

College of Arts and Sciences 2024-2025 Degree Worksheet

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

	Credits	Sem/Yr
<i>Writing</i> ENGL 101 Writing (fulfills 3 credits Writing Enriched)*	3	

<i>Reasoning</i> PHIL 101 Reasoning	3	
--	---	--

<i>First Year Seminar</i> Dept. 193	3	
--	---	--

<i>Communication & Speech</i> COMM 100 Communication & Speech	3	
--	---	--

<i>Math</i> MATH (must be above Math 100)	3	
--	---	--

<i>Scientific Inquiry (2cr + 1cr lab)</i> BIOL or CHEM or PHYS 104/104L (taken year 1 or 2)	3	
--	---	--

Year 2: Being & Becoming

	Credits	Sem/Yr
<i>Christianity & Catholic Traditions</i> RELI (see approved list)**	3	

<i>Philosophy of Human Nature</i> PHIL 201 Philosophy of Human Nature	3	
--	---	--

Year 3: Caring & Doing

	Credits	Sem/Yr
<i>World/Comparative Religion</i> RELI (see approved list)** (fulfills 3cr Global Studies)*	3	

<i>Ethics</i> PHIL 301 Ethics or RELI 330 Principles-Christian Morality	3	
--	---	--

Year 4: Imagining the Possible

	Credits	Sem/Yr
<i>Core Integration Seminar</i> Dept. 432	3	

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

► BROADENING COURSES - see approved list**

	Credits	Sem/Yr
Social & Behavioral Science	3	

Literature	3	
------------	---	--

History	3	
---------	---	--

Fine Arts & Design	3	
--------------------	---	--

► REQUIRED COURSE DESIGNATIONS - see approved list**

	Credits	Sem/Yr
*Writing Enriched	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.