

Degree Worksheet for the College of Arts and Sciences: 2021-2022

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

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 & 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 & 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
Core Integration Seminar	3	
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**

*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: 2021-2022
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 ⁽¹⁾		3	
	CORE ⁽¹⁾	3		CORE ⁽¹⁾		3	
15				18			

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 ⁽²⁾	3		CHEM	310L Analytical Chemistry Lab	2	
	CORE ⁽²⁾	3		CORE ⁽²⁾		3	
17				16			

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 ⁽⁵⁾ Advanced Topic/Special Topic	2	
	CORE ⁽³⁾	3		CHEM	370 Career Development II	1	
	CORE ⁽³⁾	3		CORE ⁽³⁾		3	
	CORE ⁽³⁾	3		CORE ⁽³⁾		3	
17				16			

Senior

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

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.