# Degree Worksheet for the College of Arts and Sciences: 2020-2021 B.S. BIOCHEMISTRY (non-ACS Approved)

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**B.S. BIOCHEMISTRY** (non-ACS):

**LOWER DIVISION** 

**70-71 CREDITS** 

48 Credits

1

3

4

1

3

1

3

1

1

3

1

3

1

4

4

4

4

3

2

3

1

1

2

3

1

### **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-forstudents/lanauaae-reauirement-information

Credit: Grade Course Course Title CHEM 101 General Chemistry CHEM 101L General Chemistry Lab CHEM 205 Inorganic Chemistry Credits Sem/Yr CHEM 230 Organic Chemistry I CHEM 230L Organic Chemistry I Lab 231 Organic Chemistry II CHEM UNIVERSITY CORE REQUIREMENTS: CHEM 231L Organic Chemistry II Lab ► FUNDAMENTAL CORE COURSES CHEM 245 Biochemistry Year 1: Understanding & Creating CHEM 245L Biochemistry Lab Writing Credits Sem/Yr CHEM 270 Career Development I 105 Information Flow in Biological Systems ENGL 101 Writing 3 BIOL (fulfills 3 credits Writing Enriched)\* 105L Information Flow in Biological Systems Lab Reasonina BIOL PHIL 101 Reasoning 3 **BIOL** 106 Energy Flow in Biological Systems 207 Genetics First Year Seminar BIOL 3 207L Genetics Lab Dept. 193 **BIOL** Communication & Speech MATH 157 Calculus-Analytic Geometry I COMM 100 Communication & Speech 3 MATH 258 Calculus-Analytic Geometry II PHYS 103 Scientific Physics I Math 3 MATH (must be above Math 100) PHYS 204 Scientific Physics II Scientific Inquiry (2cr + 1cr lab) BIOL or CHEM or PHYS 104/104L **UPPER DIVISION** (taken year 1 or 2) 3 23 Credits Year 2: Beina & Becomina Course Course Title Credit: Grade **Christianity & Catholic Traditions** Credits Sem/Yr CHEM 310 Analytical Chemistry (see approved list)\*\* CHEM 310L Analytical Chemistry Lab RELI 3 Philosophy of Human Nature CHEM 355 Physical Chemistry PHIL 201 Philosophy of Human Nature 3 CHEM 355L Physical & Inorganic Chemistry Lab Year 3: Caring & Doing CHEM 370 Career Development II World/Comparative Religion Credits Sem/Yr CHEM 399 Advanced Topic RELI (see approved list)\*\* (fulfills 3cr Global Studies)\* 3 **BIOL** 456 Molecular Biology **Ethics** BIOL 456L Molecular Biology Lab PHIL 301 Ethics or RELI 330 Principles-Christian Morality CHEM 485 Seminar Year 4: Imagining the Possible One of the following options: Core Integration Seminar Credits Sem/Yr Dept. 3 CHEM 488 Senior Literature Review NOTE: some courses have pre-requisites, check the catalog carefully! OR CHEM 498A Thesis I **▶ BROADENING COURSES -** see approved list\*\* CHEM 498B Thesis II Social & Behavioral Science Credits Sem/Yr One Course in CHEM 405-435 (Block 1) 3 Literature Course Course Title Credit: Grade 3 **CHEM** History 3 One Course in CHEM 455-480 (Block 2) Fine Arts & Design Credit: Grade Course Course Title 3 **CHEM** 

6 total

► REQUIRED COURSE DESIGNATIONS - see approved list\*\* \*Writing Enriched Credits Sem/Yr 9 total Social Justice 3 total \*Global Studies

\*\*for list of approved RELI, Broadening & Designated courses, see :

https://my.gonzaga.edu/academics/undergraduate-programs/general-degreerequirements-procedures/university-core

College of Arts and Sciences: 2020-2021

## B.S. BIOCHEMISTRY (non-ACS Approved) - **SAMPLE** Yearly Progression

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#### 70-71 Credits required for Major

70-/1 Credits required for Major						
Freshman						
FALL			SPRIN	G		
Course	Course Title	Credit: Grade	1	Course Title	Ī	Grade
CHEM	101 General Chemistry	3		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						
FALL			SPRIN	G		
Course	Course Title	Credit: Grade	7	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		CORE (2)	3	
					16	
					10	
		Junio	or		10	
FALL		Junio		G	10	
FALL Course	Course Title	<b>Junic</b> Credit <u>: Grade</u>	SPRIN	G Course Title		Grade
	Course Title 204 Scientific Physics II		SPRIN			Grade
Course	204 Scientific Physics II	Credit: Grade	SPRIN Course	Course Title	Credit	Grade
Course PHYS	204 Scientific Physics II 355 Physical Chemistry	Credit: Grade	SPRING Course BIOL BIOL	Course Title 207 Genetics 207L Genetics Lab	Credit:	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab	Credit: Grade 4 3	SPRING Course BIOL BIOL	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic	Credit:	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry	Credit: Grade 4 3 1	SPRING Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab xxx <sup>(5)</sup> Advanced Topic/Special Topic	Credit: 3 1 2	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3)	Credit: Grade 4 3 1 3	SPRING Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE (3)	Credit: 3 1 2 1	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3)	Credit: Grade 4 3 1 3 3 3	SPRING Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup>	Credit: 3 1 2 1 3	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 3	SPRING Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE (3)	Credit: 3 1 2 1 3 3 3 3 3	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 3 17	SPRIN Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup>	Credit: 3 1 2 1 3 3 3	Grade
Course PHYS CHEM CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 3	SPRIN Course BIOL BIOL CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup>	Credit: 3 1 2 1 3 3 3 3 3	Grade
Course PHYS CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 3 17	SPRING Course BIOL BIOL CHEM CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup>	Credit: 3 1 2 1 3 3 3 3 16	Grade
Course PHYS CHEM CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 3 17 Senio	SPRING Course BIOL BIOL CHEM CHEM SPRING COURSE CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> G  Course Title  xxx <sup>(5)</sup> Advanced Topic/Special Topic	Credit: 3 1 2 1 3 3 3 3 16	
Course PHYS CHEM CHEM FALL Course	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3) CORE (3) CORE (3)	Credit: Grade 4 3 1 3 3 3 7 17  Senio	SPRING Course BIOL BIOL CHEM CHEM SPRING COURSE CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup>	Credit: 3 1 2 1 3 3 3 16 Credit:	
Course PHYS CHEM CHEM  FALL Course BIOL	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3) CORE (3) CORE (4) CORE (5)	Credit: Grade  4  3  1  3  3  3  17  Senice  Credit: Grade  3	SPRING Course BIOL BIOL CHEM CHEM SPRING COURSE CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> G  Course Title  xxx <sup>(5)</sup> Advanced Topic/Special Topic	Credit: 3	
FALL Course BIOL BIOL	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab  CORE (3)  CORE (3)  CORE (3)  CORE (3)  Course Title 456 Molecular Biology 456L Molecular Biology Lab	Credit: Grade 4 3 1 3 3 3 3 7 7 Senice Credit: Grade 3 1	SPRING Course BIOL BIOL CHEM CHEM SPRING COURSE CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(4)</sup>	Credit: 3	
FALL Course BIOL BIOL CHEM	204 Scientific Physics II 355 Physical Chemistry 355L Physical & Inorganic Chemistry Lab CORE (3) CORE (3) CORE (3)  CORE (4)  CORE (4)	Credit: Grade  4  3  1  3  3  3  17  Senice  Credit: Grade  3  1  2	SPRING Course BIOL BIOL CHEM CHEM SPRING COURSE CHEM	Course Title 207 Genetics 207L Genetics Lab  xxx <sup>(5)</sup> Advanced Topic/Special Topic 370 Career Development II  CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> CORE <sup>(3)</sup> Topic Genetics Lab  Course Title  xxx <sup>(5)</sup> Advanced Topic/Special Topic  498B <sup>(6)</sup> Thesis II	Credit: 3	

#### **NOTES:**

CORE (4)

- 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.