College of Arts and Sciences 2024-2025 Degree Worksheet

B.S. APPLIED MATHEMATICS
with CHEMISTRY and STATISTICS DOUBLE 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: 76 CREDITS
with CHEMISTRY & STATISTICS DOUBLE 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 — ***10 Credits***

MATH 301	Fundamentals of Mathematics	3	
MATH 350	Numerical Methods	3	
MATH 413	Real Analysis I	3	
MATH 496	Comprehensive-Applied Math	1	

One of the following two courses: — ***3 Credits***

MATH 335	Applied Linear Algebra	3	
MATH 339	Linear Algebra	3	

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 & STATISTICS DOUBLE CONCENTRATION — 42 Credits

3 Credits

MATH 421	Probability Theory	3	

Select one of the following two courses: — ***3 Credits***

MATH 425	Applied Statistical Models	3	
MATH 426	Experimental Design	3	

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 121	Physics I	4	

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	

Select one 300-400 level Math elective: — ***3 Credits***

MATH		3	

Cannot double-count with another requirement.

Select two Statistics electives: — ***6 Credits***

MATH		3	
		3	

Cannot double-count with a course used elsewhere.
At least one course must be MATH.

Statistics Elective options: *MATH 422, 423, 426, PHYS 323, ECON 355, 451, 452, CPSC 322, 323, 324, PSYC 450* **These courses have pre-requisites that may be outside the concentration.**

Cannot use MATH 335, 339, 432, or 499 as MATH electives. A maximum of three (3) total credits from the following may be counted toward Math electives: MATH 365 (may be taken for credit only once), MATH 390, MATH 490, MATH 497.