













2024 - 2025 Major Map

Pharmacology and Toxicology, BS

School/College: New College of Interdisciplinary Arts and Sciences
ASPTXBS

Term 1 0 - 15 Credit Hours Critical course signified by ⚠	Hours	Minimum Grade	Notes
⚠ BIO 181: General Biology I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> MAT 210 or higher-level (MATH) course accepted. MAT 251 recommended. Students considering graduate school or research may consider the MAT 270 and MAT 271 calculus sequence as an alternative. This may require more than 120 credit hours to complete the degree. ASU 101 or college-specific First-Year Seminar required of all first-year students. NEW 101 satisfies this requirement. IAS 300 (three credit hours) is required for all transfer students in New College. Select your Career Interest Community and play me3@ASU. Activate your Handshake account and build out your profile.
⚠ MAT 210: Brief Calculus (MATH OR MA) OR MAT 251: Calculus for Life Sciences (MATH OR MA)	3	C	
CHM 113: General Chemistry I (SCIT OR SQ)	4	C	
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	
NEW 101: The ASU New College Experience OR IAS 300: Career Strategies and Personal Resilience (L or SB)	1-3		
Term hours subtotal:	15-17		
Term 2 15 - 30 Credit Hours Critical course signified by ⚠	Hours	Minimum Grade	Notes
⚠ BIO 182: General Biology II (SCIT OR SG)	4	C	<ul style="list-style-type: none"> Create a first draft resume. Join a student club or professional organization. Secure a part-time job or volunteer experience.
CHM 116: General Chemistry II (SCIT OR SQ)	4	C	
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	
STP 226: Elements of Statistics (QTRS OR CS)	3	C	
Elective	1		
⚠ Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	15		
Term 3 30 - 45 Credit Hours Critical course signified by ⚠	Hours	Minimum Grade	Notes
⚠ PHY 111: General Physics (SCIT OR SQ) AND PHY 113: General Physics Laboratory (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Develop your research skills. Develop your professional skills. Interested in pre-professional pathways? Explore our pre-health and pre-law websites.
BIO 201: Human Anatomy and Physiology I (SCIT OR SG)	4	C	
CHM 233: General Organic Chemistry I AND CHM 237: General Organic Chemistry Laboratory I	4	C	
Social and Behavioral Sciences (SOBE)	3		
⚠ Complete CHM 113 AND CHM 116 course(s).			
⚠ Complete First-Year Composition requirement.			
Complete Mathematics (MATH) requirement.			
Term hours subtotal:	15		

Term 4 45 - 60 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 PHY 112: General Physics (SCIT OR SQ) AND PHY 114: General Physics Laboratory (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Explore an internship, an IGLE international experience, or ASU Study Abroad.
BIO 202: Human Anatomy and Physiology II (SCIT OR SG)	4	C	
CHM 234: General Organic Chemistry II AND CHM 238: General Organic Chemistry Laboratory II	4	C	
Humanities, Arts and Design (HUAD)	3		
Term hours subtotal:	15		
Term 5 60 - 76 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 LSC 347: Fundamentals of Genetics AND LSC 348: Fundamentals of Genetics Laboratory	4	C	<ul style="list-style-type: none"> Thinking about graduate school? Consider registering for a grad school test prep course and explore accelerated master's degrees. Develop your professional online presence.
 PTX 301: Basics of Pharmacology and Toxicology	3	C	
Global Communities, Societies and Individuals (GCSI)	3		
Humanities, Arts and Design (HUAD)	3		
Upper Division Elective	3		
Term hours subtotal:	16		
Term 6 76 - 89 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 BIO 353: Cell Biology AND BIO 354: Cell Biology Laboratory	4	C	<ul style="list-style-type: none"> A total of four credit hours of PTX 499 may be applied to the Upper Division Pharmacology/Toxicology Elective requirement. A total of three credit hours of PTX 484 or PTX 493 may be applied to the Upper Division Pharmacology/Toxicology Elective requirement. Use Handshake to research employment opportunities. Complete an in person or virtual practice interview.
Upper Division Pharmacology and Toxicology Elective	3-5	C	
Governance and Civic Engagement (CIVI)	3		
Sustainability (SUST)	3		
Term hours subtotal:	13-15		
Term 7 89 - 106 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 BCH 371: Modern Concepts in Biochemistry AND BCH 372: Modern Concepts in Biochemistry Laboratory or PTX 372: Modern Biochemical Methods	4	C	<ul style="list-style-type: none"> A total of four credit hours of PTX 499 may be applied to the Upper Division Pharmacology/Toxicology Elective requirement. A total of three credit hours of PTX 484 or PTX 493 may be applied to the Upper Division Pharmacology/Toxicology Elective requirement. Gather professional references. General elective credit hours will be adjusted depending on the Pharmacology/Toxicology electives selected. Discuss with your advisor.
 PTX 432: Fundamentals of Pharmacology	3	C	
Upper Division Global and Civic Engagement Requirement: satisfied through completion of 6 credits of upper-division courses with a Global Communities, Societies and Individuals (GCSI) or Governance and Civic Engagement (CIVI) designation, in addition to the courses used to meet the university General Studies requirements; or completion of 3 credits from an ASU-approved Global Education program. Adjustment to upper-division and elective hours is required if a lower-division Global Education course is used.	3	C	
Upper Division Pharmacology and Toxicology Elective	4	C	
Upper Division Elective	3-0		
Term hours subtotal:	17-14		
Term 8 106 - 120 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 PTX 450: Pharmacology and Toxicology Laboratory	1	C	<ul style="list-style-type: none"> General elective credit hours will be adjusted depending on the
PTX 475: Principles of Toxicology	3	C	

Upper Division Global and Civic Engagement Requirement: satisfied through completion of 6 credits of upper-division courses with a Global Communities, Societies and Individuals (GCSI) or Governance and Civic Engagement (CIVI) designation, in addition to the courses used to meet the university General Studies requirements; or completion of 3 credits from an ASU-approved Global Education program. Adjustment to upper-division and elective hours is required if a lower-division Global Education course is used.

3

C

American Institutions (AMIT)

3

Upper Division Elective

4

Term hours subtotal: 14

Pharmacology/Toxicology electives selected. Discuss with your advisor.

- Apply for **full-time career opportunities**.

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

Upper Division Pharmacology and Toxicology Elective

BIO 439: Computing for Research

CHM 302: Environmental Chemistry

CHM 435: Medicinal Chemistry

COM 415: Risk Communication

FOR 401: Forensic Toxicology

FOR 425: Analytical Chemistry for Life Sciences

FOR 426: Analytical Chemistry for Life Sciences Lab

LSC 430: Environmental and Human Toxicology

MIC 443: The Microbial Universe AND
MIC 444: The Microbial Universe
Laboratory

PSY 325: Physiological Psychology or PTX
325: Physiological Psychology

PSY 470: Psychopharmacology

PTX 388: STEM Research Fundamentals

PTX 484: Internship or PTX 493: Honors
Thesis (L)

PTX 494: Mechanisms of Pathophysiology
and Disease States

PTX 499: Individualized Instruction

- **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.