2015 - 2016 Major Map
Biomedical Informatics and Data Science, BS

School/College: College of Health Solutions
ESBMIBS

This program's name has changed effective Fall 2025. The previous name was Biomedical Informatics.

Term 1 0 - 13 Credit Hours Critical course signified by ⬥	Hours	Minimum Grade	Notes
⬥ MAT 251: Calculus for Life Sciences (MA)	3	C	• An SAT, ACT, Accuplacer, or TOEFL score determines placement into first-year composition courses • ASU Mathematics Placement Test score determines placement in Mathematics course • ASU 101 or College specific equivalent First Year Seminar required of all freshman students
ASU 101: The ASU Experience	1		
BMI 101: Introduction to Bioinformatics	3	B	
ENG 101: First-Year Composition or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107: First-Year Composition or ENG 108: First-Year Composition	3	C	
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	13		

Term 2 13 - 30 Credit Hours Critical course signified by ⬥	Hours	Minimum Grade	Notes
⬥ BIO 181: General Biology I (SQ) OR BIO 182: General Biology II (SG)	4	B-	
⬥ CSE 110: Principles of Programming with Java (CS)	3	B-	
BMI 102: Introduction to Public Health/Imaging Informatics	3	B	
CHM 113: General Chemistry I (SQ)	4	C	
ENG 101: First-Year Composition or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107: First-Year Composition or ENG 108: First-Year Composition	3	C	
⬥ Complete BMI 101 course(s).			
⬥ Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	17		

Term 3 30 - 46 Credit Hours Critical course signified by ⬥	Hours	Minimum Grade	Notes
⬥ BIO 181: General Biology I (SQ) OR BIO 182: General Biology II (SG)	4	B-	

		Hours	Minimum Grade	Notes
⬥	CSE 205: Object-Oriented Programming and Data Structures (CS)	3	C	
⬥	MAT 243: Discrete Mathematical Structures	3	C	
	BMI 201: Introduction to Clinical Informatics	3	B-	
	STP 226: Elements of Statistics (CS)	3	C	
	Complete Mathematics (MA) requirement.			
	Term hours subtotal:	16		

Term 4 46 - 61 Credit Hours Critical course signified by ⬥		Hours	Minimum Grade	Notes
⬥	BMI 211: Modeling Biomedical Decisions	3	B-	
⬥	BMI 221: Knowledge Representation for Biomedical Informatics	3	B-	
⬥	CSE 240: Introduction to Programming Languages	3	C	
	Humanities, Arts and Design (HU) AND Historical Awareness (H)	3		
	Social-Behavioral Sciences (SB) AND Global Awareness (G)	3		
⬥	Complete BMI 102 AND BMI 201 course(s).			
	Term hours subtotal:	15		

Term 5 61 - 77 Credit Hours Necessary course signified by ⭐		Hours	Minimum Grade	Notes
⭐	BIO 340: General Genetics	4	B-	
⭐	BMI 301: Clinical Environments	3	C	
⭐	CSE 310: Data Structures and Algorithms	3	C	
	BMI 311: Modeling Biomedical Knowledge	3	C	
	BMI 332: Team Dynamics for Healthcare IT Projects	3	C	
	Term hours subtotal:	16		

Term 6 77 - 92 Credit Hours Necessary course signified by ⭐		Hours	Minimum Grade	Notes
⭐	BMI 312: Modeling Biomedical Data	3	C	
⭐	CSE 412: Database Management	3	C	
	BMI 330: Topics in Translational Bioinformatics	3	C	
	CSE 360: Introduction to Software Engineering	3	C	
	Humanities, Arts and Design (HU)	3		
	Term hours subtotal:	15		

Term 7 92 - 107 Credit Hours Necessary course signified by ⭐	Hours	Minimum Grade	Notes
⭐ BMI 461: Advanced Topics in Biomedical Informatics I	3	C	
⭐ BMI 482: Capstone I (L)	3	C	
BMI 484: Internship	3	C	
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
Elective	3		
Term hours subtotal:	15		

Term 8 107 - 120 Credit Hours Necessary course signified by ⭐	Hours	Minimum Grade	Notes
⭐ BMI 462: Advanced Topics In Biomedical Informatics II	3	C	
⭐ BMI 483: Capstone II (L)	3	C	
Upper Division Technical Elective	3	C	
Elective	4		
Term hours subtotal:	13		

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

Technical Elective

BIO 355: Introduction to Computational Molecular Biology (CS) or MBB 355: Introduction to Computational Molecular Biology (CS)

BIO 455: Introduction to Comparative Genomics or BMI 465: Introduction to Comparative Genomics

BIO 456: Bioinformatics and Molecular Evolution or BMI 466: Bioinformatics and Molecular Evolution

STP 420: Introductory Applied Statistics (CS)

Total Hours: 120
Upper Division Hours: 45 minimum
Major GPA: 2.00 minimum
Cumulative GPA: 2.00 minimum
Total hrs at ASU: 30 minimum
Hrs Resident Credit for
Academic Recognition: 56 minimum
Total Community College Hrs: 64 maximum

General University Requirements Legend

General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

> General Studies designations listed next to courses on the major map were valid for the 2015 - 2016 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.