



Biology BS: Cell and Molecular Biology major – 2014/15 Catalog

USF BioAdvise - SCA 203 Ph: 813/974-3250 Fax: 813/974-3263 - bioadvise@usf.edu, <http://biology.usf.edu/bioadvise>



Cell and Molecular Biology Major Requirements: 40 hours total

- Students must receive a C- or better to meet major requirements.
- Cascading Prerequisites are strictly enforced.
- ☐ Students must maintain a 2.0 GPA in all majors' coursework, which is calculated using only USF Biology courses.
- ☐ Students must have **less than 3** D and/or F grades in CAM major and supporting science requirement lectures.
- ☐ Students must complete a minimum of 20 hours in Biology at USF Tampa.

Biology Core Curriculum: 12 hours

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☐ BSC 2010, 2010L	Cellular Processes & Lab	4hrs
☐ BSC 2011, 2011L	Biodiversity & Lab	4hrs
☐ PCB 3063, 3063L	Genetics w/Lab	4hrs BSC 2010/L, CHM 2046

Cell and Molecular Biology Curriculum: 28 hours

Most advanced CMMB courses are not offered every semester. There are no set offerings for summer semesters.

☐ MCB 3410	Cell Metabolism	3hrs	BSC 2010/L, CHM 2046
☐ PCB 3023, 3023L	Cell Biology w/Lab	4hrs	BSC 2010/L, CHM 2046
☐ PCB 4024	Molecular Biology of Cell (FA & SP)	3hrs	PCB 3023, PCB 3063, CHM 2046
☐ PCB 4026	Molecular Biology of Gene (FA & SP)	3hrs	PCB 3023, PCB 3063, CHM 2046
☐ Choose 15 hours of Cell and Molecular major electives from the following courses:			
○ BCH 3053	Biochemistry	3hrs	BSC 2010/L, CHM 2210
○ BSC 4434	Bioinformatics (Spring Only)	3hrs	PCB 3023 or PCB 3063 and CHM 2045
○ BSC 4905	Independent Study	1hr	CI
○ BSC 4910	Undergraduate Research	1-4 hrs	3.0 GPA, contract with faculty, max 2 credits/semester
○ BSC 4933*	Selected Topic approved for CAM	1-4 hrs	CI
○ BSC 5420	Genetic Engineering (Spring Only)	3hrs	PCB 3023 & PCB 3063 & PCB 3023L OR PCB 3063L
○ MCB 3020/L	General Microbiology & Lab	3-4hrs	BSC 2010/L, CHM 2210
○ MCB 4503	Virology (Fall)	3hrs	MCB 3020/L, CHM 2210
○ PCB 4671	Molecular Evolution (Every other Spring)	3hrs	PCB 3063 OR CI
○ PCB 3043/L	Principles of Ecology & Lab	3-4hrs	BSC 2010/L, BSC 2011/L, CHM 2046
○ PCB 3712/13L	General Physiology	3-4hrs	BSC 2011/L, CHM 2046
○ PCB 4234	Principles of Immunology (Fall only)	3hrs	PCB 3023 or PCB 3063 or MCB 3020/L, CHM 2210
○ PCB 4522C	Experimental Genetics and Cell Bio	3hrs	PCB 3063/L, PCB 3023, CHM 2046
○ PCB 4663	Human Genetics (Spring only)	3hrs	PCB 3023, PCB 3063, CHM 2046
○ PCB 4744	Biomedical Physiology	3hrs	PCB 3023, BSC 2010/L, CHM 2046, CHM 2045
○ ZOO 4753	Human Histology & Histopathology	3hrs	PCB 3063, PCB 3023, CHM 2210

*Not all BSC 4933 courses count towards this major's elective hours. Check with an Advisor.

Check BioAdvise permits page for additional Cell and Molecular Biology electives.

Supporting Sciences: 32-34 hours total

Supporting Sciences: 32-34 hours total		Prerequisite grade
• Students must receive a C- or better to meet requirements for degree		
☐ CHM 2045& CHM 2045L General Chemistry I and Lab	4 hrs.	C (2.0) grade min
☐ CHM 2046 & CHM 2046L General Chemistry II and Lab	4 hrs.	C (2.0) grade min
☐ CHM 2210 & CHM 2210L Organic Chemistry I and Lab	5 hrs.	C (2.0) grade min
☐ CHM 2211& CHM 2211L Organic Chemistry II and Lab	5 hrs.	C (2.0) grade min
☐ One of the General Physics sequences 8 hrs.:		C- or better
○ PHY 2053/L & 2054/L (non-calculus based, recommended for life science/pre-health majors)		
○ PHY 2048/L & 2049/L (calculus based – must take MAC 2311 and 2312 math sequence)		
☐ Calc I: MAC 2241 Life Sciences, MAC 2311, or MAC 2281 Engineering	3-4 hrs.	C (2.0) grade min to take Calc II
☐ Calc II or Statistics: MAC 2242, MAC 2312, MAC 2282, or STA 2023	3-4 hrs.	C- or better

Additional USF Degree Requirements

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Foundations of Knowledge and Learning Lower-level Requirements:

- | | | |
|---|----------|----------|
| <input type="checkbox"/> English Composition (2 courses) | ENC 1101 | ENC 1102 |
| <input type="checkbox"/> Social/Behavioral Sciences (2 courses) | _____ | _____ |
| <input type="checkbox"/> Fine Arts (1 course) | _____ | |
| <input type="checkbox"/> Human/Cultural Diversity in a Global Context (1 course) | _____ | |
| <input type="checkbox"/> Humanities (2 courses) | _____ | _____ |
| <input type="checkbox"/> Human Historical Context and Process dimension two courses from above must also meet HHCP* | | |
| | ENC 1101 | _____ |

Foundations of Knowledge and Learning Upper-level Requirements:

- | | |
|---|-------|
| <input type="checkbox"/> Capstone (1 course) | _____ |
| <input type="checkbox"/> Writing Intensive (1 course) | _____ |

*If HHCP was not completed in Lower-level FKL it can be completed as Upper-level FKL

Other University and College Requirements:

- 120 hours**
- 48 hour rule**
- Summer rule**
- GPA Requirement** - Students must earn an Overall 2.0 GPA and USF 2.0 GPA
- USF Residency** - Students must complete 30 hours of the last 60 hours in USF coursework.
- FLENT** (Foreign Language Entrance Requirement)
- Gordon Rule** Communication and Computation



“BioAdvise at USF” on Facebook for new opportunities within the Biology field!

The final responsibility for meeting all graduation requirements stated in the catalog rests with the student. See the USF catalog for a complete list of graduation requirements. <http://www.ugs.usf.edu/catalogs.htm>