

# College of Arts and Sciences 2024-2025 Degree Worksheet

## 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

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### UNIVERSITY CORE REQUIREMENTS:

#### ► FUNDAMENTAL CORE COURSES

##### Year 1: Understanding & Creating

<i>Writing</i>	Credits Sem/Yr	
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 &amp; 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

<i>Christianity &amp; Catholic Traditions</i>	Credits Sem/Yr	
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

<i>World/Comparative Religion</i>	Credits Sem/Yr	
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

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

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

#### ► BROADENING COURSES - see approved list\*\*

Social & Behavioral Science	Credits Sem/Yr	
	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\*\*

*Writing Enriched	Credits Sem/Yr	
	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: (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	<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 350	Numerical Methods	3	<input type="text"/>
MATH 413	Real Analysis I	3	<input type="text"/>
MATH 496	Comprehensive - Applied Math	1	<input type="text"/>

##### One of the following two courses:

3 Credits

MATH 335	Applied Linear Algebra	3	<input type="text"/>
MATH 339	Linear Algebra	3	<input type="text"/>

##### 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.*

#### with NO CONCENTRATION

23-25 Credits

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

8 Credits

BIOL 105/105L	Info Flow-Biological Systems+Lab	4	<input type="text"/>
CHEM 101/101L	General Chemistry+Lab	4	<input type="text"/>
PHYS 121	Physics I	4	<input type="text"/>

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

3-5 Credits

BIOL 106	Energy Flow-Biological Systems	3	<input type="text"/>
CHEM 205	Inorganic Chemistry	3	<input type="text"/>
CHEM 230/230L	Organic Chemistry I+Lab	5	<input type="text"/>
PHYS 122	Physics II	4	<input type="text"/>

##### Select one of the following three courses:

3 Credits

MATH 440	Foundations of Applied Math	3	<input type="text"/>
MATH 454	Partial Differential Equations	3	<input type="text"/>
MATH 462	Nonlinear Systems & Chaos	3	<input type="text"/>

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

3 Credits

MATH	3	<input type="text"/>
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##### Two 400 level Math electives:

6 Credits

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

*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.*