

College of Arts and Sciences 2025-2026 Degree Worksheet
B.S. APPLIED MATHEMATICS
with ECONOMICS 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

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	
<i>Reasoning</i> PHIL 101 Reasoning	3	
<i>First Year Seminar</i> Dept. 193	3	
<i>Communication & Speech</i> COMM 100 Communication & Speech	3	
<i>Math</i> MATH (must be above Math 100)	3	
<i>Scientific Inquiry (2cr + 1cr lab)</i> BIOL or CHEM or PHYS 104/104L (taken year 1 or 2)	3	

Year 2: Being & Becoming

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

Year 3: Caring & Doing

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

Year 4: Imagining the Possible

	Credits	Sem/Yr
<i>Core Integration Seminar</i> Dept. 432	3	

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

► BROADENING COURSES - see approved list**

	Credits	Sem/Yr
Social & Behavioral Science	3	
Literature	3	
History	3	
Fine Arts & Design	3	

► REQUIRED COURSE DESIGNATIONS - see approved list**

	Credits	Sem/Yr
*Writing Enriched	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: 73-74 CREDITS
ECONOMICS & 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
Course		Course Title		Credits
MATH	301	Fundamentals of Mathematics		3
MATH	350	Numerical Methods		3
MATH	413	Real Analysis I		3
MATH	496	Comprehensive - Applied Math		1

Select 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.

Select one of the following two courses:

3 Credits

MATH	335	Applied Linear Algebra	3
MATH	339	Linear Algebra	3

ECONOMICS CONCENTRATION

39-40 Credits

				3 credits
Course		Course Title		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

Select one of the following two courses:

3 Credits

MATH	440	Foundations of Applied Math	3
MATH	454	Partial Differential Equations	3

				9 credits
Course		Course Title		Credits
ECON	201	Microeconomics	3	9 credits
ECON	202	Macroeconomics	3	
ECON	303	Game Theory-Economic Applications	3	

One of the following two courses:

3 credits

ECON	301	Intermediate Microeconomics*	3
ECON	351	Managerial Economics	3

**ECON 301 pre-requisite ECON 201, requires a minimum grade of B-*

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Select three Statistics electives:

	9 Credits
MATH	3
MATH	3
	3

Cannot double-count with a course used elsewhere.
 TWO courses must be MATH

Statistics Electives:

Cannot double-count with a requirement used elsewhere
 At least two courses must be MATH.

- 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 and Intelligent Systems
- CPSC 324 Big Data Analytics
- PHYS 323 Statistical Physics
- 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 courses outside of the concentration to be taken.

Check the catalog for pre-requisites when selecting electives.

One ECON 300-400 level elective:

ECON	3-4 credits
	3

Select one 300-400 level Math elective:

MATH	3 Credits
	3

Select one 400-level Math elective:

MATH	3 Credits
	3

Options for ECON 300-400 Level Elective:

3-4 Credits

- ECON 320 Economics of Sports
- *ECON 321 International Economics
- ECON 322/SOSJ 320 Work, Wages, and Inequality
- ECON 324 Economics of Environmental Protection
- ECON 325 Public Finance
- ECON 330 Antitrust Policy & Regulation
- ECON 333 Health Economics
- ECON 334 Behavioral Economics
- *ECON 352/352L Money & Banking + Lab
- ECON 355 Regression Analysis
- *ECON 451 Econometrics
- *ECON 452 Time Series Analysis
 (*recommended elective choices)

MATH Electives:

Cannot double-count electives with another requirement.

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.