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**Area 2: Ideas, Cultural Traditions, and Values (6 credits).**

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**Area 3: Society and Human Behavior (6 credits).**

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**Area 4: Scientific Reasoning and Discovery (6 credits).**

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**Area 5: Quantitative and Symbolic Reasoning (8 credits).**

MATH 1225 Calculus of a Single Variable	4	
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MATH 1226 Calculus of a Single Variable	4	
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**Area 6: Creativity and Aesthetic Experience (3 credits)**

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**Area 7: Critical Issues in a Global Context (3 credits).**

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**II. Mathematics Bachelor of Science Core Courses (21 credits)**

MATH 2114: Introduction to Linear Algebra*	3	
MATH 2204: Introduction to Multivariable Calculus*	3	
MATH 2214: Introduction to Differential Equations*	3	
MATH 3034: Introduction to Proofs*	3	
MATH 3144: Linear Algebra I*	3	
MATH 3224: Advanced Calculus*	3	
Computer Programming (MATH 1454* or 3054* or CS 1044 or 1114)	3	

**III. Required Courses Specific to the Applied Computational Mathematics Option (18 credits)**

MATH 3214: Calculus of Several Variables*	3		
MATH 4425-4426: Fourier Series and Partial Differential Equations*	3		3
MATH 4445, 4446: Introduction to Numerical Analysis*	3		3
MATH 4414 (CS 4414): Issues in Scientific Computing*	3		

\*Some courses listed on this checksheet may have prerequisites and/or corequisites; please consult the University Course Catalog or check with your advisor.

#### IV. Restricted Electives (18 credits)

##### Mathematics Electives

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The six credits of math electives must be chosen from the Mathematics courses numbered between 4024 and 4454, with the following exceptions: (a) MATH 3124 can be used to satisfy three of the six credits. (b) No more than three credits from MATH 4044, 4334, 4344 can be used.

**Applied Area Courses** (12 Credits. Chosen by student and advisor to reach career goals. Must be approved by the Undergraduate Program Committee)

	3				3	
	3				3	

#### V. Free Electives (Sufficient to achieve 120 credit graduation requirement)


#### VI. Outcomes Assessment

Each student is required to participate in the department's Outcomes Assessment procedures as determined by each year's Undergraduate Program Committee and approved by the Head.

#### VII. Minimum Credits, GPA, and In-major GPA Required for Graduation

At least 120 credits required. Students are required to have at least a 2.0 GPA and a 2.0 in-major GPA for Graduation. In-major GPA for this option is computed using all MATH courses with the exception of MATH 1014, 1015, 1016, 1025, 1026, 1524, 1525, 1526, 1535, 1536, 1614, 1624, 2015, 2016, 2024, 2025, 2025, 2534, 2644, 3624, 4574, 4625, 4626, 4644, 4654, 4664.

#### VIII. Foreign Language Requirement

Students who did not successfully complete at least two years of a single foreign, classical, or sign language during high school must successfully complete six credits of a single foreign, classical, or sign language at the college level. Courses taken to meet this requirement do not count toward the credits required for graduation. Please consult the Undergraduate Catalog for details.

#### IX. Satisfactory Progress to Degree

Upon having attempted 36 semester credits, the student must have completed 12 credits of the University Curriculum for Liberal Education. Upon having attempted 72 credits (including transfer, advanced placement, advanced standing, credit by examination and course withdrawal), the student must have completed 24 credits of the University Curriculum for Liberal Education. In addition, satisfactory progress toward the B.S. in Mathematics requires that:

1. Within the previous two semesters, the student must pass at least one mathematics course that is used in the in-major GPA calculation.
2. Upon having attempted 45 semester credits, students must have an in-major GPA of 2.2 or above.
3. Upon having attempted 72 semester credits (including transfer, advanced placement, advanced standing, credit by examination, course withdrawal), students must have completed the following courses with grades of C- or better: Math 1225, 1226, 2114, 2204, 2214, and 3034, and not have taken any of these courses more than twice, including attempts ending in course withdrawal.

\*Some courses listed on this checksheet may have prerequisites and/or corequisites; please consult the University Course Catalog or check with your advisor.