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

B.S. APPLIED MATHEMATICS - Chemistry 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: Chemistry Concentration — 67 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.

CHEMISTRY CONCENTRATION — 33 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 400 Level Electives: — *6 Credits*

MATH		3	
MATH		3	

All 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 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

24 Credits

CHEM 101/101L	General Chemistry/Lab	4	
CHEM 205	Inorganic Chemistry	3	
CHEM 230/230L	Organic Chemistry I/Lab	5	
CHEM 310/310L	Analytic Chemistry/Lab	5	
CHEM 355	Physical Chemistry	3	
PHYS 103	Scientific Physics I	4	