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
Writing		
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

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

Year 3: Caring & Doing

	Credits	Sem/Yr
World/Comparative Religion		
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

	Credits	Sem/Yr
Core Integration Seminar		
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: 65 CREDITS
Physics 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   *13 Credits*

Course	Course Title	Credits	Grade
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	

**   * *Majors usually take Fall semester of their final year.*

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.

PHYSICS CONCENTRATION   31 Credits

Two of the following three courses: *6 Credits*

MATH 417 Complex Variables	3	
MATH 454 Partial Differential Equations	3	
MATH 462 Nonlinear Systems & Chaos	3	

Mathematics 300-400 Level Elective: *3 Credits*

MATH		

Mathematics 400 Level Electives: *6 Credits*

MATH		
MATH		

Minimum of 6 credits must be from the MATH electives list; cannot double-count with a required course.

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

		10 Credits	
PHYS 103/103L Scientific Physics I/Lab		5	
PHYS 204/204L Scientific Physics II/Lab		5	

Physics 200, 300, 400 Level Electives:	*6 Credits*	
PHYS	3	
PHYS	3	

    PHYS 205 Modern Physics
    PHYS 301 Intermediate Mechanics
    PHYS 306 Electricity & Magnetism
    PHYS 307 Optics
    PHYS 402 Advanced Mechanics
    PHYS 407 Electricity & Magnetism II
    PHYS 409 Nuclear & Particle Physics
    PHYS 415 Cosmology & Astrophysics
    PHYS 450 Statistical Physics
    PHYS 464 Intro to Quantum Physics

Check for pre-requisites when selecting electives