











2024 - 2025 Major Map

Applied Mathematics, BS

School/College: College of Integrative Sciences and Arts
LSMATBS

Term 1 0 - 13 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 ENG 101 or ENG 102: First-Year Composition OR  ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	<ul style="list-style-type: none"> ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students Select your Career Interest Communities and play me3@ASU.
MAT 265: Calculus for Engineers I (MATH OR MA) OR MAT 270: Calculus with Analytic Geometry I (MATH OR MA)	3-4	C	
ASU 101-CLS: The ASU Experience	1		
Humanities, Arts and Design (HUAD)	3		
Social and Behavioral Sciences (SOBE)	3		
Term hours subtotal:	13-14		
Term 2 13 - 29 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 181: General Biology I (SCIT OR SQ) OR CHM 113: General Chemistry I (SCIT OR SQ) OR CHM 114: General Chemistry for Engineers (SCIT OR SQ) OR PHY 121: University Physics I: Mechanics (SCIT OR SQ) AND PHY 122: University Physics Laboratory I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Students will choose one of the following science course sequences to complete: BIO 181 and BIO 182 OR CHM 113 and CHM 116 OR CHM 114 and CHM 116 OR PHY 121/122 and PHY 131/132. Join a student club or professional organization.
 ENG 101 or ENG 102: First-Year Composition OR  ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition	3	C	
MAT 266: Calculus for Engineers II (MATH OR MA) OR MAT 271: Calculus with Analytic Geometry II (MATH OR MA)	3-4	C	
Complete 2 courses: Elective	6		
Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	16-17		
Term 3 29 - 45 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 182: General Biology II (SCIT OR SG) OR CHM 116: General Chemistry II (SCIT OR SQ) OR PHY 131: University Physics II: Electricity and Magnetism (SCIT OR SQ) AND PHY 132: University Physics Laboratory II (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Students will choose one of the following science course sequences to complete: BIO 181 and BIO 182 OR CHM 113 and CHM 116 OR CHM 114 and CHM 116 OR PHY 121/122 and PHY 131/132. Secure a part-time job or volunteer experience.
MAT 267: Calculus for Engineers III (MATH OR MA) OR MAT 272: Calculus with Analytic Geometry III (MATH OR MA)	3-4	C	
Global Communities, Societies and Individuals (GCSI)	3		
Humanities, Arts and Design (HUAD)	3		
Elective	3		
Complete Mathematics (MATH) requirement.			
Term hours subtotal:	16-17		
Term 4 45 - 60 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes

📌 MAT 243: Discrete Mathematical Structures	3	C
📌 MAT 275: Modern Differential Equations (MATH OR MA)	3	C
Governance and Civic Engagement (CIVI)	3	
Sustainability (SUST)	3	
Elective	3	
Term hours subtotal:	15	

- PHY 201 is encouraged as an elective.

Term 5 60 - 75 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ MAT 343: Applied Linear Algebra	3	C	
★ STP 420: Introductory Applied Statistics (QTRS OR CS)	3	C	
Upper Division STEM Elective	3	C	
Complete 2 courses:	6		
Upper Division Elective			
Term hours subtotal:	15		

- Upper Division STEM Electives should be selected in consultation with a College of Integrative Sciences and Arts academic advisor.
- Connect with faculty to seek opportunities for research.

Term 6 75 - 90 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Complete 2 courses:			
Upper Division Applied Mathematics Elective	6	C	
Upper Division STEM Elective	3	C	
Complete 2 courses:	6		
Elective			
Term hours subtotal:	15		

- Use Handshake to research employment opportunities.
- Upper Division STEM Electives should be selected in consultation with a College of Integrative Sciences and Arts academic advisor.

Term 7 90 - 105 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division Applied Mathematics Elective	3	C	
MAT 484: Internship OR Upper Division Elective	3		
MAT 495: Undergraduate Research OR MAT 4** Elective OR STP 4** Elective	3	C	
Upper Division STEM Elective	3	C	
American Institutions (AMIT)	3		
Term hours subtotal:	15		

- Upper Division STEM Electives should be selected in consultation with a College of Integrative Sciences and Arts academic advisor.
- Gather professional references.
- Apply for full-time career opportunities.

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division Applied Mathematics Elective	3	C	
Complete 2 courses:	6		
Upper Division Elective			
Complete 2 courses:	6		
Elective			
Term hours subtotal:	15		

- Upper Division STEM Electives should be selected in consultation with a College of Integrative Sciences and Arts advisor. Credit may not come from STP 420.
- Students must complete a minimum of 12 credit hours of MAT courses offered by the College of Integrative Sciences and Arts. Six of these 12 credits must be upper division.

Hide Course List(s)/Track Group(s)

Upper Division STEM Electives

Upper Division Applied Mathematics Electives	ABS Upper Division Elective
	BIO Upper Division Elective
MAT 300: Mathematical Structures (L)	CHM Upper Division Elective
MAT 310: Introduction to Geometry	CSE Upper Division Elective
MAT 350: Techniques and Applications of Applied Mathematics	EGR Upper Division Elective
MAT 394: Special Topics	ERM Upper Division Elective
MAT 450: Mathematical Models in Biology	GIT Upper Division Elective
MAT 452: Introduction to Chaos and Nonlinear Dynamics	HSE Upper Division Elective
MAT 462: Applied Partial Differential Equations	IFT Upper Division Elective
MAT 494: Special Topics	PHY Upper Division Elective
MAT 499: Individualized Instruction	SER Upper Division Elective
	STP Upper Division Elective
PHY 302: Mathematical Methods in Physics II	
STP 421: Probability	

- **Total Hours:** 120
- **Upper Division Hours:** 45 minimum
- **University Undergraduate Graduation Requirements**

Notes:

Mathematics Placement Assessment score determines placement in first mathematics course.

General Studies designations listed next to courses on the major map were valid for the 2024 - 2025 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.