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

**DEGREE:** BACHELOR OF SCIENCE

**MAJOR:** CELL & MOLECULAR BIOLOGY

**MINIMUM CUMULATIVE GRADE POINT AVERAGE:** 2.0

**MINIMUM MAJOR GRADE POINT AVERAGE:** 2.0

**TOTAL CREDITS:** 120

### CORE CURRICULUM REQUIREMENTS

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
<th>To Be Selected From</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Writing</td>
<td>4</td>
<td>ENGL 1010 or Equivalent</td>
</tr>
<tr>
<td>TIDES – 1 course in fall semester</td>
<td>1-1.5</td>
<td></td>
</tr>
<tr>
<td>Foreign Language – Competence at 1020-Level</td>
<td>3-8</td>
<td>Arabic, Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, or Spanish</td>
</tr>
<tr>
<td>Cultural Knowledge – 1 Humanities</td>
<td>6</td>
<td>Courses from departments designated Humanities and Fine Arts</td>
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<tr>
<td>Cultural Knowledge – Social Science</td>
<td>6</td>
<td>Courses from departments designated Social Science</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>8</td>
<td>MATH 1210 and MATH 1230</td>
</tr>
<tr>
<td>Scientific Inquiry</td>
<td>7-8</td>
<td>Courses from departments designated Science and Math</td>
</tr>
<tr>
<td>Writing Intensive</td>
<td>4</td>
<td>Consult Major</td>
</tr>
<tr>
<td>Public Service – 1st Tier</td>
<td>1000-3000-Level or above</td>
<td></td>
</tr>
<tr>
<td>Western Traditions</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
</tr>
<tr>
<td>Outside Western Traditions Or Comparative Cultures</td>
<td>3</td>
<td>Refer to Undergraduate Core Curriculum Guide</td>
</tr>
</tbody>
</table>

**Cell & Molecular Biology Required Courses**
- CELL 1010
- CELL 2050
- CELL 3030
- CELL 3750
- CELL 3755 or 3035
- CELL lecture or lecture/lab (from core electives)

**Chemistry Required Courses**
- CHEM 1070/1170
- CHEM 1080/1180
- CHEM 2410/2415
- CHEM 2420/2425

**Physics Required Courses**
- PHYS 1210 or 1310
- PHYS 1220 or 1320

**Electives**
- 3 courses
  1. Lab Elective
  2. Lab Elective
  3. Lecture or Lab Elective

**Capstone** – The capstone requirement can be fulfilled by CELL 3400, 4250, 4260, 4440, 4910/4920, 4950/4960, 4990/5000

**Study Abroad:** Great Britain, Spain, France, Italy, Australia, and Africa.

**CRDV 1090 – Majors, Internships, and Jobs – (1 credit)**

- Students will participate in a Mock Interview event with professionals.

**This information is for students pursuing a minor in CELL & MOLECULAR BIOLOGY**

### NON-Neuroscience majors

- **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)**

### Neuroscience majors

- **Required courses:** CELL 3030, 3750, 4010
- **Two from:** CELL 3050, 3210, 3400, 4110/4111, 4130, 4160, 4200, 4220, 4260, 4440, 4710, 4780

**Note:** CELL 4200 may not be used for the CELL minor elective if NSCI 4200 is used as a major elective.

**16 credits in chemistry (one year of both general and organic chemistry and the respective labs)**

**Note:** Biological chemistry majors may not minor in cell and molecular

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**This 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 listservs 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.
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: Explore.Tulane.edu

If you are interested in information about Law Professions, please go to: LawProfessions.Tulane.edu

If you are interested in information about Health Professions, please go to: HealthProfessions.Tulane.edu

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

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

**PROFESSIONAL ORGANIZATIONS**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Website</th>
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<tr>
<td>AIBS: American Institute of Biological Sciences</td>
<td><a href="http://www.aibs.org">www.aibs.org</a></td>
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<tr>
<td>AAAS: American Association for the Advancement of Science</td>
<td><a href="http://www.aaas.org">www.aaas.org</a></td>
</tr>
<tr>
<td>American Society for Biochemistry and Molecular Biology</td>
<td><a href="http://www.asbmb.org">www.asbmb.org</a></td>
</tr>
<tr>
<td>American Society for Cell Biology</td>
<td><a href="http://www.ascb.org">www.ascb.org</a></td>
</tr>
<tr>
<td>American Society of Plant Physiologists</td>
<td><a href="http://www.aspb.org">www.aspb.org</a></td>
</tr>
<tr>
<td>Canadian Society of Biochemistry &amp; Molecular Cell Biology</td>
<td><a href="http://www.csbmcb.ca">www.csbmcb.ca</a></td>
</tr>
<tr>
<td>National Academy of Science</td>
<td><a href="http://www.nas.edu">www.nas.edu</a></td>
</tr>
<tr>
<td>Biophysical Society</td>
<td><a href="http://www.biophysics.org">www.biophysics.org</a></td>
</tr>
<tr>
<td>Society for In Vitro Biology</td>
<td><a href="http://www.sivb.org">www.sivb.org</a></td>
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**RELATED WEBSITES & ASSOCIATIONS**

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<tr>
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<tr>
<td>Information Resource for Cell and Molecular Biologists</td>
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<tr>
<td><a href="http://www.cellbio.com">www.cellbio.com</a></td>
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<tr>
<td>Biospace</td>
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<td><a href="http://www.biospace.com">www.biospace.com</a></td>
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<tr>
<td>The Chronicle of Higher Education</td>
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<td><a href="http://www.chronicle.com">www.chronicle.com</a></td>
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<tr>
<td>Nature Career Resources</td>
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<tr>
<td><a href="http://www.nature.com">www.nature.com</a></td>
</tr>
<tr>
<td>The Scientist</td>
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<tr>
<td><a href="http://www.the-scientist.com">www.the-scientist.com</a></td>
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<tr>
<td>Careers in Science and Engineering</td>
</tr>
<tr>
<td><a href="http://www.nap.edu/readingroom/books/careers">www.nap.edu/readingroom/books/careers</a></td>
</tr>
<tr>
<td>Guide to Graduate Education in Science, Engineering &amp; Public Policy</td>
</tr>
<tr>
<td><a href="http://www.aaas.org/spp/sepp/index.htm">www.aaas.org/spp/sepp/index.htm</a></td>
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<tr>
<td>National Association of Science Writers</td>
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<tr>
<td><a href="http://www.nasw.org">www.nasw.org</a></td>
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<tr>
<td>Biotechnology Industry Organization</td>
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<tr>
<td><a href="http://www.bio.org">www.bio.org</a></td>
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<tr>
<td>The Career Center at Access Excellence</td>
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<td><a href="http://www.accessexcellence.org">www.accessexcellence.org</a></td>
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<tr>
<td>TheLabRat.com</td>
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<td><a href="http://thelabrat.com">http://thelabrat.com</a></td>
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<tr>
<td>ScienceCareers.org</td>
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<td><a href="http://sciencecareers.sciencemag.org">http://sciencecareers.sciencemag.org</a></td>
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**For Jobs, internships, resume assistance, interviews, and self-assessments, please go to:**

HIRE TULANE GRADS.COM

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