

# Degree Worksheet for the College of Arts and Sciences: 2022-2023

## B.S. APPLIED MATHEMATICS

### 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: with No Concentration

**57-59 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 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.

#### with NO CONCENTRATION

**23-25 Credits**

##### Select two of the following three course options:

**8 Credits**

BIOL 105/105L	Info Flow-Biological System+Lab	4	
CHEM 101/101L	General Chemistry+Lab	4	
PHYS 103	Scientific Physics I	4	

##### Select one of the following four course options:

**3-5 Credits**

BIOL 106	Energy Flow-Biological Systems	3	
CHEM 205	Inorganic Chemistry	3	
CHEM 230/230L	Organic Chemistry I+Lab	5	
PHYS 204	Scientific Physics II	4	

##### Select 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	

##### One 300-400 level Math elective:

**3 Credits**

MATH		3	
------	--	---	--

##### Two 400 level Math electives:

**6 Credits**

MATH		3	
MATH		3	

Cannot double-count with a required course.

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.