

Degree Worksheet for the College of Arts and Sciences: 2023-2024

B.S. PHYSICS with ASTROPHYSICS 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

| | |
|--|----------------|
| | Credits Sem/Yr |
| | 1 |
| | 2 |

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. PHYSICS: with Astrophysics Concentration

63 CREDITS

Physics Disciplinary Base Courses

49 Credits

Lower Level

| Course | Course Title | Credits | Grade |
|---------------|-----------------------------------|---------|-------|
| PHYS 121/121L | Scientific Physics I + Lab | 5 | |
| PHYS 122/122L | Scientific Physics II + Lab | 5 | |
| PHYS 180 | Physics Skills Seminar | 1 | |
| PHYS 201 | Mathematical Methods | 3 | |
| PHYS 222 | Electronics | 2 | |
| PHYS 224 | Modern Physics | 3 | |
| PHYS 280 | Physics Pathways Seminar | 1 | |
| MATH 157 | Calculus & Analytical Geometry I | 4 | |
| MATH 258 | Calculus & Analytical Geometry II | 4 | |
| CPSC 121 | Computer Science I | 3 | |

Upper Level

| | | | |
|----------|-------------------------|---|--|
| PHYS 321 | Classical Mechanics | 3 | |
| PHYS 322 | Electricity & Magnetism | 3 | |
| PHYS 323 | Statistical Mechanics | 3 | |
| PHYS 324 | Quantum Mechanics | 3 | |
| PHYS 325 | Computational Physics | 2 | |
| PHYS 441 | Advanced Lab I | 2 | |
| PHYS 442 | Advanced Lab II | 2 | |

Astrophysics Concentration

14 Credits

| | | | |
|----------|------------------------------------|---|--|
| PHYS 105 | Astronomy | 2 | |
| CPSC 222 | Introduction to Data Science | 3 | |
| PHYS 451 | Fields, Oscillations, & Relativity | 3 | |
| PHYS 454 | Nuclear & Particle Physics | 3 | |
| PHYS 455 | Cosmology & Astrophysics | 3 | |

Physics Majors are also encouraged to take:

| Course | Course Title | Credits | Grade |
|----------|----------------------------------|---------|-------|
| MATH 259 | Calculus/Analytical Geometry III | 4 | |
| MATH 260 | Ordinary Differential Equations | 3 | |
| MATH 339 | Linear Algebra | 3 | |

and additional CPSC (Computer Science) courses.