

Cell & Molecular Biology

2017-2018
Academic Year



School of Science and Engineering Cell and Molecular Biology Department

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

DEGREE: **BACHELOR OF SCIENCE**

TOTAL CREDITS: 120

MAJOR: **CELL & MOLECULAR BIOLOGY**

MINIMUM CUMULATIVE GRADE POINT AVERAGE: 2.0

MINIMUM MAJOR GRADE POINT AVERAGE: 2.0

CORE CURRICULUM REQUIREMENTS			MAJOR REQUIREMENTS	50-59 CREDITS
Area	Credits	To Be Selected From	Cell & Molecular Biology Required Courses	
First Year Writing	4	ENGL 1010 or Equivalent	CELL 1010	CELL 2050
TIDES – 1 course in fall semester	1-1.5		CELL 3030	CELL 3750
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	CELL 3755 or 3035	CELL lecture or lecture/lab (from core electives)
Cultural Knowledge – 1 Humanities 1 Fine Arts	6	Courses from departments designated Humanities and Fine Arts	CELL 4010 or CENG 4450 & 4460 or CHEM 3830 & 3840	
Cultural Knowledge – Social Science	6	Courses from departments designated Social Science	Chemistry Required Courses	
Quantitative Reasoning 2 Math courses	8	MATH 1210 and MATH 1230	CHEM 1070/1170	CHEM 1080/1180
Scientific Inquiry – 1 Lab Science 1 Science or Math	7-8	Courses from departments designated Science and Math	CHEM 2410/2415	CHEM 2420/2425
Writing Intensive	4	Consult Major	Physics Required Courses	
Public Service – 1 st Tier 2 nd Tier		1000-3000-Level 3000-Level or above	PHYS 1210 or 1310	PHYS 1220 or 1320
Western Traditions	3	Refer to Undergraduate Core Curriculum Guide	Electives – 3 courses ¹	
Outside Western Traditions Or Comparative Cultures Intl. Perspectives	3	Refer to Undergraduate Core Curriculum Guide	1. Lab Elective	
This information is for students pursuing a minor in CELL & MOLECULAR BIOLOGY			2. Lab Elective	
NON-Neuroscience majors			3. Lecture or Lab Elective	
<ul style="list-style-type: none"> Required courses CELL 1010, 2050, 3030, and CELL 3750 Two additional biology electives 16 credits in chemistry (one year of both general and organic chemistry and their respective laboratories) 			Capstone – The capstone requirement can be fulfilled by CELL 3400, 4250, 4260, 4440, 4910/4920, 4950/4960, 4990/5000	
Neuroscience majors			Please consult your Faculty Advisor about electives that satisfy the core lecture elective and the lab elective requirements.	
<ul style="list-style-type: none"> Required courses CELL 3030, 3750, 4010 Two from: CELL 3050, 3210, 3400, 4110/4111, 4130, 4160, 4200, 4220, 4260, 4440, 4710, 4780 			Study Abroad: Great Britain, Spain, France, Italy, Australia, and Africa.	
Note: CELL 4200 may not be used for the CELL minor elective if NSCI 4200 is used as a major elective.			CRDV 1090 – Majors, Internships, and Jobs – (1 credit)	
Note: Biological chemistry majors may not minor in cell and molecular			This course is not a requirement for this major! It is an option for students who are interested in career development.	
			Through this course students develop the necessary tools, skills, and resources to become career ready, learning what it takes to be an excellent candidate in today's competitive job market. While taking CRDV 1090 students will create and refine professional documents, explore careers, conduct job/internship searches, develop networking and interviewing skills, and learn to utilize professional social media in order to network more effectively. Students will learn about the job/internship search process and know how to actively use this information in the real world. Students will have the unique opportunity to take personality and strength assessments in order to learn about their talents, interests, and preferred work environments. Students participate in a Mock Interview event with professionals	

- 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, you are able to enroll in "majors only" classes, you 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...

Cell and Molecular Biology

GENERAL INFORMATION

- Gaining relevant work experience through internships, part-time jobs, or volunteer positions is critical.
- A bachelor's degree will qualify you for work as a laboratory assistant, technician, technologist or research assistant in education, industry, government, museums and parks.
- An undergraduate degree can also be used for nontechnical work in writing, illustration, sales, photography and legislation.
- An advanced degree provides the opportunity to specialize in difference areas of the biological sciences as well as additional opportunities in research, administration and teaching.
- Develop strong computer, mathematics and communication skills.
- Join professional organizations to stay abreast of current issues in your field(s) of interest and to develop networking contacts.
- Read scientific journals in your areas of interest.
- If you are interested in attending graduate or professional school, become familiar with admission requirements and maintain a high GPA.
- Gain experience with grant writing and fundraising techniques. Often research must be funded in this manner.

SKILLS

- Ability to operate scientific equipment
- Independent worker
- Information handling & organization
- Curiosity and creativity
- Biology theory & practical knowledge
- Statistical awareness
- Oral & written communication
- Numerical computation
- Analytical & quantitative abilities
- Innovative talents
- Problem solving
- Technical skills
- Teamwork

CAREER AREAS

BIOTECHNOLOGY AND GENETICS

- Research

EMPLOYERS

- Colleges and universities
- Pharmaceutical companies
- Agriculture industry
- Government laboratories and agencies
- Biotechnology firms
- Hospitals and medical centers

TECHNICAL AND PHARMACEUTICAL SALES

- Sales
- Sales support

- Pharmaceutical companies
- Laboratory equipment manufacturers
- Medical supply companies

MICROBIOLOGY

- Research and development
- Education
- Quality control

- Colleges and universities
- Private research foundations
- Government laboratories and agencies
- Hospitals and public health facilities
- Food, chemical, pharmaceutical and cosmetic companies
- Environmental and pollution control companies

EDUCATION

- Teaching
- Specialty training

- Colleges and universities
- Elementary and secondary schools, public and private
- Museums
- Zoos
- Nature centers and parks

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...

Cell and Molecular Biology

BIOMEDICAL

- Physiology
- Biophysics
- Biochemistry
- Pharmacology
- Immunology
- Pathology
- Research and development
- Education
- Quality control

- Colleges and universities
- Professional schools
- Clinics and hospitals
- Private research foundations
- Pharmaceutical and biotechnology companies
- Federal laboratories and regulatory agencies
- Independent laboratories
- Public health departments
- Industries including chemical, petroleum, food, cosmetic and agriculture

HEALTHCARE

- Medicine
- Dentistry
- Optometry
- Chiropractics
- Pharmacy
- Veterinary Medicine
- Allied Health
- Physical Therapy

- Hospitals and medical centers
- Nursing homes
- Private practice
- Government agencies
- Armed forces
- Home health providers
- Nonprofit organizations

PROFESSIONAL ORGANIZATIONS

AIBS: American Institute of Biological Sciences
www.aibs.org

AAAS: American Association for the Advancement of Science
www.aaas.org

American Society for Biochemistry and Molecular Biology
www.asbmb.org

American Society for Cell Biology
www.ascb.org

American Society of Plant Physiologists
www.aspb.org

Canadian Society of Biochemistry & Molecular & Cell Biology
www.csbmcb.ca

National Academy of Science
www.nas.edu

Biophysical Society
www.biophysics.org

Society for In Vitro Biology
www.sivb.org

RELATED WEBSITES & ASSOCIATIONS

Information Resource for Cell and Molecular Biologists
www.cellbio.com

Biospace
www.biospace.com

The Chronicle of Higher Education
www.chronicle.com

Nature Career Resources
www.nature.com

The Scientist
www.the-scientist.com

Careers in Science and Engineering
www.nap.edu/readingroom/books/careers

Guide to Graduate Education in Science, Engineering & Public Policy
www.aaas.org/spp/sepp/index.htm

National Association of Science Writers
www.nasw.org

Biotechnology Industry Organization
www.bio.org

The Career Center at Access Excellence
www.accessexcellence.org

TheLabRat.com
<http://thelabrat.com>

ScienceCareers.org
<http://sciencecareers.sciencemag.org>

*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.*