

Degree Worksheet for the College of Arts and Sciences: 2020-2021

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
<i>Writing</i>		
ENGL 101 Writing (fulfills 3 credits Writing Enriched)*	3	<input type="text"/>
<i>Reasoning</i>		
PHIL 101 Reasoning	3	<input type="text"/>
<i>First Year Seminar</i>		
Dept. 193	3	<input type="text"/>
<i>Communication & Speech</i>		
COMM 100 Communication & Speech	3	<input type="text"/>
<i>Math</i>		
MATH (must be above Math 100)	3	<input type="text"/>
<i>Scientific Inquiry (2cr + 1cr lab)</i>		
BIOL or CHEM or PHYS 104/104L (taken year 1 or 2)	3	<input type="text"/>

Year 2: Being & Becoming

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

Year 3: Caring & Doing

	Credits	Sem/Yr
<i>World/Comparative Religion</i>		
RELI (see approved list)** (fulfills 3cr Global Studies)*	3	<input type="text"/>
<i>Ethics</i>		
PHIL 301 Ethics or RELI 330 Principles-Christian Morality	3	<input type="text"/>

Year 4: Imagining the Possible

	Credits	Sem/Yr
<i>Core Integration Seminar</i>		
Dept. 432	3	<input type="text"/>

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

► BROADENING COURSES - see approved list**

	Credits	Sem/Yr
Social & Behavioral Science	3	<input type="text"/>
Literature	3	<input type="text"/>
History	3	<input type="text"/>
Fine Arts & Design	3	<input type="text"/>

► REQUIRED COURSE DESIGNATIONS - see approved list**

	Credits	Sem/Yr
*Writing Enriched	9 total	<input type="text"/>
Social Justice	3 total	<input type="text"/>
*Global Studies	6 total	<input type="text"/>

**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: 67 CREDITS

Chemistry Concentration

APPLIED MATHEMATICS 34 Credits

LOWER DIVISION 18 Credits

	Course	Course Title	Credits	Grade
MATH 157	Calculus & Analytic Geometry I		4	<input type="text"/>
MATH 258	Calculus & Analytic Geometry II		4	<input type="text"/>
MATH 259	Calculus & Analytic Geometry III		4	<input type="text"/>
MATH 260	Ordinary Differential Equations		3	<input type="text"/>
CPSC 121	Computer Science I		3	<input type="text"/>

UPPER DIVISION 13 Credits

MATH 301	Fundamentals of Mathematics	3	<input type="text"/>
MATH 339	Linear Algebra	3	<input type="text"/>
MATH 350	Elementary Numerical Analysis	3	<input type="text"/>
MATH 413	Real Analysis I	3	<input type="text"/>
MATH 496*	Comprehensive-Applied Math	1	<input type="text"/>

* Majors usually take Fall semester of their final year.

One of the following two courses: 3 Credits

MATH 321	Statistics for Experimentalists	3	<input type="text"/>
MATH 422	Mathematical Statistics	3	<input type="text"/>

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

MATH 454	Partial Differential Equations	3	<input type="text"/>
MATH 462	Nonlinear Systems & Chaos	3	<input type="text"/>

Mathematics 400 Level Electives: 6 Credits

MATH	3	<input type="text"/>
MATH	3	<input type="text"/>

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 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

24 Credits

CHEM 101/101L	General Chemistry/Lab	4	<input type="text"/>
CHEM 205	Inorganic Chemistry	3	<input type="text"/>
CHEM 230/230L	Organic Chemistry I/Lab	5	<input type="text"/>
CHEM 310/310L	Analytic Chemistry/Lab	5	<input type="text"/>
CHEM 355	Physical Chemistry	3	<input type="text"/>
PHYS 103	Scientific Physics I	4	<input type="text"/>