

**Stern College for Women**

**Department/Program Name: Biology/Biology**

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**Mission Statement:**

The mission of the Department of Biology is for undergraduates majoring in biology to be prepared and to be qualified to pursue advanced studies in the biomedical sciences as related to human health care and/or to pursue employment in various biology-related fields. These milestones will be achieved by providing courses covering a spectrum of sub-disciplines with biology, so as to provide majors in biology with a comprehensive background in the principles of modern biology, with hands-on skills in the usage of laboratory instrumentation, with an understanding of scientific literature and of research methodologies, and with proficiencies in written and oral communication.

<b>Department/Program Goal</b>	<b>Objectives</b>
1. Biology majors will be able to understand the main principles of modern biology, with an emphasis on the biomedical sciences.	a. Biology majors will be able to identify the structure and function of cells and organisms.
	b. Biology majors will be able to distinguish the principles governing metabolism and homeostasis.
	c. Biology majors will be able to comprehend the molecular bases for inheritance and to apply these principles to identify the molecular bases of genetic diseases.
	d. Biology majors will be able to understand the cellular and molecular bases for normal human functioning and to extrapolate molecular mechanisms to pathologies and diseases.
2. Biology majors will be able to apply skills in modern laboratory techniques and knowledge of the scientific method to	a. Biology majors will be able to apply the scientific method to investigate problems.
	b. Biology majors will be able to incorporate

analyze scientific problems and to create their own scientific investigations.	the scientific method and to design and implement scientific experiments, including the collection and interpretation of data.
	c. Biology majors will be able to develop hands-on skills with modern laboratory instrumentation, including microscopy, biochemical analyses of biomolecules, and basic laboratory skills.
	d. Biology majors will be able to cultivate skills in computational techniques and in bioinformatics.
3. Biology majors will be able to critically evaluate scientific literature according to established scientific criteria.	a. Biology majors will be able to identify and to understand relevant scientific literature.
	b. Biology majors will be able to analyze the methodologies and rigor of published scientific research.
4. Biology majors will be able to express scientific ideas, both in written and oral communication.	a. Biology majors will be able to prepare laboratory reports, to present data, and to write scientific reports.
	b. Biology majors will be able to formulate clear and effective oral presentations.