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Spring 2016

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BOB CERWONKA MEMORIAL SCHOLARSHIP

This year’s recipient of the $1000 Bob Cerwonka Memorial Scholarship is Jennifer Ryan. This scholarship, made possible by a generous donation from department alumnus Mr. Robert E. Wagner (’75) is awarded to a declared Biology major in good academic standing with a demonstrated interest and appreciation of nature and the environment.

Look for an announcement about the next Cerwonka Award in the Fall 2016 newsletter.
**REGISTRATION**

*Advising begins* March 28. *The spring schedule will be available online this day*

*Registration begins:*
- **Seniors** – April 21
- **Juniors** – April 22
- **Sophomores** – April 25
- **Freshmen** – April 27-28

Students may adjust their schedules on BearPAWS until midnight, Sunday, August 28th 2016, which is the day before classes begin and before the week of Add/Drop.

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

A list of Fall 2016 classes can be found at this link: [http://www.potsdam.edu/offices/registrar/schedules/classschedulebydept.cfm](http://www.potsdam.edu/offices/registrar/schedules/classschedulebydept.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, see **Marta Whalen**, the Department Secretary (Stowell 207B) or **Dr. Glenn Johnson**, the Department Chair (Timerman 231). Just fill out one form. The entire process takes less than three-minutes, but it can save you a semester or more by insuring that you receive an advisor who understands our program.

Above: Humpback whales bubble net feeding on our Cape Cod trip – another cool thing about being a bio major! (Photo: Alex Matte)

A group of SUNY Potsdam students ready to enter the Bladen Forest Preserve in southern Belize…
Meet our new faculty member, Sarah Sirsat; she introduces herself below!

I was born in College Station, Texas but grew up mostly in Searcy, a small town in central Arkansas. I attended Harding University in my hometown where I graduated with a B.S. in biology. During my time at Harding I dabbled in field research with radio-tracking speckled kingsnakes (one of which I still have as a pet; his name is Sven) but found my true calling as a “bird nerd” after I was able to serve as a teaching assistant for a summer Ornithology class for numerous years. Also during my time at Harding I was given four geckos that had been abandoned in a dormitory. Those four “gateway geckos” served as the foundation for my gecko breeding colony; a hobby in which I continue to be active in to this day.

After finishing my undergraduate degree I decided to pursue a PhD in biology at the University of North Texas in Denton, TX. I began working with Dr. Edward Dzialowski on characterizing the development of body temperature regulation in newly hatched birds and reptiles from the whole animal level down to genetic regulation. I met my husband on the first day touring the lab, and we have been partners in work and life every day since! During my time at UNT I have had the opportunity to work with American Alligators, Common Snapping Turtles, Red-winged Blackbirds, Double-crested Cormorants, and a variety of domestic bird species, including chickens, ducks, and quail. I’ve been privileged to travel for research projects and conferences around the United States and also to travel overseas on numerous occasions.

I’m excited to come to the North Country, but don’t be too disappointed, my southern accent isn’t as twangy as you might expect. However, a “ya’ll and a howdy” or two slips out occasionally. I’ll be bringing with me a colony of Chinese Blue Breasted Quail, colloquially known as Button Quail (along with two dogs, a cockatiel, some betta fish, 30 something geckos of various species, and two snakes….) These little button quail are the smallest precocial species in the world and serve as an ideal model for looking at generational effects on physiology as they grow and reproduce very quickly. I’m also interested in continuing research on altricial species, such as the double-crested cormorant, as well as expanding my work to include environmental effects on development of endothermic capacity.

I can’t wait to join the faculty at SUNY Potsdam. I’m looking forward to meeting and working with students, getting involved with the community, and actually seeing this white stuff that supposedly falls from the sky when it gets cold outside.

~Sarah Sirsat
WISER Center News

On May 13th the SUNY Potsdam Biology Department, will be hosting a ribbon cutting ceremony, to celebrate the opening of the Wagner Institute for Sustainability and Ecological Research (WISER) Center. This amazing new space will become the campus hub for sustainability initiatives to create a “greener” campus, community and world. WISER’s mission emphasizes support for creative, science-based research into issues of sustainability and ecology and to serve as a nucleus for the sustainability movement in the North Country. The space The Center provides will allow students to engage in experiential learning in classes and eventually programs, investigating issues of climate change, sustainable agriculture, and biodiversity. The broad scope of research possibilities that this center will afford is unique to St. Lawrence County.

The Center comprises three separate greenhouse zones, a central work area and a common space, extending from the south side of Stowell Hall. The existing Stowell Greenhouse will become a Biodiversity Classroom as part of the WISER facilities. The space will be utilized by a host of our current classes including General Biology, Genetics, Ecology, Plant Physiology, Woody Plants, Botany and Sustainable Agriculture. New courses in Urban Farming, Hydroponics and Aquaculture are in the planning stages for the Center in the near future. Finally, the space will afford hosting a variety of educational and social events around sustainability and ecology initiatives and programs. The common space created from existing rooms in Stowell will function as an upgraded computer center student learning space and to host occasional workshops and tours.

North-facing view of the WISER greenhouses during construction. Ribbon cutting is planned for May 15, 2016.

This fantastic new space, was made available through a generous gift from Robert (Bob) E. Wagner (75’) and his wife Wendy. Their own commitment to sustainability and a love of the natural world is being shared with Potsdam students in the form of the WISER center. Because of their thoughtful gift, students at SUNY Potsdam and members of the surrounding community will have an opportunity to learn about the importance of social, economical and ecological sustainability.
NEW AND IMPROVED COURSES

BIOL 483 – Current Topics: Neuroscience of Consciousness - SI
Dr. Schreer
Wednesdays 2:00 – 4:30 pm

READY TO HAVE YOUR MIND BLOWN?!? Neuroscience of Consciousness, Biol 483.01, will be offered this Fall by Dr. Schreer. This is a current topics course and fulfills the speaking intensive (SI) requirement. We will explore arguably the greatest unanswered question, what is consciousness? We will start by approaching this from a biological perspective looking into brain anatomy and neural function. We will then expand the conversation into where the “mind” is located, how consciousness affects our reality, and even the quantum enigma, that is, how consciousness actually alters reality!?!?

BIOL 483 – Current Topics – Sustainability - SI
Dr. Ewy
Wednesdays 2:00 – 4:30 pm

"Sustainability." Ever wonder what all this talk about "Sustainability" is all about? We will examine the scientific data behind sustainability with regards to population, food production, energy consumption, and a changing climate.

Weekly local market in downtown Belmopan, Belize.

Note: *New students (Fall 2016) will 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. Current students can request this option; please contact your advisor.
BIOL 310 – NEW COURSE – Marine Biology
Dr. Walter J. Conley
Tu/Th 11:00 – 12:15

Offered for the first time on our home campus. Marine Biology examines the diversity and ecology of organisms that reside in our oceans, bays, and estuaries. We will examine physiological and morphological adaptations of marine life, including the specific adaptations and ecological interactions among organisms that inhabit the plankton, nekton, and benthos. We will also explore marine resources and the impact of humans on the oceans. Please be aware that this is not a laboratory course. Students exploring careers in the marine field should elect the summer field course at the Gulf Coast Research Laboratory.

BIOL 304 – NEW COURSE- Sustainable Agriculture
Ray Bowdish
M,W & F @ 1:00 PM; Stowell 213
Prerequisites: BIOL - 100, 125, 151 OR 152

I’m very excited to be teaching a course that will use the new WISER Greenhouse space and introduces students to farming in the local area. As a farmer myself, I believe I can provide some unique insights in to effective strategies to assess sustainable farming systems. The class introduces topics that are vital to understanding agricultural sustainability including issues of: land use, biological diversity, pest control, labor and human rights and economic viability. Field trips to local farms will serve as examples of the various local agroecosystems. The class will document the differences between these farms and analyze them for their relative sustainability.

BIOL 401 –Exercise Science
Dr. Schreer
Tu,Th 11:00 – 12:15 Lecture M, Tu 1:00 – 3:50 Labs

OUCH MY LEGS HURT!!! Let’s figure out why. Exercise Physiology, Biol 401, will be offered this summer AND this fall by Dr. Schreer. Just to be clear, this is NOT a 2-term course; just the same course being offered 2 terms in a row. The summer course is 100% online and includes an online lab. It will take place from May 26 - June 30. The fall course will be a typical on-campus course with lecture and lab. Both courses fulfill the biology Physiology requirement. Any questions, please contact Dr. Schreer at schreejf@potsdam.edu.
BIOL 334 – Biology of Woody Plants

Dr. Johnson

Meeting Times: Lecture MW 9:00-9:50; Lab 2:00-5:00 Mondays

Course Description:
This course is about trees and shrubs. It emphasizes identification, ecological and silvicultural characteristics of native and introduced woody plants (trees, shrubs and vines). Initial lectures will deal with basic introductory botany, including tissue types and plant organs, plant reproduction and the origins and taxonomy of major plant groups. However, the primary focus of the course concerns woody plants; later lectures will cover the natural history, distribution, silvics, economic uses and ecology of selected species, the origin, physics, chemistry, morphology and physiology of trees and wood and topics in forest ecology and management. Laboratory exercises and field trips will focus on learning to identify about 100 species of woody plants (plus a few important ferns and herbaceous species) using leaves, bark, fruits and winter twigs. Field trips will include visits to diverse natural habitat types in the area, as well as the Botanical Gardens in Montreal and some private lands. Students may assist in development of an arboretum and projects to map and label specimen trees and shrubs on campus. Evaluations will be based on class participation, three lecture exams, group or individual projects including plant collections, and weekly field and lab quizzes.

Note: *New students (Fall 2016) will 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. Current students can request this option; please contact your advisor.
What Is Ecology?
Ecology is the study of the relationships between living organisms, including humans, and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them. Ecology also provides information about the benefits of ecosystems and how we can use Earth's resources in ways that leave the environment healthy for future generations.

Ecologists study these relationships among organisms and habitats of many different sizes, ranging from the study of microscopic bacteria growing in a fish tank, to the complex interactions between the thousands of plant, animal, and other communities found in a desert.

Ecologists also study many kinds of environments. For example, ecologists may study microbes living in the soil under your feet or animals and plants in a rainforest or the ocean.

The Role Of Ecology In Our Lives
The many specialties within ecology, such as marine, vegetation, and statistical ecology, provide us with information to better understand the world around us. This information also can help us improve our environment, manage our natural resources, and protect human health.

-Ecological Society of America

Catalog description: BIOL 300 – Ecology (3-4) Physical environment of terrestrial and fresh-water ecosystems, interspecific and intraspecific relationships, speciation, demography, growth and regulation of populations, energy flow, community organization and development.

Prerequisites: BIOL 151 or 125, and 152.

Lab optional*. Gen Ed: WI (writing intensive) lab only.

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**BIOL 320 – Microbiology**  
Dr. Gordon Plague

Microbes may be small, but they rule the world (and they’re phenomenally interesting from a biological perspective). We’ll meet MWF at 10 am for lectures, and W afternoon for lab.

It was on a short-cut through the hospital kitchens that Albert was first approached by a member of the Antibiotic Resistance.

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**BIOL 375 – Behavioral Evolution**  
Dr. William Romey  
MWF 10:00 – 10:50 Lecture; Wed 2:00 - 4:50 Lab

In this animal behavior course, we look at the evolutionary explanations and mechanisms (senses, hormones, neurons) for why animals behave the way they do. We take a comparative approach and look at whatever animals are doing the most interesting behaviors: birds, mammals, insects, fish, and even humans. Some of the general topics we cover include: foraging, predator avoidance, mating, communication, and fighting. In the laboratory, we work with animals in the field and in the lab and cover topics such as: data gathering, experimental design, statistics, and scientific writing. During the last four weeks of the course, you will have the opportunity to do an independent project of your choosing.

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**BIOL 312 - Insect Ecology**  
Dr. William Romey  
MWF 9:00 – 9:50 Lecture; Thurs 2:00 – 4:50 Lab

**Insect Ecology:** Have a fondness for insects, or want to learn a lot about the biology of the most diverse, and arguably the most important, group of animals on the planet? Whatever your career plans (genetics, ecology, behavior, medicine, teacher, conservation biologist) this course will enhance it by a thorough understanding of insects. We will cover the topics of: behavior, ecology, diversity, evolution, and physiology. A number of field trips will get us to the Adirondacks and surrounding areas, and perhaps we will prepare an insect feast. In the laboratory for this course, students will prepare an insect collection, collect data in the field, and do behavioral studies in the lab with high tech cameras and video analysis equipment. During the last four weeks of the course, you will have the opportunity to do an independent project of your choosing.
Dr. Laura Rhoads

BIOL 407 Cell Physiology
Dr. Laura Rhoads

Cell physiology is the study of living organisms at the cellular level. We will take a journey through cells to examine both structure and function. The accompanying lab will include protein quantitation and electrophoresis, organelle isolation and characterization, and work with animal, plant and protist cells. Students will perform an independent project based upon the techniques learned throughout the course. The lecture includes short writing assignments and exams that have a research focus. This course counts as a physiology requirement; if you are looking for an elective lecture and have already completed one of the physiology courses, please see me about an override to remove the lab requirement.

Dr. Jan Trybula

Dr. Trybula will be on a sabbatical leave for Fall 2016!

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NEW For SUMMER 2016
BIOL 151 - General Biology 1

Dr. Snyder (snyderrl@potsdam.edu)

Topics include cell structure, photosynthesis and respiration, cell division and genetics, and evolution. Lab required.

Gen Ed: SB & LB credit

Summer session 1
May 26 – June 30
Lecture 8-11:25 M,T,W
Lab 1-4 M,T,W

SUMMER TRAVEL COURSES

Marine Biology for Summer 2016

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 options available. Classes fill fast so please be attentive to opening dates if interested. For complete details, please visit the GCRL website (http://www.usm.edu/gcrl/) and under “Academics” click on “GCRL Summer Field Program.” Interested students should also contact our GCRL advisor, Dr. Conley.

Marine Biology class of 2014 on Santa Rosa Island, Pensacola Florida; including Potsdam students Ceira Dawson and Matt Nobles.
Matt Nobles and Ceira Dawson with their Atlantic Sharpnose shark (*Rhizoprionodon terraenova*) - catch and release.

Dr. Conley and Kristin Estes styling with *Limulus*. 
Health Professions

Interested in pursuing a career in a Health Profession? Enroll in the Health Professions Moodle course. There you will find information on all kinds of health-related programs including: MD, DO, PA, PT, Vet, Dental, OT, and Optometry, as well as medical related research programs. You can self-enroll and will receive periodic notices of events both on and off campus that pertain to various health-related careers. Talk to Profs Schreer, Trybula, or Ewy for more information.

WORK STUDY

If you are interested in and eligible for the federal work study program please see either Ray Bowdish (bowdisrp@potsdam.edu, Ph 267-2276), or the department secretary, Marta Whalen (whalenmm@potsdam.edu, Ph 267-2264). Responsibilities include laboratory setup and cleanup, plant and animal care and a variety of secretarial work.

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.

- 3-4 TAs needed for Bio 300 labs (Ecology) - Contact Dr. Snyder
- Many TAs needed for General Biology II labs – Contact Ray Bowdish – see below

Teaching Assistant (TA) positions in General Biology 2 labs
If you are interested in becoming a Teaching As in the General Biology II labs (BIOL 152) please contact me before the end of the fall semester. Basic requirements: 1) successful completion of Biology I lecture and lab courses (3.0 or better) and 2) a willingness to commit at least 2 hours of time outside your regularly scheduled lab section each week.

As a lab TA you will be helping to prepare and teach the General Biology II labs. This is a great way to reinforce you 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.

For more information on anything I coordinate please email (bowdisrp@potsdam.edu).

**Teaching Assistant Opportunities** I am looking for TAs for Biology100 (non–majors Biology). Bio 100 lab has (4) two-hour sections, all on Thursday. See Prof Ewy for more 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 151 recitation. This is an excellent way to review your Biology and help out the Intro class. Please see Prof Ewy for more information.

**Call for Teaching Assistantships in Microbiology (BIOL 320).**

Please contact Dr. Plague (plaguegr@potsdam.edu) if you are interested in being a Microbiology TA. The lab will meet on Wednesday afternoon.

**Two assistants needed for Biological Concepts Lab (BIOL 125) - please contact Dr. Conley**

"When you teach you gain much more understanding of the subject at hand."

*This is a quote from an anonymous TA (not pictured).*

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Revision to Environmental Science Minor!!

Beginning Fall 2015, the Environmental Science Minor will be 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!

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<th>Revised Environmental Science Minor (24 credits)</th>
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<td>Level</td>
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<td>Required courses: 6 credits</td>
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<td>Prerequisite courses: 3-4 credits for BIOL/GEOL majors, 7 credits for others</td>
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<td>Advanced Courses: 14 credits for BIOL/GEOL majors, 11 credits for all others</td>
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Hi! I am a proud Potsdam Alumnus ('87) who earned my Masters in Entomology from the University of Maine, Orono. I feel fortunate to be able to return to campus, in 1993, to teach Biology.

As the department's University Instructional Specialist my time is split between teaching courses and coordinating the Wagner Institute for Sustainability and Ecological Research (WISER) Center. At home in Lisbon, my wife and I own and operate Never Tire Farm, a commercial greenhouse operation and organic gardens. My favorite things aside from teaching and farming, is hiking (Figure 1).

**WISER Center**

Biology will be opening the WISER Center next fall. It promises to be a hub of activity, supporting campus sustainability, biology courses and a variety of applied learning opportunities. The Center will feature a student learning space with new technology resources that will facilitate a wide variety of teaching and outreach missions. To support the mission and begin developing the WISER Center Coordinator and the Campus Sustainability Coordinator won a $150,000 grant for the development and implementation of distributed agricultural solutions. These resources will be linked to ongoing classes and programs.

Next fall, I will be offering 12 seats in my Sustainable Agriculture course. If you want to spend time in the greenhouse, sign up for this course! 😊

**Biology Department Applied Learning Opportunities**

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

- Help care for animals (reptiles and fish) in the department
- Create learning materials to help others discover the animals in the department
- Report your work to the campus at the Learning and Research Fair

![Figure 2 Homo sapien neanderthalensis captured in a rare selfie atop the ridge to Mount Massive, CO ~ 13,750 ft. above sea level. This species is the sworn enemy of Homo sapien Sasquashensis.](image)
Wagner Institute for Sustainability and Agricultural Research (WISER) Internship, in the Biology Department at SUNY Potsdam
You get to:
  o Manage the Healthy Plant Initiative (HPI) program
  o Grow microgreens for PACES
  o Help Develop our campus composting initiative
  o Learn horticultural technique
  o Practice Integrated Pest Management
  o Report your achievements to the campus at the Learning and Research Fair

Biology Technician Internship Techniques in the Biology Department at SUNY Potsdam
You get to:
  o Help create and maintain chemical inventory lists
  o Learn to prepare lab materials for biology labs
  o Develop skills in lab instrument care and maintenance
  o Maintain the lab materials inventory
  o Learn various lab protocols and skills for working in a biology research lab
  o Get trained in chemical safety.

Technologies in Teaching
  o Work as a TA in the General Biology Labs (credit only)
  o Learn how to deploy cutting edge technologies in a classroom laboratory setting
  o Create learning materials to help students learn how to use technologies
  o Aid in the development of Unity software to improve its functionality for teaching.
  o Report your work to the campus at the Learning and Research Fair

Urban Farming
  o Work as a TA in the General Biology Labs (credit only)
  o Learn how to deploy cutting edge technologies in a classroom laboratory setting
  o Create learning materials to help students learn how to use technologies
  o Aid in the development of Unity software to improve its functionality for teaching.
  o Report your work 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 that 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 and be trained in Integrated Pest Management (IPM) techniques and participate in the Never Tire Farm’s biological control program.
Dr. Glenn Johnson – Conservation of Threatened Species

207 Stowell Hall, 267-2710, johnsong@potsdam.edu

The Wood Turtle in the Northeastern United States: A Status Assessment and Conservation Strategy

I am participating in a relatively new turtle project that has begun in earnest last Fall, where students and I are surveying local streams for the presence of wood turtles, considered a Species of Greatest Conservation Need in New York. This project is regional in scope and is being pursued by conservation departments in most northeastern states. In the meantime, we are busy beginning surveys in streams and rivers throughout the region. Wood turtles are most readily found in Fall (late September – mid November) and again in late March to early May, when they are still active and moving about in clear streams that course through woodlands and meadows. Between those dates in winter, they are hibernating in the stream banks and in beaver lodges, while in summer they spend most of their time on land, foraging for invertebrates they love to eat. Six students are participating this Fall and I am hopeful a similar number will be interested next Spring…so, if you like to muck about in wetlands and cruise up and down beautiful creeks and streams, please stop by and see me or email (johnsong@potsdam.edu).

A second, somewhat related project involves a region-wide survey for Blanding’s turtles, a Threatened Species over much of its range. This project is part of a multi-state State Wildlife Grant and we will be cooperating with conservation biologists in Pennsylvania, Massachusetts, New Hampshire and Maine. Our portion involves conducting rapid assessments of Blanding’s turtle populations across the North Country, Saratoga and Dutchess Counties, establishing several long-term monitoring sites, creating artificial nest sites for this species and setting up a Turtle Crossing sign network within parts of New York. If interested in learning more, please contact Dr. Johnson.
Dr. Rob Snyder

News:
Rachel Fay ’17 was awarded $4,000+ to sequence the genomes of the symbiotic bacteria of Treehoppers!

Interested in independent research? I’m activity looking for new research students for multiple genomic and ecological projects. Email me snyderrl@potsdam.edu or Stop by my office (307 Stowell).

Dr. Rob Ewy

Check out my website for news and information about the Snyder Lab http://www2.potsdam.edu/snyderrl/

have a number of research projects ranging from sustainable energy (biofuels) to co-evolution of proteins. You can learn a number of different techniques, including molecular biology processes, insect identification, analysis of "non-traditional" data sets, protein isolation and identification, to data crunching. 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 you need are curiosity and an appreciation of plants.

I am particularly looking for someone to make growth measurements this fall as the willows were harvested this winter and will quickly grow back. The willows are beginning their eighth year after planting. You can earn research credit via Biology 485 or an internship.
**Dr. Jason Schreer**

Dr. Schreer is seeking a few highly motivated students to conduct a study on whether running and cycling form affects the lactate threshold. If interested, and willing to work and think hard, contract Dr. Schreer at schreejf@potsdam.edu.

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**Dr. Gordon Plague – Research Opportunities in the Plague Lab**

Transposable elements are the most abundant and most ubiquitous genes in nature. In my lab, we study the molecular evolution and ecology of transposable elements using both laboratory experiments and data mining/bioinformatics approaches. I’m looking for several motivated students to participate in this research. If you’re contemplating graduate school, this is a great way to gain hand-on research experience. Please contact me if you’re interested (plaguegr@potsdam.edu).

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**Biology Seminar Series**

Spring 2016

All seminar meetings will be in Stowell 211 from Noon to 1:00 p.m.

- 3/30/16
  Babasola Fateye, PhD. St. Lawrence University
- 4/20/16
  Emily Humphrey Dixon, St. Lawrence University
  Topic: Coping with stress: How yeast use their DNA to adapt.
- 4/27/16
  Nasser Malit PhD., SUNY Potsdam
  Topic: Human Evolution
- 5/4/16
  Tom Langen, Chair, Dept. of Biology, Professor, Depts. of Biology, Psychology, Clarkson University, Editorial Board, Environmental Management
  Topic: Evaluating Wetland Ecosystem Services in the St. Lawrence Valley Using Indicators

The link to our seminar webpage
http://www.potsdam.edu/academics/AAS/biology/biologyseminarseries.cfm
# Requirements for Graduation

**Biology (BS)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>151</td>
<td>Biology I Lecture</td>
<td>3</td>
<td>______</td>
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<tr>
<td>151</td>
<td>Biology I Lab</td>
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<td>Biology II Lecture</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>300</td>
<td>Ecology Lab</td>
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<tr>
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<tr>
<td>483</td>
<td>Current Topics</td>
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**Required Biology Courses** (23 hours)

- Required Biology Courses: 23
- Biology Electives: 16
- Chemistry Courses: 12
- Math and Physics: 15-16
- Total Hours Required: 66-67

**Required Chemistry Courses** (12 hours)

<table>
<thead>
<tr>
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<th>Title</th>
<th>Hours</th>
<th>Grade</th>
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<tbody>
<tr>
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<td>341</td>
<td>Organic Chemistry I Lab</td>
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**Required Math Courses** (7-8 hours) (Two Semesters)

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<td>125</td>
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**Required Physics Courses** (8 hours)

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<tr>
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<tr>
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<tr>
<td>204</td>
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**Biology Electives** (16 hours)

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CHEM 342 (Organic Chemistry II) is highly recommended for Biology Majors seeking careers in health sciences, molecular biology, or physiology.

MATH 151 and 152 (Calculus I and II) are co requisites for the University Physics sequence.

* Ecology is only offered in the Fall semester.
* Genetics is only offered in the Spring semester.

**Must have a 2.0 GPA or higher in all major courses.**
### REQUIREMENTS FOR GRADUATION

**Biology (BA)**

Name: ____________________________

Student ID No: ____________________________

Expected Graduation Date: ________________

**Required Biology Courses:** 22 hours

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**Required Chemistry Courses:** 12 hours

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**Biology Electives:** 14 hours

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**Total Hours Required:** 48 hours

* Ecology is only offered in the Fall semester.

* Genetics is only offered in the Spring semester.

**Must have a 2.0 GPA or higher in all major courses.**
# BIOLOGY SPECIALIZATION REQUIREMENTS

<table>
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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.