Department of Biology Newsletter
State University of New York at Potsdam

Department of Biology

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THIS ISSUE (the Sandhill Crane issue) Fall 2025

- **$1000 scholarship**
- Registration info
- Declaring Biology as a Major or Minor
- Transitions in the Biology Department -
- **New and improved courses** for the upcoming term
- Marine Biology at SUNY Potsdam
- WISER Center News
- Potsdam General Education
- Health Professions and **Our Newest Major**: **Biomedical Sciences**
- Work study
- Teaching assistantships – Earn credit and beef up your résumé
- Beta Beta Beta
- Biomedical Sciences Curriculum
- Environmental Science Major (Spring 2022) and Revised Minor
- Internships
- Research with Profs
- B.S. checklist/ B.A. checklist/ Bio. specialization checklist

BOB CERWONKA MEMORIAL SCHOLARSHIP

The Biology Department at SUNY Potsdam invites all Biology Majors to apply for the Bob Cerwonka Memorial Scholarship. This scholarship was made possible from a generous donation from department alumnus **Mr. Robert E. Wagner** '75. Dr. Cerwonka, a former faculty member in the department, was a Limnologist and Ecologist and also founder of our Lambda Xi Chapter of the Beta Beta Beta Biological Honors Society. **Please note:** You must be a matriculated student in the Fall following the award given in January to receive the funds!!!

The successful candidate will:
1. Be a student who has declared Biology as their major.
2. Be in good academic standing at SUNY Potsdam, maintaining a minimum of a 2.5 GPA.
3. Preference shall be given to students that demonstrate an interest and appreciation of nature and the environment.
4. The applicant will be required to submit an essay that incorporates their understanding of ecology and natural history with their goals for a career in the life sciences.

The successful applicant will receive a **$1,000 award**. Students can apply for this scholarship multiple times. To apply, submit a typed essay of between 250 and 500 words to Dr. **Robert Snyder** by **December 1st**.

Potsdam
STATE UNIVERSITY OF NEW YORK

Comments or suggestions about the newsletter?
Contact Dr. Glenn Johnson, Newsletter Editor, in Timerman 231, x2710, johnsong@potsdam.edu

REGISTRATION

Advising begins Wednesday October 15. *The spring schedule will be available online this day* ***Registration*** *begins:*

- ***Seniors – November 4***
- ***Juniors – November 5***
- ***Sophomores – November 6***
- ***Freshmen – November 10***
- ***Transfer Students – November 17***

Students may adjust their schedules on BearPAWS until midnight, Sunday, Jan. 18th 2025, which is the day before Spring classes begin (Tuesday Jan 20!).

Registration instructions can be found at this link:
http://www.potsdam.edu/offices/registrar/registration/index.cfm

Students should consult with their advisor to make sure that they have completed the appropriate prerequisites and cognates before choosing electives. Some course descriptions and B.S. and B.A. checklists are included in this newsletter.

DECLARING BIOLOGY AS YOUR MAJOR OR MINOR

Students are strongly encouraged to declare their biology major as early as possible.

Declaring your major or minor early will help you obtain a biology faculty advisor and help you select the best courses toward your degree. It is our wish to match students with advisors with shared interests within life sciences. To declare biology as your major or minor, either see **Robert Snyder**, the Department Chair; Stowell 307) or email registrar@potsdam.edu. Just fill out one form. The entire process takes less than three-minutes, but it can save you a semester or more by ensuring that you receive an advisor who understands our program. Here is a link to a page on how to declare a major: Major/Minor Declaration | SUNY Potsdam

Above: Back from a whale watch in 2018 on our Cape Cod trip – At right, a group of SUNY Potsdam students collecting mosquitos to determine if they are carriers of zoonotic diseases such as Eastern Equine Encephalitis…some of the cool things about being a bio major!

TRANSITIONS – NEW DEVELOPENTS IN THE BIOLOGY DEPARTMENT

Faculty Changes

There have been and will be some significant changes in our Faculty makeup. First, **Dr. Robert Snyder** has taken over as Department Chair…however, there are some other administrative changes happening soon. Starting in Spring, Dr. Snyder will be a Division Chair. The college is reorganizing the administrative structure so that Biology, Chemistry, Physics, Earth and Environmental Science and Computer Science will be managed as a Division. The Biology Departments will still maintain some autonomy (for example, you will still be Biology majors) but now there will have one person as the point of contact for all these departments. You will see similar changes in other areas of the School of Arts and Sciences as well.

Second, **Dr. Laura Rhoads** left the University at the end of summer 2025. Both **Dr. Walt Conley** and **Dr. Glenn Johnson** will be retiring as of August 2026. Both will continue as Emeritus Faculty, so you may see them around. In fact, Dr. Johnson will continue to be involved in conservation research projects.

Group Advising

The college has moved to a new advising model where incoming first year students and sophomores will now have an Academic Advisor (AA) who will be a member of the professional advising staff as well as a Faculty Advisor (FA) in their major. The AA will be the primary advisors and the FA the secondary. For entering first year students, the FA will generally be the department or program coordinator; the chair/coordinator will then divvy up students as appropriate.

The Biology Department will initiate a time period for Group Advising. Spring 2026 Biology group advising session will take place on Thursday October 16th at 5:30 pm in Stowell 211. Biomedical Science group advising will be held Friday October 17 from 2-3 pm in Stowell 111.

We will have free food and drink as well as the following:

1. Group advising session for BIOL BS and BA majors as well as for the minors. Run-down of the required courses and what electives are for you
2. Brief overview of spring course offerings
3. News about upcoming research opportunities with student experiences
4. Career advice - Job ads and timelines. When should I start looking.
5. What about internships - Why should I and how do I find one.
6. What about grad school - Where, when, why

Attendance will help you plan your course work and focus your time at Potsdam to your career aspirations.

New Newsletter Editor

Beginning next spring, Dr. Jason Schreer will take over as the newsletter editor. This is a task he has done before in the years prior to 2011.

NEW AND IMPROVED COURSES

BIOL 483 – Current Topics

Please Note: There will be no Current Topics offered in Spring 2026. If you are graduating and still need this course, please see Dr. Snyder to discuss alternatives.

BIOL 301 – Communicating in Biology - CM

Dr. Bridget Amulike

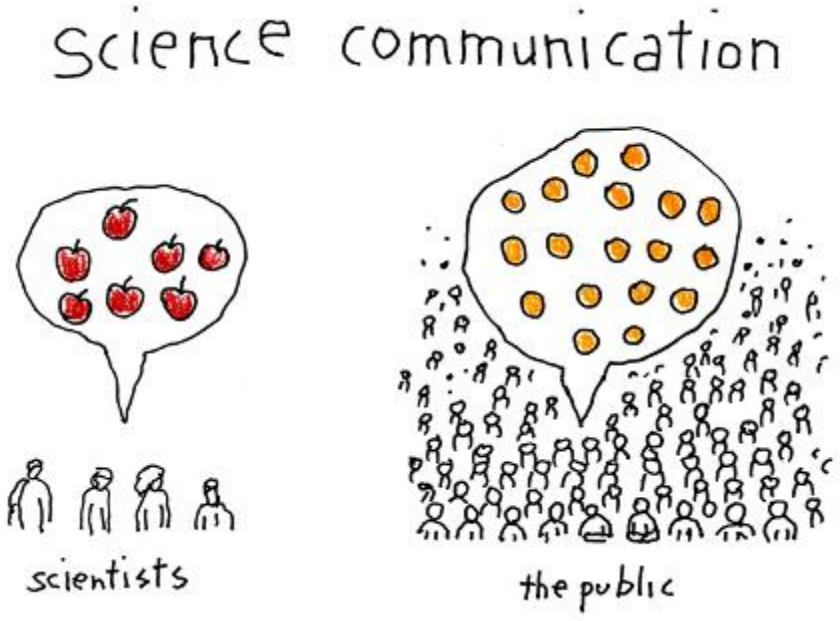
MWF 1000AM−1050AM

Prerequisites: BIOL 151 & 152, WAYS 101, 102, and 103

This course carries the Pathways CM (Communication in the Major) designator!

"Nothing in science has any value to society if it is not communicated, and scientists are beginning to learn their social obligations." – Anne Roe, 20th century American psychologist and writer

Communication is a key component of our daily lives and in an ever-increasingly connected world, knowing *how* to communicate has become an imperative life skill. Such an important skill is even more crucial for scientists, upon whose shoulders the burden of sharing our knowledge with the world falls. BIOL 301, which fulfills the Communicating in the Major (CM) designator of the Potsdam Pathways Program, is a newly offered course which introduces students to the numerous, discipline-specific modes of oral and written communication utilized in the biological sciences and provide a "communication toolbox" useful for future endeavors. Reading, discussion, and critique of peer-reviewed publications will provide students with an understanding of the principles and conventions of scientific writing while equipping students with skills to analyze the effectiveness of other modes of communication. Students will refine their speaking and writing skills through a series of writing assignments, class discussions, and visual and oral presentations throughout the semester while developing skills needed to communicate effectively and share biological concepts concisely and accurately in their future STEM courses and chosen profession.



ESCI 200 – Environmental Science

Dr. Kate Cleary

Lecture: M/W/F 12:00–12:50 pm | Lab: Tuesday 1:00–3:50 pm

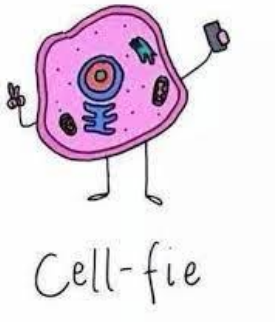
Discover how our planet works—and how we can help protect it. This course is designed to introduce students to the basic scientific methods, tools and techniques needed to understand and analyze environmental issues using an earth systems (air, water, soil, life and solid earth) approach. You'll investigate ecosystems, population dynamics, resource use, and pollution while learning the scientific tools and techniques used to understand real-world environmental issues through hands-on work in our lab sessions. This course provides a strong foundation for future study and helps you find your path - whether that's in land management, water or air quality, or conservation science. Get ready to explore, analyze, and make a difference! **Required for Environmental Science majors and minor.**

ESCI 251 – Gen Bio: Cells & Genetics

Dr. Snyder

MWF 9-9:50

Labs: M 2:30-5:20 or T 9-11:50 or T 2:30-5:20



This foundational general biology course is aimed at STEM majors looking to develop their understanding of the natural sciences. Typically, students take this course after completing one semester of General Chemistry. As part of a two-semester sequence, this course is often taken after Gen Bio: Organisms & Ecology. However, the order of these courses is flexible. You can take BIOL 151 before BIOL 152.

Course Description

The focus of this course is on cellular processes. Topics include cell structure, photosynthesis and respiration, cell division and genetics, and evolution. Lab required. Gen Ed: SB & LB credit.

WAYS 101 The Bird That Powers the World– 3 cr

Dr. Sarah Sirsat TuTh 11:30-12:45

Socrates' last words were about it. Queen Victoria was obsessed with it. Charles Darwin and Louis Pasteur made their scientific breakthroughs using it. Catholic popes, African shamans, Chinese philosophers, and Muslim mystics praised it. But, only recently has the chicken become humanity's most important single source of protein." This course will explore the fascinating saga of the modern chicken and the wicked problems which arose because of its domestication. We will develop critical thinking skills to tackle such moral quandaries as the commercialized meat industry, humanity's role as a preserver of other species, and the emergence of zoonotic diseases, like avian influenza.

WAYS 102: Chronicles of Crytozoology 3 cr

Dr. Sarah Sirsat MWF 10:00 – 10:50

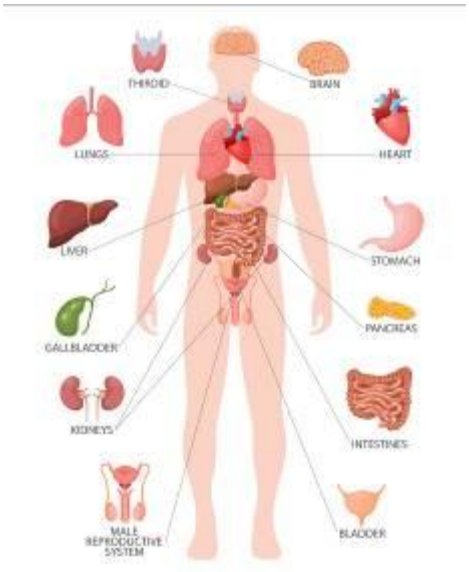
The Loch Ness Monster, Bigfoot, the Mothman---these are the names of just some of the elusive creatures that stalk through humanity's imagination. The uncanny, the unknown, the misunderstood creatures of myth have fascinated and inspired scientists, artists, and authors alike for centuries. This course will explore the role cryptids and mythical creatures hold in the human consciousness, the similarities that link some of our greatest fears across cultures, and the biology upon which many of these monsters are based. We will develop skills to research, analyze, and construct written arguments about cryptids from a variety of habitats around the world. We will also explore the numerous techniques writers employ to capture ideas and thoughts into organized prose and implement those skills to create written works of our own.

BIOL 213 – Introduction to Anatomy and Physiology I

Drs. Sarah Sirsat

Lecture MWF 9-9:50; Lab Thursday 2- 3:50

BIOL 213, the second half of a two-semester sequence, introduces students to the systems of the human body and emphasizes the interconnection between those systems that permits our daily activities. This two-course sequence is appropriate for students pursuing careers in physical therapy, occupational therapy, exercise science, community health, athletics, dance therapy and other health-related fields that require a two-semester Anatomy and Physiology sequence.



BIOL 404 – Human Anatomy and Physiology II

Dr. Schreer

Lecture Tues, Thurs 11:30-12:45am, Lab Tuesday 2:30-5:20pm.

Most graduate programs in the health fields require a 2-term, upper division, human anatomy and physiology course with labs. This second term of A&P **also counts as a bio major elective.** This course will build on Biol 403 and will cover the nervous, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems. In the lab, we will perform dissections of the bovine, suid, or caprine brain, eye, and heart. We will use models for the anatomy of other system and perform various physiological experiments on these systems as well. This course will be very demanding, but you will thank me when you take your gross anatomy and other physiology courses in graduate school.

BIOL 107 – Human Biology

Dr. Schreer

100% online including the lab.

It's who you are!

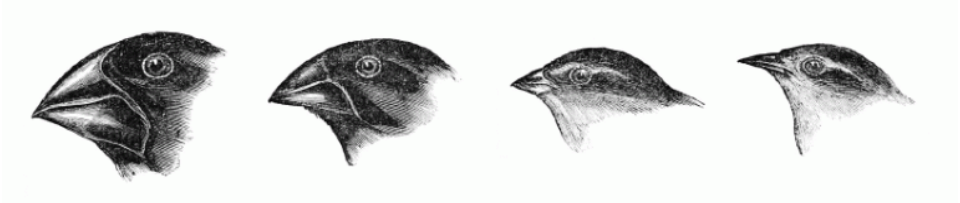
Non-majors course that fulfills the NW gen. ed. All systems of the human body will be covered. And a quirky reality-bending perspective, as a bonus.

Any questions, please contact Dr. Schreer at schreejf@potsdam.edu.

BIOL 319 – Evolutionary Biology

Dr. Gordon Plague

Tu/Th 1:00 – 2:15pm



In this course, we will examine how natural selection and genetic drift have shaped life on Earth, from the birth of new genes and traits to the origin of new species and the diversification of life over the past 3.8 billion years. Come explore how evolutionary principles inform everything in biology, from medicine to conservation to understanding human origins.

(Prerequisites: BIOL 125 or BIOL 151, and BIOL 152)

"Evolution is the control of development by ecology" Leigh Van Valen (1973)

BIOL 402 – Conservation and Wildlife Management

Dr. Bridget Amulike
Lecture: MWF 9:00 - 9:50 Lab Tu 2:00 – 4:50

This course has the CT, Connecting Theory to Practice, designator.
Counts as an Environmental Science Elective

Conservation biology is relatively new as an intellectual endeavor in biology. The central goal of this science is to maintain the planet's biological diversity. It attempts to apply scientific principles to understanding and solving the problems facing most of the Earth's ecosystems and species. It is both derived from and nested within such areas of biological science as ecology, wildlife and fisheries management, zoology and botany and draws heavily on expertise from physiologists, microbiologists, molecular biologists and population geneticists. It contains elements of many other disciplines including economics, political science, biogeochemistry, public health law, veterinary science, sociology and environmental engineering. Indeed, the question may be what is not within the domain of Conservation Biology?

Note that the course name has changed from Conservation Biology to **Conservation and Wildlife Management**. While the content will be similar, this was done so that the course is now eligible for inclusion as a required course for Biologist positions with the New York State Department of Environmental Conservation.

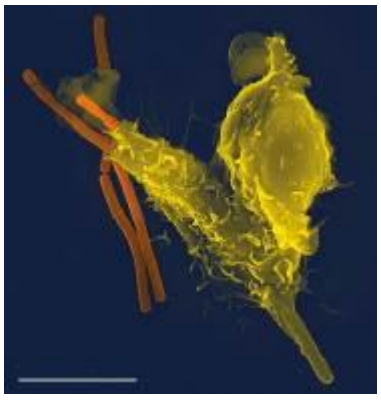
Releasing spruce grouse captured in Ontario into the Adirondacks to augment bolster (and increase the genetic diversity of) NY populations of this endangered species. Photo: Jason Hunter.

BIOL 426 – Immunobiology

Dr. Jan Trybula
Prerequisites: BIOL 125 or 151, and BIOL 152, and CHEM 341 or instructor permission
General Education CT, Connecting Theory to Practice

The immune system is comprised of the organs, vessels, cells, and non-cellular components that help us prevent or limit infections. Whether it be microbes, parasites, or cancer cells, the immune system is equipped to handle them. Sometimes the responses are innate, while other times the system adapts to fight off new materials it has never been in contact with. Normally, the system works well, but sometimes the safeguards fail, and the immune system starts to attack normal healthy tissue, resulting in an autoimmune disease.

In this course we will investigate all aspects of the immune system and its connection to and impact on health. We will touch on the evolutionary origin of the immune system and how we can learn about our system by studying the immune system of other organisms. We will look at the genetics behind B-cell and T-cell formation and we will investigate the sometimes-complex cascades of events that set off certain immune responses. Autoimmune diseases and immunodeficiencies will also be examined.



Neutrophil engulfing anthrax bacteria.
Cover credit: The micrograph was taken by Volker Brinkmann with a Leo 1550 scanning electron microscope. Taken from PLoS Pathogens Vol. 1(3) November 2005

BIOL 311 – Genetics

Dr. Jan Trybula

Prerequisites: BIOL 125 or 151, and BIOL 152. Lab optional*

*Biology majors have the option to take either Ecology (BIOL 300) lab or Genetics (BIOL 311) lab. Students should consult with their Biology advisor to determine which option is best. Students can take both labs, with the additional lab counted as Biology Elective credit. It is highly advisable for students interested in future careers in healthcare, medicine, molecular lab work (lab techs, med techs), and others take the lab in Genetics.
Biology minors need to have at least two upper-division lab courses.
For Biochemistry majors, the lab is required.
BIOL 311 meets the requirements for Women's and Gender Studies elective.

From early history, humans used genetics without knowing what was happening behind the scenes. We've seen this in the domestication of food crops and animal, with evidence going back to at least 10,000 BCE. Much later in the 1850s, Mendel figured out the movement of traits from one generation to the next, but it was 100 years later that we finally figured out what DNA even looked like. Today, knowledge of genetics is progressing rapidly, with so much more to know.

At its core, genetics is about heredity, the passing of traits from parents to offspring. Genetics is concerned with 1) how traits are coded, 2) how they normally remain stable from one generation to the next, 3) how new variants of traits arise, and 4) how some variant traits in organisms are related to their health and adaptability. Genetics is used to study molecular, organismal, and population levels of biological complexity, all with overtones of the evolutionary importance of genetics. As such, genetics is central to all of biology.

Caption:
Animation still of DNA replication from WEHI Medical Research University. You can view the animation at: https://www.wehi.edu.au/molecular-visualisations-dna

Genetics TAs needed

Genetics Lab: If you did well in Genetics Lab and are interested in helping out, consider signing up to be an Undergraduate Teaching Assistant. One upper division credit through BIOL 475. TAs must have taken BIOL 311 lab or equivalent. Please contact Dr. Trybula (trybulj@potsdam.edu) if interested.

TA's needed

Gen Bio: Cells & Genetics Lab: We looking for 3 or 4 TA's. TA's must have taken BIOL 151 and preferably BIOL 311. TA's will attend all meetings of their assigned section. Please contact Dr. Snyder (snyderrl@potsdam.edu) if interested

WISER Center News

What *is* the WISER Center?

WISER stands for *Wagner Institute for Sustainability and Ecological Research* Center. It's an outreach and research Center run by students!

Where's the WISER Center?

Located at 205 Stowell Hall we are in the Biology Department

What's *in* the WISER Center?

- Computer classroom
- Public greenhouse
- Research and classroom learning greenhouse.
- Tower Garden® aeroponic food garden
- Plants of all kinds!
    - Decorative
    - Herbs
    - Food
    - Medicinal
    - Poisonous

What goes on in the WISER?

The WISER is an institute with spaces on campus outside of the Center where there are…

- **Campus and community events**
    - Hosting school trips
    - WISER Open Houses
    - Yoga in the Greenhouse

Join the WISER Staff?

Please consider becoming a WISER volunteer, intern, or researcher.

- Positions are granted on a semester-by-semester basis.
- A total of 4 volunteers,4 interns, and 6 research positions are available.
- Staff positions are filled according to program needs and the strength of applications for positions.

Even if you aren't a member of our WISER Staff, we hope you will visit the public greenhouse via Stowell 205. When you are here, feel free to ask questions of staff members or else learn more by visiting the WISER Coordinator, Ray Bowdish at Timerman 232, calling 315-267-2276, or emailing wiser@potsdam.edu for more information.

Harper Barrett – Urban Farmer, Spring 2023

Who coordinates the WISER Center?

Ray Bowdish
Hours in the WISER
MONDAY - FRIDAY:
9 AM - 2PM
EMAIL - WISER@POTSDAM.EDU
CALL 315-267-2276

- **Internships* –**
  - Urban Farmer – Grow plants for food in the Tower Gardens and greenhouses.
  - Plant Doctor – Help keep campus plants healthy and handsome.
  - Community Farmer – Farm in campus gardens and greenhouse, for food justice!
  - Campus Beekeeper
  - WISER Wellness coordinator

Toni Wahl and Sydney LaPlant, Campus Beekeepers

Award winning - WISER Kilmer Lab research crew in the greenhouse (left) and in the lab (above)

- **Student research –**
  - Crop production and protection
  - Biological controls
  - Integrated Pest Management
  - Genomics

- **WISER Workshops** –
  - Join the WISER Staff!
  - Meet **Thursday from 2-4 PM** or arrange for custom volunteer times.
  - Volunteer and **learn horticulture** (how to grow and maintain plants).
  - **Earn a WISER T-shirt** after 5 sessions.
  - Have fun and beautify campus too!!

WISER Volunteer Staff at the WISER Workshop – Every Th. 2-4

Science is beautiful when it makes simple explanations of phenomena or connections between different observations. Examples include the double helix in biology and the fundamental equations of physics.
Stephen Hawking

POTSDAM GENERAL EDUCATION

Beginning in **Fall 2020**, SUNY Potsdam began the process of transitioning away from the old General Education Program and begin moving toward a new one. Next spring (see below) and in future years, several Biology Faculty will be participating in this and developing new and innovative courses to meet the general education needs of SUNY Potsdam students.

WAYS 101 BIRDS THAT POWER THE WORLD TuTh 11:30AM-12:45PM **Dr. Sarah Sirsat**
WAYS 102 CHRONICLES OF CRYPTOZOOLOGY MWF 10:00AM− 10:50AM **Dr. Sarah Sirsat**
WAYS 103 BIOLOGY OF SEX AND GENDER TuTh 1:00PM−2:15 PM **Dr. Jan Trybula**
The Biology Department will be offering more Pathways Courses starting this coming Spring, including:
BIOL 107 and BIOL 125 both carry the Natural World (NW) designator
BIOL 301 Communicating in Biology – CM (Communication in the Major)
BIOL 402 Conservation and Wildlife Management) – CT (Connecting Theory to Practice)

HEALTH PROFESSIONS

Biomedical Sciences is now a major at SUNY Potsdam!

Biomedical Science Majors
If you are a Biomedical Sciences major or a Biology major interested in a health career, please arrange to see Professor Ewy in addition to meeting with your assigned professional advisor. I want to see how you are preparing for your career both in and out of the classroom. We will meet as a group on **17 October at 2 pm in Stowell 211**. North Country Tea and crumpets provided. If you cannot come then, please arrange a time to meet with me.

All those interested in any type of a Health Professions career: A must take class!
HLTH 270 "Health Coaches I" Looking for experience working with patients? SUNY Potsdam has teamed with Canton Potsdam Hospital (CPH) to train students to work with community members who have chronic conditions such as diabetes, COPD, or heart disease. Health Coaches I is a seminar course where health care professionals and community organizations give presentations on the US health care system, rural medicine, chronic diseases, and techniques to work with patients. In HLTH 370 "Health Coaches II" (offered during Fall Semester 2024) students are paired with a community member who has a chronic condition. Together the health coach and patient will work to develop small patient-centered goals to improve quality of health. This kind of experience looks great on an application to a health professions program such as MD, DO, PA, and PT, and will give you valuable experience in working with patients and first-hand insights into our health care system. You will learn more than you can imagine about working with patients! See Prof Ewy for more questions. An informational session will be scheduled soon.

All those getting ready to interview in the next two years, another must take class!
BIOL 479 "Issues in Health Care" This is a one credit class that meets twice a week for eight weeks. We will discuss some issues facing health care providers, work on interviewing skills, and you will begin writing your statement of purpose. The time to work on your statement of purpose is well before you begin the application process. You earn UD credit for either the BMS or Biology major. Interviewing is a developed skill. This course was developed because of the lack of interviews skills demonstrated by pre-health students. This is your chance to develop your interview skills before you need to interview. You can lose a seat in a professional school with a poor interview. Here's your chance to learn the ins and outs of interviewing.

HEALTH PROFESSIONS

Get UD credit for shadowing

If you plan to shadow a health care professional, you can get UD credit that applies to either the BMS or Biology majors. Consider doing an internship. We have several students shadow Dentists, Doctors, and even Midwives as an internship opportunity. You can earn 1-4 credits while learning what a healthcare professional does. This is an excellent opportunity to see if this is indeed what you want to do. See Prof Ewy for details.

Preparing for MCATs or another exam that will test your Biology knowledge? The best way to really know Biology is to teach it! The Department is looking for TAs to help with Biology 152 labs. This is an excellent way to review your Biology and help out the Intro class.

Committee Letters of Recommendation: Applying to Medical School (or any other program that requires a committee letter) for the upcoming cycle? HPAC interviews will be held in March or early April. Please have your letters of recommendation to Prof Ewy by the first of March. For more information, contact Prof Ewy.

See page 18 for more details of the Biomedical Science Program of Study

GISC 410 – Advanced GIS

Prof. Dr. Jess Pearson

Asynchronous Online Spring 2026
Pre-requisite GISC 101.

This is the 2nd course in the Spatial Data Analysis with GIS Microcredential (see below). You must submit an application for the microcredential before beginning the 2nd class here (https://www.potsdam.edu/academics/programs-study/microcredentials)

This microcredential will prepare students, practitioners, and refresh experts on all the major techniques used in Geographic Information Systems. The 2 course sequence can be taken entirely online, or in-person for the intro class, and online for the applied work. The first course creates a foundation for using the software and the basic tool functions. The second course builds on those and introduces each of the major techniques used in GIS - cartography, remote sensing, data acquisition and management, and spatial analysis. Each course culminates in individual applied project.

WORK STUDY

If you are interested in and eligible for the federal work study program please see either **Rachel Wallace** (wallacrm@potsdam.edu, Ph 267-4814). Responsibilities include laboratory setup and cleanup, plant and animal care and a variety of secretarial work.
Rob

TEACHING ASSISTANTSHIPS

See the world from our side. Most professors are looking for motivated students to be teacher assistants for their courses. This is a great way to get some teaching experience and an opportunity to work more closely with one of your profs. This also counts as a 1 credit upper division bio course. Contact your Profs before the end of the semester if you are interested and see some possibilities below.

Preparing for MCATs or another exam that will test your Biology knowledge? The best way to really know Biology is to teach it! The Department is looking for TAs to help with Biology 152 labs. This is an excellent way to review your Biology and help out the Intro class.

As a lab TA you will be helping to prepare and teach the General Biology labs. This is a great way to reinforce your knowledge and to learn how things are done "behind the scenes" of lab. Upon successful completion of a TA position, students earn 1 credit and no monetary compensation.

Teaching assistants for **General Biology Labs**

If you would like to gain some teaching experience and encourage first year Biology students, this is a good opportunity. It is also useful for those students going on to graduate school or to teaching careers. This course, Biology laboratory techniques, counts as a 1 credit upper division biology course. You must have successfully (3.0 or higher) completed Biology 151 and/or BIOL 152 lecture and lab.
If interested contact Rachel Wallace; wallacrm@potsdam.edu or Rob Snyder snyderrl@potsdam.edu
Biology Laboratory Techniques; BIOL 475, sec 0001; CRN 80520

BIOL 311 – up to 2 Teaching Assistants for Genetics labs

Lab: Monday 230-5:20p.m. Pre-requisite: BIOL 311 lab or permission of instructor

Teaching Assistants needed for lab. Duties include lab prep, lab breakdown, and attending one of the lab sections to assist the instructor and students. It is preferred that TA applicants have prior experience working with chemicals (e.g. CHEM 105) and willingness to learn lab and chemical safety regulations.
Contact Dr. Jan Trybula; trybulj@potsdam.edu

Don't pay extra! If your required textbook is an "Open Educational Resource" book, you do not need to pay a fee to get it. This past fall, there was a $7 optional fee listed on the College's bookstore website for "Open Stax" Texts (Biol 100, 151, 152, and 403). You do not need to pay this fee. Simply get the URL from the professor teaching your course.

BETA BETA BETA

SUNY Potsdam
Lambda Xi Chapter
Beta Beta Beta
National Biological Honors Society

Beta Beta Beta (TriBeta) is a society for students, particularly undergraduates, dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research. Since its founding in 1922, more than 200,000 persons have been accepted into lifetime membership, and more than 670 chapters have been established throughout the United States and Puerto Rico.

New member candidates are invited to join BBB every year. Invitations are sent out in March and a new member induction ceremony is in late April.

The membership shall be divided into six classes: regular, associate, graduate, honorary, alumna/ us and corporate. Beta Beta Beta is a non-discriminating organization that does not consider age, race, color, creed, sex, national origin or sexual preference.

SUNY Potsdam Members at the 2025 District Convention (West Hartford, CT

Regular members shall be:
a) Undergraduate biology majors (BS or BA) at SUNY Potsdam.
b) Shall have completed at least 3 semesters of a four-year curriculum.
c) Shall have completed at least three term courses in biology (BIOL), of which at least one must be upper division (300 or 400 level), with an average 3.25 GPA in those biology courses.
d) Shall have a 3.25 GPA in all courses, and in good academic standing
**Only regular members may hold the constitutionally specified chapter offices, vote on chapter membership nominations and national questions, and represent the chapter or vote at national conventions.

Associate members shall:
a) Shall have completed at least 3 semesters of a four-year curriculum.
b) Shall have completed at least three term courses in biology (BIOL), of which at least one must be upper division (300 or 400 level), with an average 3.25 GPA in those biology courses.
c) Shall have a 3.25 GPA in all courses, and in good academic standing.

Any questions about BBB membership should be sent to the advisor Dr. Snyder snyderrl@potsdam.edu

The Major in Biomedical Sciences!

The Biomedical Science major at SUNY Potsdam ombines both rigorous academic preparation and the flexibility to customize course content for preparation to any of a number of post-graduate health career programs. Our unique combination of Natural and Social Science courses will prepare students to both understand the disease process and how to effectively relate to patients. Admission to Professional programs in health care require more than just academic mastery in particular subjects. Students need to gain experience with the health care system that is only obtained through Applied Learning opportunities (shadowing, patient, care, etc.). We have included Applied Learning experiences such as Health Coaches and internships as requirements in our major. We also require students to learn how to interact and motivate patients as many health care systems have begun to focus on "Patient-Centered" care. This Patient-centered care requires that health care providers communicate more effectively with patients so that patients can make a more informed decision about their own health care. College students want more choices today, so we have devised a program that allows students to have more choice in the courses they take while maintaining the academic breadth and rigor needed to prepare for intense professional programs. Our major will also provide the flexibility for students who decide to change to career paths part way through their undergraduate education and not require students to take more than four years at SUNY Potsdam. The major has been designed to incorporate both SUNY Potsdam's new Pathways General Education Program and the new SUNY system General Education requirements.

Each student in our new major will have a faculty advisor who is familiar with advising pre-health students. Students will meet with their advisor at least once a semester throughout their time at Potsdam.

Core Classes		
	Credits	**Gen Ed**
BIOL 151 General Biology I: Cells and Genetics	4	
BIOL 152 General Biology II	4	
CHEM 105 General Chemistry I	4	NW
CHEM 106 General Chemistry II	4	
BIOL 301 Communicating in Biology	3	CM
MATH 125 or STAT 100 Probability & Statistics	3	TM
CHEM 341 Organic Chemistry OR	4	
BIOL 307 Cell Biology	3	
Core Credits	**25-26**	
Career Specific Cognates		
BIOL 307 Cell Biology (if not selected above)	3	
BIOL 311 Genetics (Lecture and lab)	4	
CHEM 341 Organic Chemistry (If not selected above)	4	
CHEM 342 Organic Chemistry (If not selected above)	4	
CHEM 425 Biochemistry I	4	
PHYS 101 or 103	4	
PHYS 202 or 203	4	
MATH 141 and 142 sequence or Math 151 Calculus	4	TM
PHTH 221 Death and Dying	3	
PHTH 333 Human Nutrition	3	
PHTH 342 Women's Health	3	
PHTH 430 Human Disease: Patterns/Prevn	3	
PHTH 385 Epidemiology and Biostatistics	3	SW
Cognate Courses Credits	**12-16**	
Patient Communication		
BIOL/PHTH 270 Health Coaches I	2	
Medical Spanish (may be taken online)	1	
DRAM 235 Introduction to Acting	3	TA
PHTH 310 Health Disparities	3	
BIOL 479 Issues in Health Care	1	
PHIL 331 Moral Issues in Mental Health	3	TF
Patient Communication Credits	**2-3**	

Understanding Human Behavior		
PSYC 100 Introduction to Psychology	3	
PSYC 220 Child Development	3	
PSYC 370 Theories of Personalities	3	
PSYC 375 Abnormal Psyc	3	
ANTH 202 Cultural Anthropology	3	GC
Understanding Human Behavior Credits	**6**	
Electives		
Chem 311 Quantitative Analysis (Lec and Lab)	4	
Chem 315 Forensics	3	
BIOL 320 Microbiology (Lec and Lab)	4	
BIOL 403 Human Anatomy and Physiology I (Lec and Lab	4	
BIOL 403 Human Anatomy and Physiology I (Lec and Lab	4	
BIOL 407 Cell Physiology (Lec and Lab)	3-4	
BIOL 410 Human Physiology (Lec and Lab)	3-4	
BIOL 413 Neurophysiology (Lec and Lab)	3-4	
BIOL 415 Virology	3	CT
BIOL 418 Microbial Diseases	3	
BIOL 426 Immunobiology	3	
CHEM 426 Biochemistry II (Lec and Lab)	3-4	
BIOL 431 Developmental Biology	3	
CHEM 444 Advanced Organic Chemistry	3	
BIOL 445 Human Genetic Diseases	3	
CHEM 461 Nanomedicine	3	
EXSC 450 Kinesiology/Movement	3	
Electives Credit Totals	**14**	
At least two courses must have accompaying labs		
Healthcare Experience		
BIOL /PHTH 370 Health Coaches II	2	
Internship Experience	2-4	
Independent Research BIOL 485 or CHEM 497	2-4	
Healthcare Experience Credits	**2-4**	
Total Program Credits	**61-69**	

Marine Biology at SUNY Potsdam

Our College is the only SUNY campus with an undergraduate marine biology option that is focused on ecology and the environment.

Summer 2026

Join the adventure! Several SUNY Potsdam students have been taking biology elective credits at our affiliate institution, the Gulf Coast Research Laboratory (GCRL) in Ocean Springs Mississippi as part of our Marine Biology Program. Courses include Marine Biology, Marine Mammals, Shark Biology, Ichthyology, and a variety of other life science courses with a marine focus. There are also research opportunities available most summers. Classes fill fast so please be attentive to opening dates if interested.

As a member of the consortium, SUNY Potsdam student pay in-state tuition, room, and dining. For complete details, please visit the GCRL website http://gcrl.usm.edu/summer_field/index.php

Interested students should also contact our GCRL advisor, Dr. Conley (conleywj@potsdam.edu).

The Major and Minor in Environmental Science!

Notice: Faculty in Biology, Geology, Physics, Chemistry and Environmental Studies have developed a brand- new **Major and Minor in Environmental Science**. The fruits of this effort will be on the books beginning **Spring 2023**. **Here's a first look**, however, if you are interested in exploring this exciting new major, email or stop by and chat with Drs Johnson, Rygel and/or Rogers to hear more!

Required Courses

Cognates Classes (30 credits)

Course Title	Credits	Course Title	Credits
BIOL 151, General Biology I + Lab	*4*	*ENVR 110, Intro to Environmental Studies*	*3*
BIOL 152, General Biology II + Lab	*4*	*GEOL 101, Environmental Geology + Lab*	*4*
CHEM 105, General Chemistry I + Lab	*4*	*MATH 151, Calculus I*	*4*
CHEM 106, General Chemistry II + Lab	*4*	*STAT 100, Probability and Statistics*	*3*

Core Environmental Science Classes (28 credits)

Course Title	Credits	Course Title	Credits
BIOL 300, Ecology + Lab	*4*	*GEOL 410, Hydrogeology + Lab*	*3*
ESCI 200, Environmental Science	*4*	*CHEM 320, Environmental Analysis*	*4*
ESCI 301, Soil Science + Lab	*4*	*GEOL 425, Scientific Communication or ENVR 490 Senior Seminar*	*3*
GEOL 320, Geochemistry	*3*	*POLS 414, Environmental Law*	*4*

Elective Courses (14 credits from the following)

Course Title	Credits	Course Title	Credits
BIOL 310, Marine Biology	*3*	*ENVR 391, Field Project*[1]	*1-6*
BIOL 312, Insect Ecology	*4*	*ESCI 495, Env. Science Research*[1]	*1-3*
BIOL 334, Biology of Woody Plants	*3*	*GEOL 350, Geomorphology*	*4*
BIOL 400, Field Ecology	*4*	*GEOL 380, Climate Change: Past & Present*	*3*
BIOL 402, Conservation and Wildlife Management	*3*	*GEOL 407, Applied Geophysics*	*3*
BIOL 408, Wetland Ecology	*3*	*GEOL 440, Economic Geology*	*3*
BIOL 409, Freshwater Biology	*4*	*GISC 101, Intro. to GIS*	*4*
CHEM 311, Quantitative Analysis	*4*	*GISC 302, Remote Sensing*	*3*
CHEM 321, The Sustainable World or ENVR 120, Intro. To Sustainability	*3*	*SOCI 340, Environment and Society or SOCI 341, Environmental Justice*	*3*
CHEM 341, Organic Chemistry I	*4*		
CHEM 342, Organic Chemistry II	*4*	*PHIL 330, Environmental Ethics*	*3*
CHEM 415, Instrumental Analysis	*2*	*PHYS 325, Energy and the Environment*	*3*
ECON 320, Economy and the Environment	*3*	*PHYS 330, Meteorology*[2]	*3*
[1]*Students can count a total of no more than three credits toward the electives*		[2]*Highly recommended for all students*	

Within the Environmental Science Major, students could elect to take one of the following concentrations through their elective choices. If a student double majors or declares a minor, they cannot do a concentration that is the same as their major/minor.

Biology concentration *(15 cr. from the following): BIOL 312 - Insect Ecology (4 cr), BIOL 334 – Biology of Woody Plants (3 cr), BIOL 400 - Field Ecology (4 cr), BIOL 409 - Freshwater Biology (4 cr), BIOL 402 - Conservation and Wildlife Mgmt. (3 cr), BIOL 483 – Agroecology (3 cr)*

Geology/GIS concentration *(14 cr): GEOL 350 - Geomorphology (4 cr), GEOL 380 - Climate Change: Past & Present (3 cr), GEOL 407 - Applied Geophysics (3 cr) or GEOL 440 - Economic Geology (3 cr), GISC 101 - Introduction to Geographic Information Systems (4 cr)*

Chemistry concentration *(14 cr): CHEM 311 – Quantitative Analysis (4 cr), CHEM 341 - Organic Chemistry I (4 cr), CHEM 342 - Organic Chemistry II (4 cr), CHEM 415 - Instrumental Analysis (2 cr)*

Policy and sustainability concentration *(15 cr. from the following): ENVR 120 – Intro. To Sustainability (3 cr) or CHEM 321 - The Sustainable World (3 cr), ECON 320 - Economy and the Environment, SOCI 340 - Environment and Society (3 cr) or SOCI 341 - Environmental Justice (3 cr), PHIL 330 - Environmental Ethics (3 cr), PHYS 325 - Energy and the Environment (3 cr)*

Beginning Fall 2015, the Environmental Science Minor was revised in an effort to shift the focus of the Environmental Science Minor to the natural sciences in order to give students the knowledge and technical skills they need to get jobs in the environmental science sector. The number of credits is largely unchanged, and the number of uncounted prerequisite courses has been greatly decreased. Most scientists who focus on environmental issues end up functioning primarily as either biologists (plants, animals, and ecosystems) or geologists (water, soil, and pollution); a minor that gives them interdisciplinary training will improve their marketability. Common tasks like wetland delineation can be done more effectively by a biologist if they have had a few classes on soil and water; geologists can do it more effectively if they have had formal coursework on ecology and plant biology. See it below!

Revised Environmental Science Minor (24 credits)					
Level	**Course**		**Credits**	**Required for:**	**Prerequisites**
Required courses: 6 credits	ENVR 110: Introduction to Environmental Studies		3	all	none
	Choose one	CHEM 301: Fundamentals of Environmental Science	3	All majors except GEOL and BIOL	one semester of college-level science
		PHYS 325: Energy and the Environment	3	GEOL and BIOL majors	one semester of college-level science
Prerequisite courses: 3-4 credits for BIOL/GEOL majors, 7 credits for others	GEOL 101: Environmental Geology		3	non-GEOL majors	none
	BIOL 152: General Biology II		4	non-BIOL majors	none
Advanced Courses : 14 credits for BIOL/GEOL majors, 11 credits for all others. Advanced courses must be taken outside of the student's major	BIOL 300: Ecology + Lab		4	non-BIOL majors	BIOL 152
	BIOL 312: Insect Ecology		4		BIOL 152
	BIOL 326: Morphology of Higher Land Plants		3		BIOL 152
	BIOL 330: Natural History of Lower Vertebrates		4		BIOL 152
	BIOL 331: Natural History of Higher Vertebrates		4		BIOL 152
	BIOL 334: Biology of Woody Plants		3		BIOL 152
	BIOL 355: Invertebrate Biology		4		BIOL 152
	BIOL 402: Conservation Biology		3		BIOL 300 or permission of instructor
	CHEM 311: Quantitative Analysis		4		CHEM 106
	GEOL 340: Geographic Information Systems		4		Sophomore standing
	GEOL 310: Hydrology and Hydrogeology		4	non-GEOL majors	100-level geology class + either CHEM 105 or MATH 125 or MATH 151 or STAT 100
	GEOL 406: Geomorphology		4		100-level geology class + junior standing
	PHYS 330: Meteorology		3		
	CONS 314: Soil Mechanics (SUNY Canton)		3		GEOL 101
	CONS 386: Water Quality (SUNY Canton)		4		GEOL 310

INTERNSHIPS

INTERNSHIPS

& Biology Department Applied Learning Opportunities

Learn how to apply for an internship with this link to the Experiential Education Office (EEO).

Wagner Institute for Sustainability and Agricultural Research (WISER) Internship, in the Biology Department at SUNY Potsdam

You get to:

- Manage the Healthy Plant Initiative (HPI) program
- Grow microgreens for PACES
- Help Develop our campus composting initiative
- Learn horticultural technique
- Practice Integrated Pest Management
- Report your achievements to the campus at the Learning and Research Fair

Off-Campus Internship Opportunity

Study Horticulture from Never Tire Farm

Each spring, Never Tire Farm (Lisbon, NY) seeks motivated students of junior status or higher, for a unique and valuable experience, working in a modern greenhouse operation. Students who qualify for the internship will be actively learning about all aspects of greenhouse production including sowing, transplanting, fertilizing, watering, and propagation of various annuals, perennials, vegetables, and herbs. Interns learn about the business of growing plants and will be exposed to maintenance and labor issues facing modern growers. Qualifying interns should have experience as a WISER intern be trained in Integrated Pest Management (IPM) techniques and participate in the Never Tire Farm's biological control program.

Care and Handling of Display Animals in the Biology Department at SUNY Potsdam

Help care for animals (amphibians, reptiles and fish) in the department

Create learning materials and provide outreach to help others discover the animals in the department

Report your work to the campus at the Learning and Research Fair!

Please see Dr. Johnson johnsong@potsdam.edu, Dr. Sirsat sirsatsk@potsdam.edu or Rachel Wallace wallacrm@potsdam.edu about Animal Room or Diversity House opportunities

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Biology Technician Internship Techniques in the Biology Department at SUNY Potsdam

You get to:

- Help create and maintain chemical inventory lists
- Learn to prepare lab materials for biology labs
- Develop skills in lab instrument care and maintenance
- Maintain the lab materialsinventory
- Learn various lab protocols and skills for working in a biology research lab
- Get trained in chemical safety.

Please see Rachel Wallace wallacrm@potsdam.edu about opportunities

RESEARCH WITH PROFS

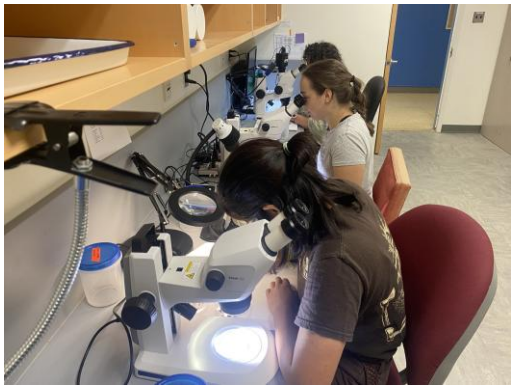
Drs. Bridget Amulike & Glenn Johnson – Sandhill Cranes on the rise in the North Country

Migration Ecology of Sandhill Crane (*Antigone canadensis*) in Northern New York.
In June 2025, Dr. Bridget Amulike and Dr. Glenn Johnson launched an exciting new research project on the migration ecology of Sandhill Cranes (*Antigone canadensis*) in northern New York. The study examines the migration patterns, distribution, and environmental factors influencing crane movements across the region.
Although Sandhill Crane numbers have been increasing in the North Country, the factors driving this expansion remain unclear. This research aims to uncover the ecological and environmental influences behind the species' growing presence, providing valuable data to support regional conservation efforts and future management planning for this migratory species.
Students interested in participating in this research are encouraged to contact **Dr. Amulike** at amulikbb@potsdam.edu

"Jasmine Crump collecting data on Sandhill Crane habitats."

Mosquito Surveillance in the North Country – with Drs. Snyder, Cleary and Johnson

Over the past summer, students from Potsdam, Clarkson and SUNY ESF have been working at multiple locations in the St. Lawrence County collecting mosquitos using 3 kinds of traps in an effort to determine where the source of a reservoir of the virus that causes Eastern Equine Encephalitis. Both the state and county Health Departments are coordinating this effort. We plan to repeat the effort over the summer of 2026. If you are interested in this paid internship, please review the two links below which give a lot more detail. Then contact either Dr. Snyder, Dr.Cleary or Dr.Johnson about your interest.



https://www.potsdam.edu/academics/AAS/depts/bio/MosquitoSurveillance

https://www.northcountrypublicradio.org/news/story/52333/20250918/how-trapping-mosquitoes-in-st-lawrence-county-is-preparing-the-north-country-for-climate-change

Dr. Glenn Johnson – Conservation of Threatened Species

231 Timerman Hall, 267-2710, johnsong@potsdam.edu

I have a continuing project initiated during the beginning of the pandemic that brings many years of research on the conservation of the threatened Blanding's Turtle to the applied management stage. While I have no funding at the present time, I have submitted grant proposals to continue the work. Currently, we are investigating the importance of nest site creation to prevent turtles from crossing roads, the biggest threat to their North Country populations.

Other projects in the works include 1) a second season of goshawk nest monitoring across New York State and 2) a new study on map turtle movement ecology in the St. Lawrence River. This project will use the opportunity to track turtles remotely with an array of acoustic receivers that have already been installed every 5 kilometers from Cape Vincent to Akwesasne.

Robert Ewy - Research experience on environmental effects on plants

The two primary projects in my lab are sustainable energy production and herbal medicines, both from shrub willow. Yes, you can get research credit for making energy! If you are at all interested in graduate school, research experience during your undergraduate education is becoming a must. But the most important point is that research is fun! I work with all levels of students, from first year students to seniors. The only requirements to work in my lab are curiosity, a willingness to solve problems, and the desire to learn outside of a book.

You can earn research credit via Biology 485 or an internship.

Humpback Whales spotted from shore

Dr. Sarah Sirsat

Physiology encompasses all biological levels from molecular to whole organism; as a physiologist I have an interest in the how and why at all of these levels. I am especially fascinated by the interplay of avian biological systems and the role phenotype, the outward manifestation of an organism's genetic makeup, plays in physiological responses. My research explores the relationship of phenotype and physiology using a small, precocial bird known as the Chinese Painted Quail or King Quail. Numerous pattern and color mutations have been developed in captivity for this species. I currently examine physiological and behavioral differences related to a recessive white pattern. These white-spotted birds show different growth rates, organ masses, and morphological measurements than the wild type color. My research aims to determine the physiological mechanisms behind these differences, such as changes in metabolism and differences in mitochondrial function of various tissue types.

Dr. Rob Snyder

Dr. Rob Snyder

My main project is looking at the role of primary gut symbionts, in plant feeding insect speciation. Basically, gut bacteria provide the insect essential amino acids synthesis pathways. Closely related species have different diets and require different pathways. This research is interested in explaining how insects adapt and diverge to new diets, which leads to speciation. To date we have sequenced the genomes of two co-symbionts and are using that information to look for patterns in the amino acid pathways between 9 closely related species.

Wanted: I'm looking for two new student researchers, who are interested in building their molecular genetic lab skills. Email me if you are interested. No pay but you can earn BIOL elective credits!

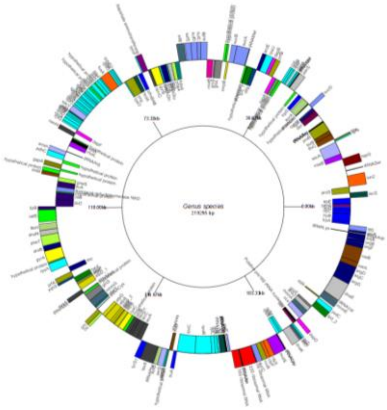


Figure 2: Genome of Sulcia sp. The first novel genome sequenced by SUNY Potsdam students

Figure 1: The two-spotted treehopper Enchenopa binotata

Dr. Jan Trybula Population Genetics & Molecular Ecotoxicology

My research is tied to many aspects of genetics and biodiversity. I'm interested in molecular ecotoxicology, how toxins in the environment affect the genetics of various organisms. I'm also interested in the biodiversity of emergent aquatic insects such as mayflies, stoneflies, caddisflies, and dragonflies. Worldwide insect numbers and diversity are in decline and pollutants of various sorts are thought to be one of the greatest contributing factors.

Students in my lab examine a wide variety of ways to determine genetic damage caused by a wide variety of pollutants. My most current work is investigating genetic variants of insect chloride ion molecular pore proteins and the effect they may have on susceptibility or resilience to road salt runoff.

I also have a continuing project to develop a new teaching lab experience using CRISPR or other technology to mutate one color variant of fluorescent protein into a different color variant in order to expand and modernize some of the labs in Genetics, BIOL 311.

If you're interested in learning more about any of these projects, please contact me.

Full Time Summer Biological Control Technician Position with the USDA at SUNY Potsdam

Start Date: Mid May- September. Dates are semi-flexible.

Work Schedule: Full Time (35 Hours/Week)

Salary: $20/hr depending on level of education.

Position Location: This position will require independent fieldwork in upstate New York, St. Lawrence County (Brasher Falls, Waddington, Morristown, and Massena, NY)

Project Description: The interns will be hired by the Research and Sponsored Programs Office at SUNY Potsdam, with funding from the USDA, and overseen by Dr. Jess Pearson. Most work will take place remotely in upstate New York (Brasher Falls, Waddington, Morristown, and Massena NY). This position is designed to support ongoing scientific research into the biological control of the emerald ash borer.

You can read about the project from 2024 here:
https://www.potsdam.edu/academics/AAS/depts/EnvStudies/TinyBugsBigTrouble

This job involves a balance of both field and laboratory work. It involves releasing small biological control agents that attack emerald ash borer as well as setting up traps to recover adult beetles and the biological control agents. The field portion of the work will be conducted in ash forests and there will be access to the laboratories for beetle trap sample processing. Once during the summer, the employee will collect health data on tagged ash trees. Additional field work to assist with other projects may be required throughout the season. This job will require driving to field sites throughout St. Lawrence County in New York. Vehicles for field work or mileage reimbursement will be provided. You will be trained in every step of the process. Following training you will then be required to work independently with a team.

Applicants must be a US citizen. A valid driver's license and a willingness to drive between sites is essential.

Application: Please send a short letter of interest and your resume to Dr. Jess Pearson (rogersje@potsdam.edu) Use the email Subject line "Biological Control Technician Position 2026". We will be accepting rolling applications and scheduling interviews as applications are received until the position is filled. If you have any questions, you can contact Dr. Pearson at the email above or call her at 315-267-2522.

Due to ongoing funding delays, while we expect this position to be funded, please note that it is contingent upon getting funding.

The New Biology BS and BA Degree Programs

Biology BS Curricular Changes							
	Old Program	**Credits**			**Revised**	**Credits**	**Change**
Required	BIOL 151 Lec and lab	4		**Core Courses**	BIOL 151 Lec and lab	4	None
22 credits	BIOL 152 Lec and lab	4		24 Credits	BIOL 152 Lec and lab	4	None
	BIOL 300 Lec	3			BIOL 300 Lec	3	None
	BIOL 311 Lec	3			BIOL 311 Lec	3	None
	BIOL 300 or 311 Lab*	1			BIOL 300 or 311 Lab*	1	None. * If labs are taken in both BIOL 300 and BIOL 311, then the second lab counts toward the elective hours
	BIOL 483	3			BIOL 483		Now an elective
					BIOL 307	3	Addition
					BIOL 319	3	Addition
					BIOL 301 **CM**	3	Addition
	Physiology Component	4			Physiology Component		Removed
Concentration Requirements	At least two electives with labs	17		**Elective Requirements**	At least two electives with labs CT?	17	No change
Required	CHEM 105 Lec and lab	4		**Required**	CHEM 105 Lec and lab	4	No change
Cognates	CHEM 106 Lec and lab	4		**Cognates**	CHEM 106 Lec and lab	4	No change
27-28 credits	CHEM 341 Lec and lab	4		27credits	CHEM 341 Lec and lab	4	No change
	MATH 151 or equivalent**	4			MATH 151 or equivalent**	4	No change
	STAT 100 or MATH 125 or CIS 125 or MATH 152	3 or 4			STAT 100 or MATH 125 or CIS 125	3	Required Note: MATH 152 no longer an option
	PHYS 101 and PHYS 202 Lec and lab	8			PHYS 101 and PHYS 202 Lec and lab	8	Note: College and University Physics now one of three options
	or				**or**		
	PHYS 103 and 104 Lec and lab**	8			PHYS 103 and 104 Lec and lab**	8	**MATH 151 and 152 are corequistes
					or		
					GEOL 101 Lec and Lab	4	New Option
					and		
					GEOL 200 Lec and Lab	4	
					or		
					CIS 201 Lec and Lab	4	New Option
					and		
					CIS 203 Lec and Lab	4	
	** MATH 141 and MATH 142 are equivalent to MATH 151; require 8 credits to complete				** MATH 141 and MATH 142 are equivalent to MATH 151; require 8 credits to complete		
Total Credits Required		**65–66 Credits**				**68 Credits**	

Biology BA Curricular Changes						
	Old Program	**Credits**		**Revised**	**Credits**	**Change**
Required	BIOL 151 Lec and lab	4	**Core Courses**	BIOL 151 Lec and lab	4	None
22 credits	BIOL 152 Lec and lab	4	24 Credits	BIOL 152 Lec and lab	4	None
	BIOL 300 Lec	3		BIOL 300 Lec	3	None
	BIOL 311 Lec	3		BIOL 311 Lec	3	None
	BIOL 300 or 311 Lab*	1		BIOL 300 or 311 Lab*	1	None * If labs are taken in both BIOL 300 and BIOL 311, then the second lab counts toward the elective hours
	BIOL 483	3		BIOL 483		Now an elective
				BIOL 307	3	Addition
				BIOL 319	3	Addition
				BIOL 301 CM	3	Addition
	Physiology Component	4		Physiology Component		Removed
Elective Requirements	At least two electives with labs	15	**Elective Requirements**	At least two electives with labs	15	None
Required	CHEM 105 Lec and lab	4	**Required**	CHEM 105 Lec and lab	4	No change
Cognates	CHEM 106 Lec and lab	4	**Cognates**	CHEM 106 Lec and lab	4	No change
12 credits	CHEM 341 Lec and lab	4	12 credits	CHEM 341 Lec and lab	4	No change
Total Credits Required		**49 Credits**			**51 Credits**	

BIOLOGY SPECIALIZATION REQUIREMENTS

Biology Required Courses (13-15 hours) Biology Electives (4-6 hours)

Course Number	Title	Hrs.	Grade		Course Number	Title	Hrs	Grade
125 125L	Biological Concepts	3			300+			
152	Biology II	3			300+			
152	Biology II Lab	1						
300	Ecology Fall Only	3						
300	Ecology Lab (Optional)	1						
311	Genetics Spring Only	3						
311	Genetics Lab (optional)	1						

College requirements are 16 hours in the Specialization. This does not include the hours for Biology 125 (or equivalent). All electives after the first-year sequence must be 300 or higher