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

B.S. APPLIED MATHEMATICS with Economics Concentration

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: 64-65 CREDITS with Economics Concentration

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 — ***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	

(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

3 credits

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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One ECON 300-400 level elective:	***3-4 credits***	
ECON	3	

One 300-400 level Math elective:	***3 Credits***	
MATH	3	

One 400-level Math elective:	***3 Credits***	
MATH	3	

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)*

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.

Check for pre-requisites when selecting electives.