

Degree Guide for the College of Arts and Sciences: 2017-2018

B.A. COMPUTER SCIENCE & COMPUTATIONAL THINKING

Biology 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 see: <http://www.gonzaga.edu/Academics/Colleges-and-Schools/College-of-Arts-and-Sciences/Majors-Programs/language-requirement->

	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		
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 Principals-Christian Morality	3	

Year 4: Imagining the Possible

Core Integration Seminar	Credits	Sem/Yr
492	3	

NOTE: some courses have pre-requisites, check the catalogue 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 :

<http://www.gonzaga.edu/Academics/Undergraduate/General-Degree-Requirements-and-Procedures/University-Core/Default.asp>

B.A. Computer Science & Computational Thinking

55-59 Credits

LOWER DIVISION

15-16 Credits

Course	Course Title	Credits	Grade
CPSC 121	Computer Science I	3	
CPSC 122	Computer Science II	3	
CPSC 223	Algorithm/Abstract Data Structures	3	
MATH 231	Discrete Structures	3	

One of the following two courses:

Course	Course Title	Credits	Grade
MATH 148	Survey of Calculus	3	

OR

MATH 157	Calculus & Analytic Geometry I	4	
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UPPER DIVISION

28 Credits

Course	Course Title	Credits	Grade
CPSC 491/491L/492L	Softwr Engr/Senior Design I & II	6	
CPSC 499	Computers & Society	1	

In consultation with their advisor, students also choose an additional 21 credits in Computer Science courses, including Computer Science courses specific to each concentration.

NOTE: A maximum of four 200 level Computer Science courses may be used in the entire major.

Elective Computer Science courses:

21 Credits

Course	Course Title	Credits	Grade

DISCIPLINE for COMPUTATIONAL THINKING (DCT)

BIOLOGY CONCENTRATION

14-15 Credits

Course	Course Title	Credits	Grade
BIOL 105/105L	Info. Flow in Biological Systems	4	
BIOL 106	Energy Flow in Biological Systems	3	

(NOTE: CHEM 101/101L is a pre-requisite for BIOL 106)

Select one of the following four options (A,B,C,D):

NOTE: some courses have pre-requisites, check the undergraduate catalogue)

OPTION A

Choose two of the following three courses:

Course	Course Title	Credits	Grade
BIOL 205/205L	Physiology & Biodiversity	4	
BIOL 206/206L	Ecology	4	
BIOL 207/207L	Genetics	4	

OPTION B

Course	Course Title	Credits	Grade
BIOL 205/205L	Physiology & Biodiversity	4	
BIOL 451/451L	Comparative Endocrinology*	4	

*(when course is offered)

OPTIONS C & D - see page 2 (on reverse)

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Select one of the following four options (A,B,C,D):

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OPTION C

Course	Course Title	Credits	Grade
BIOL	206/206L Ecology	4	

Choose one of the following six courses:

Course	Course Title	Credits	Grade
BIOL	303/303L Population Ecology*	4	
	<i>*(when course is offered)</i>		
BIOL	305 Biological Data Analysis	4	
BIOL	333 Community Ecology	3	
BIOL	340/340L Field Botany	4	
BIOL	344/344L GIS & Ecological Techniques	4	
BIOL	360/360L* Plant Biology <i>*(when lab is offered)</i>	4	

OPTION D

Course	Course Title	Credits	Grade
BIOL	207/207L Genetics	4	

Choose one of the following four courses:

Course	Course Title	Credits	Grade
BIOL	305 Biological Data Analysis	4	
BIOL	335 Advanced Genetics	3	
BIOL	337/337L Developmental Biology*	4	
	<i>*(when course is offered)</i>		
BIOL	351/351L Advanced Cell Biology*	4	
	<i>*(when course is offered)</i>		

(NOTE: CHEM 230 is a pre-requisite for BIOL 351/351L)