



Biological Sciences Program

1300 Symons Hall

301-405-2080

<http://www.bsci.umd.edu>

College of Computer, Mathematical, & Natural Sciences

Key Features of a Biological Sciences Major

- Rigorous exposure to the modern experimental disciplines within Biology, in a cutting edge curriculum that reflects the national trends in undergraduate science education
- Training and experience in fields that directly impact peoples' lives and the complex ecosystems on which all life depends
- Opportunities to participate in research with UMD science faculty, gaining valuable experience for careers and graduate school
- Opportunities for internships at local government and private research institutions, including the National Institutes of Health, the Food and Drug Administration, the Smithsonian Institution, the Naval Health Research Center, the National Institute of Standards and Technology, and many others
- Emphasis upon interdisciplinary science education, allowing for extraordinary depth and breadth of experience

Specializations within a Biological Sciences Major

Students in the Biological Sciences Program must choose a specific area in which to focus their studies. These specializations reflect the dominant research areas within modern Biological Sciences. The five specializations within Biological Sciences are:

- Cell Biology and Molecular Genetics CEBG
- Ecology and Evolution ECEV
- Microbiology MICB
- Physiology and Neurobiology PHNB
- General Biology GENB

There is also an **Individualized Studies (BIVS)** option (see Q & A below). The requirements for each specialization and representative four-year plans can be found at <http://www.bsci.umd.edu/academics/>

Career Options and Salaries with a Biology Major

Biologists study living organisms and their relationship to the environment. Research in biology provides an understanding of life processes and can be applied to develop new products, solve health problems, and improve the environment. Most students with a Bachelor's degree in Biological Sciences choose to advance their careers by attending graduate or professional school. Many Biological Sciences majors pursue careers in the health professions such as medicine, dentistry, nursing, pharmacy, and others. These careers require an advanced health professions degree through medical school, dental school, and other health professions schools. Other Biological Sciences majors pursue a research career by attending graduate school and earning a Ph.D. in one of the sub-disciplines of modern biology, such as molecular biology, physiology, neurobiology, cell biology, ecology, or evolution. Many Master's programs offer a path toward more specific applied careers, such as conservation biology, wildlife management, medical technology, or public school teaching. Students with a Bachelor's degree in Biological Sciences have many career options. Many students work as research assistants in government, university, or private industry laboratories. A bachelor's degree in Biological Science can also lead to a career in teaching, science writing, science educational program development, technical sales,

work with an NGO or government agency, and many other exciting options. More information on careers and salaries in biology can be found at <http://www.bls.gov/data/>.

Advising

Each student in Biological Sciences is assigned a specific advisor. Students who have not yet completed benchmarks are assigned a staff advisor in the Student Services office of CMNS, 1300 Symons Hall. Students who have completed the Biological Sciences benchmarks are assigned an advisor in one of the three Biological Sciences Departments. More information on advising in the Biological Sciences Program can be found at <http://bsci.umd.edu/advising/>

If you would like to talk with a current Biological Sciences student about the major, you can meet with an undergraduate peer mentor in 1317 Symons Hall. Specific advising on preparing for a career in the health professions can be found at www.prehealth.umd.edu.

Declaring a Biology Major

Beginning in Fall 2010, all majors within the College of Computer, Mathematical, & Natural Sciences – including Biology – are Limited Enrollment Programs (LEP). Students beyond their first semester at the University of Maryland will now have to fulfill a series of Gateway requirements in order to declare a Biology major. The Gateways are as follows:

- 1) Completion of MATH 130 or 140 with a minimum grade of C-
- 2) Completion of BSCI 170/171 (*formerly* BSCI 105) and BSCI 160/161 (*formerly* BSCI 106) with a minimum grade of C-
- 3) Completion of CHEM 131/132 and CHEM 231/232 with a minimum grade of C-
- 4) A minimum grade point average of 2.7 in all courses taken at the University of Maryland and all other institutions is required for internal and external transfer students.

Please also note:

- Only one gateway or performance review course may be repeated to earn the required grade and that course may only be repeated once. When more than one course can satisfy a gateway requirement, taking a second course from the list will count as a repeat. **This policy will be in effect for all students who first matriculated at the University of Maryland in Spring 2015 or later.** A “W” or withdrawal counts as one attempt at a course.
- Students may apply only once to an LEP. Students who are directly admitted and fail to meet the performance review criteria will be dismissed from the major and may not reapply.
- Students must maintain a minimum cumulative GPA of 2.00. Failure to do so will result in dismissal from the major.
- Any student denied admission or dismissed from the major may appeal in writing directly to the Assistant Dean for Student Services of the College.

In order to formally declare a Biology major, you must:

- Fulfill the requirements on www.lep.umd.edu.
- Attend an informational session. More information can be found at <http://cmns.umd.edu/cmnsmajorchange>.
- Complete the limited enrollment program application. Students must apply by the 5th business day of January for Spring semester admission, and the 5th business day of June for Fall semester admission. The application can be found at <http://www.admissions.umd.edu/apply/LEPApplication.php>.

If you have any questions, please contact the LEP coordinator (Admissions) at lep@umd.edu.

Four-Year Plan General Biology (General Education)

First Year:

ENGL 101 (AW) 3	BSCI 170 & 171 (NS) 4
BSCI 160 & 161 (NS) 4	CHEM 231 3
CHEM 131 3	CHEM 232 1
CHEM 132 1	MATH 131 or 141 4
MATH 130 or 140 4	Gen Ed 3
UNIV 100 1	15 credits
16 credits	

Second Year:

BSCI 207 3	BSCI 222 4
CHEM 241 3	CHEM 271 3
CHEM 242 1	CHEM 272 1
Gen Ed 3	Gen Ed 3
Gen Ed 3	Gen Ed 3
Gen Ed 3	14 credits
16 credits	

Third Year:

PHYS 131 4	PHYS 132 4
BCHM 463* 3	Advanced Program Courses 7
Advanced Program Lab 4	PW 3
Gen Ed 3	14 credits
14 credits	

*or BCHM461

Fourth Year:

BIOM 301* 3	Advanced Program Courses 6
Advanced Program Lab 4	SP 3
Elective 3	Elective 3
Elective 3	Elective 3
Elective 3	15 credits
16 credits	

*Or other approved quantitative/statistical course

Total = 120 credits

NOTE: All students must complete an Oral Communication (OC) course as part of the Gen Ed requirements. In the above plan, I-Series (IS), Understanding Plural Societies (UP) and Cultural Competence (CC) courses double count with Gen Ed Distributive Studies requirements.

**Four Year Plan
General Biology
(CORE)**

First Year

BSCI 160/161	4	BSCI 170/171	4
CHEM 131	3	CHEM 231	3
CHEM 132	1	CHEM 232	1
MATH 130 or 140	4	MATH 131 or 141	4
ENGL 101	3	<u>HL</u>	3
UNIV 100	1		15 credits
	16 credits		

Second Year

BSCI 207	3	BSCI 222	4
CHEM 241	3	CHEM 271	3
CHEM 242	1	CHEM 272	1
HA	3	HO	3
SB	3	<u>SB</u>	3
SH	3		14 credits
	16 credits		

Third Year

PHYS 131	4	PHYS 132	4
BCHM 463*	3	Adv. Prog. Courses	7
Adv. Prog. Lab	4	<u>Professional Writing</u>	3
<u>Elective</u>	3		14 credits
	14 credits		

*or BCHM461

Fourth Year

BIOM 301*	3	Adv. Prog. Courses	6
Adv. Prog. Lab	4	Advanced Studies	3
Advanced Studies	3	<u>Electives</u>	6
<u>Electives</u>	6		15 credits
	16 credits		

*or other approved quantitative/statistical course

TOTAL = 120 credits

NOTE: In the above plan, one of the CORE courses satisfies Diversity as well as another CORE area.

Q & A

There is also an *Individualized Studies* option which combines Biological Sciences with interdisciplinary studies. Working with an advisor, you may incorporate classes from a variety of fields – such as mathematics, physics, linguistics, or psychology – with the requirements for a Biology degree. This option requires careful planning and approval from the Associate Director of Undergraduate Academic Programs.

I've heard there's a new math requirement for Biological Sciences. I've already taken MATH 220. Will that be accepted for the Biological Sciences major?

It depends upon *when* you took MATH 220. If you took the course *prior to Fall 2009*, then it will be accepted for the major. If you took the class *after Fall 2009*, you will have to take MATH 130-131 (Calculus for the Life Sciences I and II) and lose the credits for 220. (You cannot get credit for both MATH 130 and 220.) In order to register for either MATH 130 or 131, you will need to get an electronic stamp from the Biological Sciences Department. Your Letters and Sciences advisor can assist you with this.

Is there a minor in Biological Sciences??

At this time, there is no minor in Biological Sciences. However, there is a minor in Neuroscience offered jointly with the Department of Psychology. For more information on this program, please see <http://www.umd.edu/catalog/index.cfm/show/content.section/c/127/s/1827>.

How can I get information on jobs and internships within the Biological Sciences?

The College of Computer, Mathematical, and Natural Sciences website contains a wealth of information regarding job and internship opportunities. Some of these involve on-campus research, working with a faculty member on his or her own research project. You might also look for opportunities off-campus, with one of the various government agencies in Washington, D.C. Some internships may count towards your graduation credits; others simply offer valuable field experience. For information on these opportunities and many others, see the “Research and Internships” portion of the CLFS website: <http://bsci.umd.edu/research-internships/>