

# College of Arts and Sciences 2024-2025 Degree Worksheet

## B.S. APPLIED MATHEMATICS with Economics 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
	3	

### 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 &amp; 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 &amp; 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: 64-65 CREDITS with Economics Concentration

#### APPLIED MATHEMATICS

**34 Credits**

##### LOWER DIVISION

		Credits	Grade
<b>18 Credits</b>			
Course	Course Title		
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

		Credits	Grade
<b>10 Credits</b>			
MATH	301 Fundamentals of Mathematics	3	
MATH	350 Numerical Methods	3	
MATH	413 Real Analysis I	3	
MATH	496 Comprehensive - Applied Math	1	

*(Majors take MATH 496 fall semester of their final year)*

##### 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

**30-31 Credits**

<b>3 credits</b>			
MATH	421 Probability Theory	3	

##### 9 Credits

ECON	201 Microeconomics	3	
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-*

##### Select two of the following five courses: **6 Credits**

MATH	423 Stochastic Processes	3	
MATH	425 Applied Statistical Models	3	
MATH	426 Experimental Design	3	
MATH	440 Foundations of Applied Math	3	
MATH	454 Partial Differential Equations	3	

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**Options for ECON 300-400 Level Elective:**

- 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)

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

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<b>One ECON 300-400 level elective:</b>	<b>3-4 credits</b>
ECON	3 <input style="width: 40px; height: 15px;" type="text"/>

<b>One 300-400 level Math elective:</b>	<b>3 Credits</b>
MATH	3 <input style="width: 40px; height: 15px;" type="text"/>

<b>One 400-level Math elective:</b>	<b>3 Credits</b>
MATH	3 <input style="width: 40px; height: 15px;" type="text"/>

**MATH 300-level and 400-level 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.*