

Degree Worksheet for the College of Arts and Sciences: 2021-2022

B.S. APPLIED MATHEMATICS

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

<i>Writing</i>	Credits	Sem/Yr
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

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

Year 3: Caring & Doing

<i>World/Comparative Religion</i>	Credits	Sem/Yr
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

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

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

► BROADENING COURSES - see approved list**

<i>Social & Behavioral Science</i>	Credits	Sem/Yr
	3	
<i>Literature</i>		
	3	
<i>History</i>		
	3	
<i>Fine Arts & Design</i>		
	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: No Concentration

57-59 CREDITS

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

13 Credits

MATH 301	Fundamentals of Mathematics	3	
MATH 339	Linear Algebra	3	
MATH 350	Elementary Numerical Analysis	3	
MATH 413	Real Analysis I	3	
MATH 496	Comprehensive - Applied Math	1	

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.

NO CONCENTRATION

23-25 Credits

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	

Mathematics Electives:

9 Credits

MATH	Math 300-400 level elective	3	
MATH	Math 400 level electives	6	

A minimum of 6 credits must be from Math electives list; cannot double-count with another requirement.

MATH 328 Operations Research
MATH 341 Modern Geometry
MATH 351 Combinatorics & Graph Theory
MATH 360-363 Selected Topics
MATH 414 Real Analysis II
MATH 417 Complex Variables
MATH 421 Probability Theory
MATH 423 Stochastic Processes
MATH 437 Abstract Algebra I
MATH 438 Abstract Algebra II
MATH 450-453 Selected Topics
MATH 454 Partial Differential Equations
MATH 457 Number Theory & Cryptography
MATH 459 Topology
MATH 462 Nonlinear Systems & Chaos
MATH 498A/498B Thesis I/II

Two of the following three courses:

8 Credits

BIOL 105/105L	Info Flow-Biological System/Lab	4	
CHEM 101/101L	General Chemistry/Lab	4	
PHYS 103	Scientific Physics I	4	

One of the following four courses:

3-5 Credits

BIOL 106	Energy Flow-Biological Systems	3	
CHEM 205	Inorganic Chemistry	3	
CHEM 230/230L	Organic Chemistry I/Lab	5	
PHYS 204	Scientific Physics II	4	

