Degree Worksheet for the College of Arts and Sciences: 2023-2024
B.S. APPLIED MATHEMATICS with Biochemistry Concentration

COLLEGE of ARTS & SCIENCES

Language Requirement

All students *who major in the College of Arts & Sciences are required to demonstrate competence in a second language. For complete details:* *https://www.gonzaga.edu/college-of-arts-sciences/about/information-for-students/language-requirement-information*

	Credits	Sem/Yr

UNIVERSITY CORE REQUIREMENTS:

▶ FUNDAMENTAL CORE COURSES

Year 1: Understanding & Creating

Writing	Credits	Sem/Yr
ENGL 101 Writing *(fulfills 3 credits Writing Enriched)**	**3**	
Reasoning		
PHIL 101 Reasoning	**3**	
First Year Seminar		
Dept. 193	**3**	
Communication & Speech		
COMM 100 Communication & Speech	**3**	
Math		
MATH *(must be above Math 100)*	**3**	
Scientific Inquiry (2cr + 1cr lab)		
BIOL or CHEM or PHYS 104/104L *(taken year 1 or 2)*	**3**	

Year 2: Being & Becoming

Christianity & Catholic Traditions	Credits	Sem/Yr
RELI *(see approved list)***	**3**	
Philosophy of Human Nature		
PHIL 201 Philosophy of Human Nature	**3**	

Year 3: Caring & Doing

World/Comparative Religion	Credits	Sem/Yr
RELI *(see approved list)** (fulfills 3cr Global Studies)**	**3**	
Ethics		
PHIL 301 Ethics **or** RELI 330 Principles-Christian Morality	**3**	

Year 4: Imagining the Possible

Core Integration Seminar	Credits	Sem/Yr
Dept. 432	**3**	

NOTE: some courses have pre-requisites, check the catalog carefully!

▶ BROADENING COURSES - *see approved list***

Social & Behavioral Science	Credits	Sem/Yr
	3	
Literature		
	3	
History		
	3	
Fine Arts & Design		
	3	

▶ REQUIRED COURSE DESIGNATIONS - *see approved list***

*Writing Enriched	Credits	Sem/Yr
	9 total	
Social Justice		
	3 total	
*Global Studies		
	6 total	

***for list of approved RELI, Broadening & Designated courses, see** : *https://my.gonzaga.edu/academics/undergraduate-programs/general-degree-requirements-procedures/university-core*

B.S. APPLIED MATHEMATICS: 67 CREDITS with Biochemistry Concentration

APPLIED MATHEMATICS — 34 Credits

LOWER DIVISION — ***18 Credits***

Course	Course Title	Credits	Grade
MATH 157	Calculus & Analytic Geometry I	4	
MATH 258	Calculus & Analytic Geometry II	4	
MATH 259	Calculus & Analytic Geometry III	4	
MATH 260	Ordinary Differential Equations	3	
CPSC 121	Computer Science I	3	

UPPER DIVISION

10 Credits

MATH 301	Fundamentals of Mathematics	3
MATH 350	Numerical Methods	3
MATH 413	Real Analysis I	3
MATH 496	Comprehensive-Applied Math	1

One of the following two courses: — ***3 Credits***

MATH 335	Applied Linear Algebra	3
MATH 339	Linear Algebra	3

One of the following two courses: — ***3 Credits***

MATH 321	Statistics for Experimentalists	3
MATH 422	Mathematical Statistics	3

If MATH 422 is chosen, then one MATH 400 level elective may be replaced by a MATH 300 level elective.

BIOCHEMISTRY CONCENTRATION — 33 Credits

21 Credits

CHEM 101/101L	General Chemistry/Lab	4
CHEM 230/230L	Organic Chemistry I/Lab	5
CHEM 231/231L	Organic Chemistry II/Lab	4
CHEM 245/245L	Biochemistry/Lab	4
CHEM 399	Advanced Topics	2
CHEM 407	Special Topics in Biochemistry	2

One of the following three courses: — ***3 Credits***

MATH 440	Foundations of Applied Math	3
MATH 454	Partial Differential Equations	3
MATH 462	Nonlinear Systems & Chaos	3

Applied Math Electives:

Select one 300-400 level Math elective: — ***3 Credits***

MATH		3

Select two 400-level Math electives: — ***6 Credits***

MATH		3
MATH		3

Cannot double-count with a required course.

Cannot use MATH 335, 339, 432, or 499 as MATH electives.

A maximum of three (3) total credits from the following may be counted toward Math electives: MATH 365 (may be taken for credit only once), MATH 390, MATH 490, MATH 497.