

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

	Credits	Sem/Yr
<i>Writing</i>		
ENGL 101 Writing (fulfills 3 credits Writing Enriched)*	3	<input type="text"/>
<i>Reasoning</i>		
PHIL 101 Reasoning	3	<input type="text"/>
<i>First Year Seminar</i>		
193	3	<input type="text"/>
<i>Communication & Speech</i>		
COMM 100 Communication & Speech	3	<input type="text"/>
<i>Math</i>		
MATH (must be above Math 100)	3	<input type="text"/>
<i>Scientific Inquiry (2cr + 1cr lab)</i>		
BIOL or CHEM or PHYS 104/104L (taken year 1 or 2)	3	<input type="text"/>

Year 2: Being & Becoming

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

Year 3: Caring & Doing

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

Year 4: Imagining the Possible

	Credits	Sem/Yr
<i>Core Integration Seminar</i>		
492	3	<input type="text"/>

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

► BROADENING COURSES - see approved list**

	Credits	Sem/Yr
<i>Social & Behavioral Science</i>		
	3	<input type="text"/>
<i>Literature</i>		
	3	<input type="text"/>
<i>History</i>		
	3	<input type="text"/>
<i>Fine Arts & Design</i>		
	3	<input type="text"/>

► REQUIRED COURSE DESIGNATIONS - see approved list**

	Credits	Sem/Yr
*Writing Enriched	9 total	<input type="text"/>
Social Justice	3 total	<input type="text"/>
*Global Studies	6 total	<input type="text"/>

**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	<input type="text"/>
CPSC 122	Computer Science II	3	<input type="text"/>
CPSC 223	Algorithm/Abstract Data Structures	3	<input type="text"/>
MATH 231	Discrete Structures	3	<input type="text"/>

One of the following two courses:

Course	Course Title	Credits	Grade
MATH 148	Survey of Calculus	3	<input type="text"/>

OR

MATH 157	Calculus & Analytic Geometry I	4	<input type="text"/>
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UPPER DIVISION

28 Credits

Course	Course Title	Credits	Grade
CPSC 491/491L/492L	Softwr Engr/Senior Design I & II	6	<input type="text"/>
CPSC 499	Computers & Society	1	<input type="text"/>

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	<input type="text"/>
BIOL 106	Energy Flow in Biological Systems	3	<input type="text"/>

(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	<input type="text"/>
BIOL 206/206L	Ecology	4	<input type="text"/>
BIOL 207/207L	Genetics	4	<input type="text"/>

OPTION B

Course	Course Title	Credits	Grade
BIOL 205/205L	Physiology & Biodiversity	4	<input type="text"/>
BIOL 451/451L	Comparative Endocrinology*	4	<input type="text"/>

*(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):

(continued from Page 1)

OPTION C

Course	Course Title	Credits	Grade
BIOL 206/206L	Ecology	4	<input type="checkbox"/>

Choose one of the following six courses:

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

OPTION D

Course	Course Title	Credits	Grade
BIOL 207/207L	Genetics	4	<input type="checkbox"/>

Choose one of the following four courses:

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

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