

BA in Biological Sciences – Biophysics Concentration

Required:

Biol 100 Principles of Biology I	4.5 cr.
Biol 102 Principles of Biology II	4.5 cr.
Biol 200 Cell Biology I	4.5 cr.
Biol 202 Cell Biology II	4.5 cr.
Biol 300 Biological Chemistry	4.5 cr.
Biol 302 Molecular Genetics	4.5 cr.

Chem 102 General Chemistry I	3 cr.
Chem 103 General Chemistry I Lab	1.5 cr.
Chem 104 General Chemistry II	3 cr.
Chem 105 General Chemistry II Lab	1.5 cr.
Chem 222 Organic Chemistry I	3 cr.
Chem 224 Organic Chemistry II	3 cr.

Math 150 Calculus I	4 cr.
Math 155 Calculus II	4 cr.
Math 250 Calculus III	4 cr.

Phys 111 General Physics I	5.5 cr.
Phys 121 General Physics II	5.5 cr.
Phys 330 Atomic and Nuclear Phys	4 cr.
Phys 336 Thermo and Stat. Phys.	4 cr.
Phys 420 Biophysics	4 cr.

Electives (any 2)

Biol 390 Lab in Cell Structure	3 cr.
Math 254 Differ. Equations	4 cr.
Biol 470 Special Topics	2 cr.

Total Credits – 77.5 – 79.5 cr.

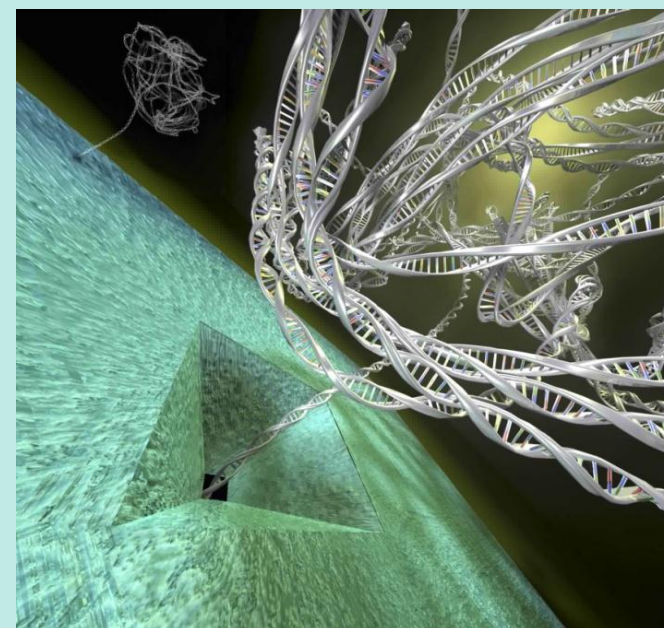
HUNTER

The City University of New York



Contact: Dr. Diana Bratu
Department of
Biological Sciences
Hunter College of CUNY
695 Park Avenue
Rm 914 North Building
New York, NY 10065
212-772-5235
bratu@genectr.hunter.cuny.edu

BA in Biological Sciences – With a concentration in Biophysics



DNA translocating through a solid-state nanopore.

Leads to a strong
understanding of Physics and
its application to Biology

BA in Biophysics Program

Be at the Forefront of Science

Major in biology

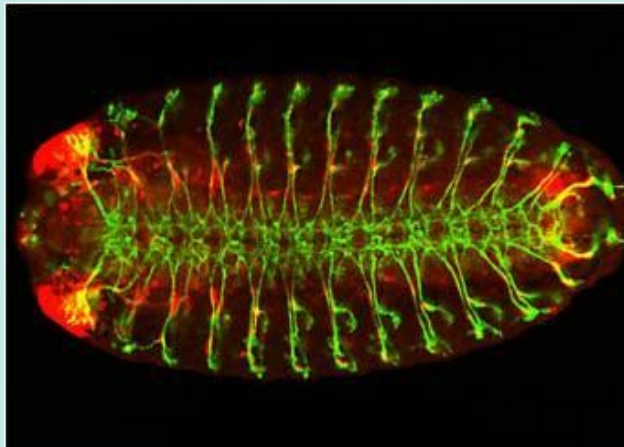
Minor in physics

Study more math

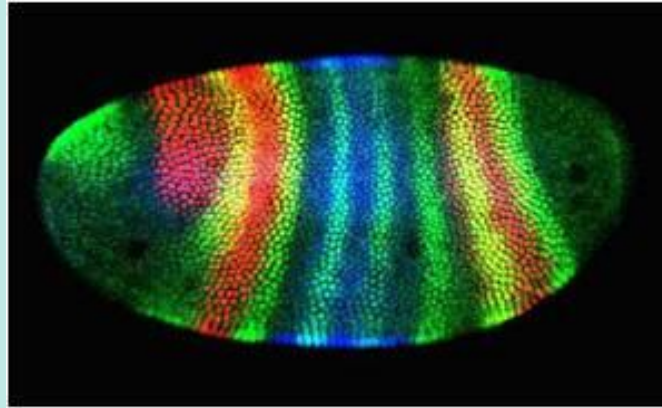
**Gain understanding
of dynamic systems**

**Learn about biological
imaging techniques**

**Acquire the analytical expertise to
design and interpret experiments
using these imaging systems**



Using the *Drosophila melanogaster* embryo as a model system, learn how to image various cellular structures using a range of illumination methods -- light, fluorescence, confocal laser scanning, and transmission electron microscopy.



Drosophila melanogaster embryo

Program Description

**First, you will need to fulfill most
of the requirements for a
Biology Major I**

However,

**1. You will take an extra
semester of math**

Plus

2. Two more courses in physics

And

**3. Instead of taking all your
upper level electives in
biology, you may take a
combination of upper division
electives in Physics, Math, and
Biology**

Finally,

**4. Take a capstone Biophysics
course in your last semester**

BA in Biophysics
Curriculum Guideline

YEAR 1

FALL

BIOL 100 – Principles of BIOL I – 4.5 cr.
Chem 102 – General Chemistry I – 3 cr.
Chem 103 – General Chemistry 1 lab – 1.5 cr.
Math 150 – Calculus I – 4 cr.

SPRING

BIOL 102 – Principles of BIOL II – 4.5cr.
Chem 104 – General Chemistry II – 3 cr.
Chem 105 – General Chemistry II lab – 1.5 cr.
Math 155 – Calculus II – 4 cr.

YEAR 2

FALL

BIOL 200 – Cell Biology I – 4.5 cr.
Or

SPRING

BIOL 202 – Cell Biology II – 4.5 cr.
And

FALL

Phys 111 –General Physics I – 5.5 cr.
Chem 222 – Organic Chemistry I – 3 cr.
And

SPRING

Chem 224 – Organic Chemistry II – 3 cr.
Phys 121 – General Physics II – 5.5 cr.
Math 250- Calculus III – 4 cr.

YEAR 3

FALL

BIOL 300 – Biological Chem – 4.5 cr.
Phys 330 – Atomic and Nuclear Phys. – 4 cr.

SPRING

BIOL 302 – Molecular Genetics – 4.5 cr.
Phys 336 – Thermo and Stat. Phys. – 4 cr.

YEAR 4

FALL

Phys 420 – Biophysics – 4 cr.

SPRING

Biol 470 – Various seminars – 2 cr.
Biol 390 – Lab in Cell Structure