

# Degree Worksheet for the College of Arts and Sciences: 2019-2020

## B.S. BIOCHEMISTRY (non-ACS Approved)

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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

	Credits Sem/Yr
	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
<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. BIOCHEMISTRY (non-ACS): 70-71 CREDITS

#### LOWER DIVISION

**48 Credits**

	Course Course Title	Credit	Grade
CHEM	101 General Chemistry	3	
CHEM	101L General Chemistry Lab	1	
CHEM	205 Inorganic Chemistry	3	
CHEM	230 Organic Chemistry I	4	
CHEM	230L Organic Chemistry I Lab	1	
CHEM	231 Organic Chemistry II	3	
CHEM	231L Organic Chemistry II Lab	1	
CHEM	245 Biochemistry	3	
CHEM	245L Biochemistry Lab	1	
CHEM	270 Career Development I	1	
BIOL	105 Information Flow in Biological Systems	3	
BIOL	105L Information Flow in Biological Systems Lab	1	
BIOL	106 Energy Flow in Biological Systems	3	
BIOL	207 Genetics	3	
BIOL	207L Genetics Lab	1	
MATH	157 Calculus-Analytic Geometry I	4	
MATH	258 Calculus-Analytic Geometry II	4	
PHYS	103 Scientific Physics I	4	
PHYS	204 Scientific Physics II	4	

#### UPPER DIVISION

**23 Credits**

	Course Course Title	Credit	Grade
CHEM	310 Analytical Chemistry	3	
CHEM	310L Analytical Chemistry Lab	2	
CHEM	355 Physical Chemistry	3	
CHEM	355L Physical & Inorganic Chemistry Lab	1	
CHEM	370 Career Development II	1	
CHEM	399 Advanced Topic	2	
BIOL	456 Molecular Biology	3	
BIOL	456L Molecular Biology Lab	1	
CHEM	485 Seminar	1	

#### One of the following options:

CHEM	488 Senior Literature Review	1	
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#### OR

CHEM	498A Thesis I	1	
CHEM	498B Thesis II	1	

#### One Course in CHEM 405-435 (Block 1)

	Course Course Title	Credit	Grade
CHEM		2	

#### One Course in CHEM 455-480 (Block 2)

	Course Course Title	Credit	Grade
CHEM		2	

**College of Arts and Sciences: 2019-2020**  
**B.S. BIOCHEMISTRY (non-ACS Approved) - SAMPLE Yearly Progression**

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(70-71 Credits required for Major)

**Freshman**

<i>FALL</i>				<i>SPRING</i>			
Course	Course Title	Credit:	Grade	Course	Course Title	Credit:	Grade
CHEM	101 General Chemistry	3		CHEM	230 Organic Chemistry I	4	
CHEM	101L General Chemistry Lab	1		CHEM	230L Organic Chemistry I Lab	1	
BIOL	105 Info Flow in Biological Systems	3		BIOL	106 Energy Flow in Biological Systems	3	
BIOL	105L Info Flow in Biological Systems Lab	1		MATH	258 Calculus-Analytic Geometry II	4	
MATH	157 Calculus-Analytic Geometry I	4		CORE <sup>(1)</sup>		3	
CORE <sup>(1)</sup>		3		CORE <sup>(1)</sup>		3	
<b>15</b>				<b>18</b>			

**Sophomore**

<i>FALL</i>				<i>SPRING</i>			
Course	Course Title	Credit:	Grade	Course	Course Title	Credit:	Grade
CHEM	205 Inorganic Chemistry	3		CHEM	245 Biochemistry	3	
CHEM	231 Organic Chemistry II	3		CHEM	245L Biochemistry Lab	1	
CHEM	231L Organic Chemistry II Lab	1		CHEM	270 Career Development I	1	
PHYS	103 Scientific Physics I	4		CHEM	310 Analytical Chemistry	3	
CORE <sup>(2)</sup>		3		CHEM	310L Analytical Chemistry Lab	2	
CORE <sup>(2)</sup>		3		CORE <sup>(2)</sup>		3	
<b>17</b>				<b>16</b>			

**Junior**

<i>FALL</i>				<i>SPRING</i>			
Course	Course Title	Credit:	Grade	Course	Course Title	Credit:	Grade
PHYS	204 Scientific Physics II	4		BIOL	207 Genetics	3	
CHEM	355 Physical Chemistry	3		BIOL	207L Genetics Lab	1	
CHEM	355L Physical & Inorganic Chemistry Lab	1		CHEM	xxx <sup>(5)</sup> Advanced Topic/Special Topic	2	
CORE <sup>(3)</sup>		3		CHEM	370 Career Development II	1	
CORE <sup>(3)</sup>		3		CORE <sup>(3)</sup>		3	
CORE <sup>(3)</sup>		3		CORE <sup>(3)</sup>		3	
<b>17</b>				<b>16</b>			

**Senior**

<i>FALL</i>				<i>SPRING</i>			
Course	Course Title	Credit:	Grade	Course	Course Title	Credit:	Grade
BIOL	456 Molecular Biology	3		CHEM	xxx <sup>(5)</sup> Advanced Topic/Special Topic	2	
BIOL	456L Molecular Biology Lab	1		CHEM	498B <sup>(6)</sup> Thesis II	1	
CHEM	xxx <sup>(5)</sup> Advanced Topic/Special Topic	2		CORE <sup>(4)</sup>		3	
CHEM	485 Seminar	1		CORE <sup>(4)</sup>		3	
CHEM	498A Thesis I	1		CORE <sup>(4)</sup>		3	
CORE <sup>(4)</sup>		3		CORE <sup>(4)</sup>		3	
CORE <sup>(4)</sup>		3		<b>15</b>			
<b>14</b>							

**NOTES:**

1. Students must take the First Year Seminar (DEPT 193) in their first year, and they are encouraged to take COMM 100, PHIL 101, and ENGL 101 in their first year.
2. Students are encouraged to complete the 2nd year Core courses in their second year.
3. Students are encouraged to complete the 3rd year Core courses in their third year.
4. Students are encouraged to complete the Core Integration Seminar (DEPT 432) in their fourth year.
5. Students must complete one Advanced Topic (CHEM 399) course, one Special Topic-Block 1 (CHEM 405-435) course, and one Special Topic-Block 2 (CHEM 455-480) course, as well as two more Special Topic Courses from either Block 1 or Block 2.
6. Students are required to present their thesis work at the departmental poster session.