

College of Arts and Sciences 2025-2026 Degree Worksheet
B.S. APPLIED MATHEMATICS
with BIOCHEMISTRY and STATISTICS DOUBLE 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: 76 CREDITS
with BIOCHEMISTRY & STATISTICS DOUBLE CONC.

APPLIED MATHEMATICS 34 Credits

LOWER DIVISION

Course	Course Title	Credits
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

Course	Course Title	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:

Course	Course Title	Credits
MATH 335	Applied Linear Algebra	3
MATH 339	Linear Algebra	3

One of the following two courses:

Course	Course Title	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 and STATISTICS
DOUBLE CONCENTRATION

24 Credits

Course	Course Title	Credits
MATH 421	Probability Theory	3
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:

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

One of the following two courses:

Course	Course Title	Credits
MATH 425	Applied Statistical Models	3
MATH 426	Experimental Design	3

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CONTINUED FROM PAGE 1

Select two Statistics electives:	6 Credits	
MATH	3	
	3	

*Cannot double-count with a course used elsewhere.
 At least one course must be MATH.*

Selection list for two Statistics electives:

Cannot double-count with a requirement used elsewhere

- MATH 422 Mathematical Statistics
- MATH 423 Stochastic Processes
- MATH 426 Experimental Design
- ECON 355 Regression Analysis
- ECON 451 Econometrics
- ECON 452 Time Series Analysis
- CPSC 322 Data Science Algorithms
- CPSC 323 Machine Learning & Intelligent Systems
- CPSC 324 Big Data Analytics
- PHYS 323 Statistical Mechanics
- PSYC 450 Advanced Statistics in Psychology

*Or any course with significant probability or statistics content with the **prior** approval of the Math Department Chair.*

ALL of these courses have pre-requisites, and may require courses outside of the concentration to be taken.

Select one 300-400 level Math elective:	3 Credits
MATH	3

Select one 400-level Math elective:	3 Credits
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) credits from the following courses may be counted toward Math electives: MATH 365 (may be taken for credit only once), MATH 390, 490, 497.

Check the catalog for pre-requisites when selecting electives