

## **The combined BS-MS degree**

The primary goal of the combined BS-MS degree is to encourage and better prepare undergraduates for careers in biological research. The degree plan is rigorous since students will have a 5-year period to complete the **requirements for the BS degree** in Biological Sciences and the **requirements for the MS degree in Molecular and Cell Biology**. Students will need to complete co-requisites and GEC requirements in a timely fashion, preferably by the end of their junior year. Calculus and/or Statistics co-requirement should be completed by the end of the sophomore year. Advanced Biology electives should be completed by the end of the junior year because the senior year will be filled with 5000 and 6000 level Biology classes. In addition, students are expected to be engaged in full time research in the lab of a faculty member during the summers following their sophomore, junior, and senior years, and to continue their research throughout the academic year. During the academic year, students receive course credit for their research; Introductory Research I and II (BIOL 2101 and 2102) during their junior year and Undergraduate Research I and II (BIOL 3398 and 3399) during their senior year. Requirements for the MS portion of the BS-MS degree will be the same as for the standard MS degree in Molecular and Cellular Biology Biological Sciences. **A sample schedule is below.**

## **Admission to the program**

Students should apply to the Biology Graduate Committee for admission into the BS-MS program in the spring of their sophomore year.

Minimum admission requirements:

Minimum 3.2 GPA in science courses

Agreement of a faculty member to supervise the research

If admitted, a three-member committee will be formed for each student. Typically, this committee will comprise the faculty advisor and two additional faculty members. The committee will meet at least once each year to monitor the student's progress. An additional external committee member will be added prior to or during the fifth year as a member of the MS thesis committee. To remain in the program, students will need to maintain a minimum 3.0 GPA in science courses and exhibit satisfactory progress in their lab work.

## **Financial Support**

Students will be provided a summer stipend as undergraduates and will be supported either as research or teaching assistants during their one year of graduate study. A graduate student stipend will begin following completion of the BS degree and continue for approximately one year until completion of their MS degree.

Suggested schedule of required courses for BS-MS degree in Biological Sciences. GEC and math/statistics courses are not shown.

<u>First Year:</u>	<u>Fall</u>	<u>Spring</u>
	Introductory Biology (1401)	Introductory Biology (1402)
	General Chemistry (1303)	General Chemistry (1304)
	<u>General Chemistry Lab (1113)</u>	<u>General Chemistry Lab (1114)</u>
	8 hrs	8 hrs

<u>Second Year:</u>	<u>Fall</u>	<u>Spring</u>
	Genetics (3304)	Cell Biology (3350)
	Organic Chemistry (3371)	Organic Chemistry (3372)
	<u>Organic Chemistry Lab (3117)</u>	<u>Organic Chemistry Lab (3118)</u>
	7 hrs	7 hrs

<u>Third Year:</u>	<u>Fall</u>	<u>Spring</u>
	Physics (1407)	Physics (1408)
	Molecular Biology (5304)	Adv. Biology Course*
	Adv. Biology * (with lab)	
	<u>Introductory Research I (2101)</u>	<u>Introductory Research II (2102)</u>
	12 hrs	8 hrs

<u>Fourth Year:</u>	<u>Fall</u>	<u>Spring</u>
	Biological Chemistry (5310)	Biological Chemistry (5311)
	Undergraduate Res. I (3398)	Biol. Chem. Lab (5110)
	Advanced Cell (6310)	Undergraduate Res. I (3399)
		Molecular Biology of Euk. (6322)
	Graduate Seminar (6121)	Graduate Seminar (6122)
	10 hrs	11-14 hrs

<u>Fifth Year:</u>	<u>Fall</u>	<u>Spring</u>
	Graduate Seminar (6123)	Graduate Seminar (6124)
	Specialized Grad. course	Specialized Grad. course
	<u>Research credits</u>	<u>Research credits</u>
	15 hrs	15 hrs

\*Optional fall undergraduate courses

Microbiology (3403)  
 Cancer Biology (3365)  
 Physiology (3306)  
 Parasitology (3354)

\*Optional spring undergraduate courses

Gen & Molec. Virology (5325)  
 Developmental Biology (4331)  
 Evolution (3303)  
 Molec. Genetics Lab (3222)  
 Biotech. & Nanotech. (4370)