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

B.S. BIOCHEMISTRY (ACS Approved)

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-](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.S. BIOCHEMISTRY (ACS): 70 CREDITS

MAJOR LOWER DIVISION — 44 Credits

Course	Course Title	Credits	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 Info Flow in Biological Systems	3	
BIOL	105L Info Flow in Biological Systems Lab	1	
BIOL	106 Energy Flow in Biological Systems	3	
MATH	157 Calculus-Analytic Geometry I	4	
MATH	258 Calculus-Analytic Geometry II	4	
PHYS	103 Scientific Physics I*	3*	
PHYS	103L Scientific Physics I Lab	1	
PHYS	204 Scientific Physics II*	3*	
PHYS	204L Scientific Physics II Lab	1	

NOTE: the required number of credits for these courses for the major differ from actual course credits

MAJOR UPPER DIVISION — 26 Credits

Course	Course Title	Credits	Grade
CHEM	310 Analytical Chemistry	3	
CHEM	310L Analytical Chemistry Lab	2	
CHEM	345L Advanced Biochemistry Lab	3	
CHEM	355 Physical Chemistry	3	
CHEM	355L Physical & Inorganic Chemistry Lab	1	
CHEM	370 Career Development II	1	
CHEM	399 Advanced Topic	2	
CHEM	485 Seminar	1	
CHEM	498A Thesis	1	
CHEM	498B Thesis	1	

Special Topics in Chemistry or Biochemistry
CHEM 405-435 (Block 1)

Course	Course Title	Credits	Grade
CHEM		2	

Special Topics in Chemistry or Biochemistry
CHEM 455-480 (Block 2)

Course	Course Title	Credits	Grade
CHEM		2	

Special Topics in Chemistry or Biochemistry
CHEM 405-435 and 455-480 (Elective Block)

Course	Course Title	Credits	Grade
CHEM		2	
CHEM		2	

College of Arts and Sciences: 2017-2018

B.S. BIOCHEMISTRY (ACS) - *SAMPLE* YEARLY PROGRESSION

(70 Credits required for Major)

Freshman

FALL Course	Course Title	Credits	Grade	*SPRING* Course	Course Title	Credits	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

FALL Course	Course Title	Credits	Grade	*SPRING* Course	Course Title	Credits	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	
PHYS	103 Scientific Physics I Lab	1		CHEM	310L Analytical Chemistry Lab	2	
	CORE [2]	3			CORE [2]	3	
	CORE [2]	3			CORE [2]	3	
		18				**16**	

***NOTE:** required number of credits for these courses differ from actual course credits*

Junior

FALL Course	Course Title	Credits	Grade	*SPRING* Course	Course Title	Credits	Grade
CHEM	355 Physical Chemistry	3		CHEM	345 Advanced Biochemistry Lab	3	
CHEM	355L Physical & Inorganic Chemistry Lab	1		CHEM	370 Career Development II	1	
PHYS	204 Scientific Physics II	4		CHEM	xxx[5] Advanced Topic/Special Topic	2	
PHYS	204L Scientific Physics II Lab	1			CORE [3]	3	
	CORE [3]	3			CORE [3]	3	
	CORE [3]	3			CORE [3]	3	
		15				**15**	

Senior

FALL Course	Course Title	Credits	Grade	*SPRING* Course	Course Title	Credits	Grade
CHEM	485 Seminar	1		CHEM	498B[6] Thesis II	1	
CHEM	498A Thesis I	1		CHEM	xxx[5] Advanced Topic/Special Topic	2	
CHEM	xxx[5] Advanced Topic/Special Topic	2		CHEM	xxx[5] Advanced Topic/Special Topic	2	
CHEM	xxx[5] Advanced Topic/Special Topic	2			CORE [4]	3	
	CORE [4]	3			CORE [4]	3	
	CORE [4]	3			CORE [4]	3	
	CORE [4]	3			CORE [4]	3	
		15				**17**	

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* 492) 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.