

# Biological Chemistry

2017-2018  
Academic Year



## School of Science and Engineering Chemistry Department

2015 Percival Stern Hall

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GENERAL REQUIREMENTS FOR STUDENTS MATRICULATING IN ACADEMIC YEAR: 2017-2018

DEGREE: **BACHELOR OF SCIENCE**

TOTAL CREDITS: 120

MAJOR: **BIOLOGICAL CHEMISTRY**

MINIMUM CUMULATIVE GRADE POINT AVERAGE: 2.0

MINIMUM MAJOR GRADE POINT AVERAGE: 2.0

CORE CURRICULUM REQUIREMENTS			MAJOR REQUIREMENTS	69-78 CREDITS
<b>Area</b>	<b>Credits</b>	<b>To Be Selected From</b>	<b>Cell and Molecular Biology Required Courses</b>	
First Year Writing	4	ENGL 1010 or Equivalent	CELL 1010	CELL 2050 CELL 3030,3035 CELL 4220 CELL 3750
TIDES – 1 course in fall semester	1-1.5		<b>Chemistry Required Courses</b>	
Foreign Language – Competence at 1020-Level (1-2 courses depending on placement and language)	3-8	Arabic, Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, or Spanish	CHEM 1070,1075	CHEM 1080,1085 CHEM 2410,2415 CHEM 2420,2425 CHEM 3120,3125 CHEM 3830,3835 CHEM 3840
Cultural Knowledge – 1 Humanities 1 Fine Arts	6	Courses designated Humanities and Fine Arts	<b>Mathematics Required Courses</b>	
Cultural Knowledge – Social Science	6	Courses designated Social Science	MATH 1210	MATH 1220 <sup>1</sup> MATH 2210
Quantitative Reasoning 2 Math courses	8	MATH 1210 and 1220 or equivalent	Math 1310 can be taken in lieu of 1210 and 1220	
Scientific Inquiry – 1 Lab Science 1 Science or Math	8	Courses from departments designated Science and Math	<b>Physics Required Courses</b>	
Writing Intensive	4	Consult Major	PHYS 1310	PHYS 1320
Public Service – 1 <sup>st</sup> Tier 2 <sup>nd</sup> Tier		1000-3000-Level 3000-Level or above	<b>Electives<sup>2</sup> – 2 courses</b>	
Western Traditions	3	Refer to Undergraduate Core Curriculum Guide	<b>Study Abroad:</b> England, Spain, Mexico, Norway, and other countries.	
Outside Western Traditions Or Comparative Cultures Intl. Perspectives	3	Refer to Undergraduate Core Curriculum Guide		
<b>This information is for students pursuing a minor in BIOLOGICAL CHEMISTRY - REQUIREMENTS</b>				
<ul style="list-style-type: none"> <li>Cell and Molecular Biology courses – CELL 2050 Genetics</li> <li>Chemistry courses – CHEM 3830 Intro. to Biochemistry, CHEM 3835 Intro to Biochemistry lab, CHEM 3840 Intermediate Biochemistry</li> <li>Electives – CELL 3750 Cell Biology or CELL 3030 Molecular Biology</li> </ul>				

- The Degree Plan and other information provided in this booklet serve only as advising tools. Newcomb-Tulane College advisors will help advise you on the core-curriculum, decide on a major, and consult on any academic success issues.
- Your major advisors will advise you on major requirements.
- Students with multiple majors will have more than one advisor and will need to consult with the appropriate advisor.
- Minors are not assigned an advisor, but a faculty member in the department is designated to advise minors.
- Become familiar with your major! By declaring early, you have access to a major advisor, are able to enroll in "majors only" classes, and are included in list serves that allow you to receive information about events, internships, and other opportunities.
- Pre-med and Pre-law students should also consult with one of the Pre-Professional advisors.

# What Can I Do with a Major in...

## Biological Chemistry

### GENERAL INFORMATION

- As an undergraduate, seek laboratory experiences such as research projects, volunteering with professors, summer jobs or internships.
- Participate in research programs sponsored by organizations like the National Science Foundation and the National Institutes of Health.
- Consider a certificate program or specialized master's program to qualify for research technician positions.
- Earn master's degree for greater variety and autonomy on the job.
- Earn a Ph.D. To work on high-level research projects, to direct research programs, to enter high levels of administration, and research at universities.
- Learn to work independently and as part of a team.
- Develop the ability to communicate clearly.
- Gain competencies in computers and mathematics.
- Read scientific journals and join related professional organizations.
- Combine an undergraduate degree in biological chemistry with another discipline to expand career options.

### SKILLS

- Ability to conduct and explain scientific research
- High proficiency in written/oral communications
- Ability to organize, analyze, and interpret scientific data
- Ability to make critical observations & appropriate decisions
- Aptitude for accurate details
- Strong mathematical background
- Good vision, spatial and manual dexterity
- Proficiency in reading comprehension, writing and speaking
- Intellectual capacity to perform well
- Ability to develop theories
- Ability to utilize formulas
- Ability to work independently and in groups
- Ability to remain objective
- Perceiving patterns/structures

### CAREER AREAS

#### RESEARCH

- Basic
- Applied
- Medical
- Grant Writing
- Administration

### EMPLOYERS

- University laboratories
- Federal government laboratories & agencies
- State and local laboratories & agencies
- Public health departments
- Hospital laboratories
- Commercial medical laboratories
- Forensics laboratories
- Independent research foundations
- Industry laboratories: pharmaceutical, biotechnology, food processors, cosmetics, chemical, petroleum, agriculture

#### TEACHING

- Elementary
- Secondary
- Post-Secondary

- Public and private elementary, middle and high schools
- Two-year community colleges/technical institutes
- Four-year institutions
- Medical schools

#### HEALTHCARE

- Medicine
- Dentistry
- Pharmacy
- Veterinary Medicine
- Physical Therapy
- Occupational Therapy
- Allied Health

- Hospitals
- Medical centers
- Nursing homes
- Clinics
- Private practice
- Public health organizations

*If you think you might be interested in this major, but you are not absolutely sure, an exploratory advisor can help you explore major and career options, please go to:*



*If you are interested in information about Law Professions, please go to:*



*If you are interested in information about Health Professions, please go to:*



# What Can I Do with a Major in...

## Biological Chemistry

### OTHER PROFESSIONAL OPPORTUNITIES

- Sales/Marketing
- Technical Writing
- Scientific Journalism
- Scientific Illustration
- Regulatory Affairs
- Administration/Management
- Scientific/Technical Recruiting
- Intellectual Property/Patent Law

- Biotechnology industry
- Pharmaceutical and chemical companies
- Publishers: textbook, magazine, newspaper, book
- Software firms
- Regulatory agencies
- Search firms
- Law firms
- Legal departments of corporations

### PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science  
[www.aaas.org](http://www.aaas.org)

American Society for Biochemistry and Molecular Biology  
[www.asbmb.org](http://www.asbmb.org)

American Chemical Society  
[www.acs.org](http://www.acs.org)

### RELATED WEBSITES & ASSOCIATIONS

American Academy of Forensic Sciences  
[www.aafs.org](http://www.aafs.org)

Careers in Food  
[www.careersinfood.com](http://www.careersinfood.com)

Chem Jobs  
[www.chemjobs.net](http://www.chemjobs.net)

Chemical Week Magazine  
[www.chemweek.com](http://www.chemweek.com)

Environmental Career Opportunities  
[www.ecojobs.com](http://www.ecojobs.com)

HireHealth.com  
[www.hirehealth.com](http://www.hirehealth.com)

HireRx.com  
[www.hireRx.com](http://www.hireRx.com)

Journal of Biochemistry  
[jb.oupjournals.org](http://jb.oupjournals.org)

Science Careers  
[sciencecareers.sciencemag.org](http://sciencecareers.sciencemag.org)

Journal of Biological Chemistry  
[www.jbc.org](http://www.jbc.org)

Chemistry Jobs  
[www.chemistryjobs.com](http://www.chemistryjobs.com)

Nature Jobs  
[www.nature.com/naturejobs](http://www.nature.com/naturejobs)

ACS Publications  
[pubs.acs.org](http://pubs.acs.org)

ChemWeb  
[www.chemweb.com](http://www.chemweb.com)

BioMedNet  
[www.bmn.com](http://www.bmn.com)

American Chemical Society Job Bank  
[chemistryjobs.acs.org/jobs](http://chemistryjobs.acs.org/jobs)

*For Jobs, internships, resume assistance,  
interviews, and self-assessments, please  
go to:*



*Tulane University is committed to your academic success  
and provide several services to assist.*