

**College of Arts and Sciences 2025-2026 Degree Worksheet**  
**B.S. APPLIED MATHEMATICS**  
**with PHYSICS and STATISTICS DOUBLE CONCENTRATION**

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**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**

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: 74 CREDITS**  
**with Physics & Statistics Double Concentration**

**APPLIED MATHEMATICS**

**34 Credits**

**LOWER DIVISION**

**18 Credits**

Course	Course Title	Credits
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.*

**PHYSICS & STATISTICS CONCENTRATION**

**40 Credits**

MATH 421	Probability Theory	3
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**Select one of the following two courses:**

**3 Credits**

MATH 425	Applied Statistical Models	3
MATH 426	Experimental Design	3

**PHYSICS & STATISTICS CONCENTRATION**

**10 Credits**

PHYS 121/121L	Physics I + Lab	5
PHYS 122/122L	Physics II + Lab	5

**Select two of the following four courses:**

**6 Credits**

MATH 417	Complex Variables	3
MATH 440	Foundations of Applied Math	3
MATH 454	Partial Differential Equations	3
MATH 462	Nonlinear Systems & Chaos	3

**Select two 200-300-400 level PHYS electives:**

**6 Credits**

PHYS		3
PHYS		3

**Select one 300-400 level Math elective:**

**3 Credits**

MATH		3
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**Select one 400-level Math elective:**

**3 Credits**

MATH		3
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*Cannot double-count with another requirement.*

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**Physics 200, 300, 400 Electives Options:**

- PHYS 205 Modern Physics
- PHYS 301 Intermediate Mechanics
- PHYS 306 Electricity & Magnetism
- PHYS 307 Optics
- PHYS 402 Advanced Mechanics
- PHYS 407 Electricity & Magnetism II
- PHYS 409 Nuclear & Particle Physics\*
- PHYS 415 Cosmology & Astrophysics
- PHYS 450 Statistical Physics
- PHYS 464 Intro to Quantum Physics\*
- \* (PHYS 409 & 464 require PHYS 205 as a pre-requisite)

**MATH Electives:**

*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.*

**Check for pre-requisites when selecting electives!**

**Select two Statistics electives:**

**6 Credits**

MATH	3
	3

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

**Selection list for Statistics electives:**

*Cannot double-count with a requirement used elsewhere*

- MATH 422 Mathematical Statistics
- MATH 423 Stochastic Processes
- MATH 426 Experimental Design
- ECON 355 Regression Analysis
- ECON 451 Econometrics
- ECON 452 Time Series Analysis
- CPSC 322 Data Science Algorithms
- CPSC 323 Machine Learning & Intelligent Systems
- CPSC 324 Big Data Analytics
- PHYS 323 Statistical Mechanics
- PSYC 450 Advanced Statistics in Psychology

*Or any course with significant probability or statistics content with the prior approval of the Math Department Chair.*

**ALL of these courses have pre-requisites, and may require**