Degree Worksheet for the College of Arts and Sciences: 2019-2020
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

	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: 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

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 499	Comprehensive	1	

One of the following two courses: — 3 Credits

Course	Course Title	Credits	Grade
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 two courses: — 3 Credits

Course	Course Title	Credits	Grade
MATH 454	Partial Differential Equations	3	
MATH 462	Nonlinear Systems & Chaos	3	

Mathematics 400 Level Electives: — 6 Credits

Course	Credits	Grade
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

Course	Course Title	Credits	Grade
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	