Fall '23 Biology Registration Newsletter
Spring and Summer '24 Course Edition

Spring/Summer Course Registration Window
Tues Nov 7th through Fri Nov 17th

To help you prepare for Spring 2024 registration, we have compiled information you will need as you plan your upcoming semester. Please remember that a detailed description of policies, graduation requirements, *etc.* can be found in the Biology Student Handbook. A general guide to registration can be accessed from Records and Registration.

Click on a topic below to go directly to a section of the newsletter.

Quick Access for Waitlists & Independent Research Forms

- *Hey wait! Need a waitlist*? Waitlists have a new look. Read the waitlist section to know the new procedures and click here when you are ready.
- *Registering for Independent Research*? Attend the "Getting Involved in Research" session hosted by Dr. Clement on Nov 7 at 12:30 pm in P101. Then click here to fill out the Independent Research Form if you have received approval from your independent research mentor. Also, check out the section on Independent Research to learn more!

NEW for Spring 2024

- Read more about BIO 370B: Principles of Immunology and BIO 370C: Endocrinology in the Biology "Topics" Courses here.
- "BioConnections" will continue in Spring 2024 - click here to learn more!

The Registration Process, 101

When can I register?

- Registration will occur from Nov 7 through Nov 17, 2023.
- Each student is assigned a registration time based on earned course units. You can find your registration date and time in PAWS. Need help? Check out this how-to video!
- You can continue to modify your schedule for Spring 2024 until the first week of the Spring 2024 semester (end of add/drop period), but many courses will be closed long before then.

Academic Advising Appointments

- A Registration hold has been placed on your account. This hold is to ensure you meet with your academic advisor. Once you have that meeting, your advisor will remove the hold and you will be able to register for classes. Be sure to check for any additional holds that may prevent you from registering.
- Please look for an email from your advisor for instructions on how to make an advising appointment.

What do I do if a course is full?

- Individual Biology wait lists are available for: BIO 211, 221, 231, and 498. All 300 and 400 level courses are combined on a single waitlist.
- Waitlist policies are summarized here, and can be read in full on the Biology website waitlist page.
    - Only submit a wait list form once your registration window has opened, and the waitlist has been made available. If you submit your form prior to your registration window, you will automatically be moved to the end of the list.
    - Putting your name on a waitlist does not guarantee you a seat in that class.
    - Only exceptional circumstances (e.g., not graduating on time) will be considered for registering students in a course above the cap.
- Chemistry and Physics waitlists are handled by their departments. You can visit the wait list pages on the Chemistry and Physics websites for more information. Please note that Chemistry and Physics courses cannot accept anyone above the cap.
- Waitlists are made available once the majority of seats in all sections of a given course are full. Access the Biology department waitlists here.

Biology Registration Policies

- Holding seats. Registering in a course section in order to hold a seat for another student is a violation of TCNJ's Academic Integrity Policy for both the student holding the seat and the student taking the held seat. Course registration will be monitored by the chair for anomalies suggestive of seat holding.

- Getting help. Please include your PAWS ID number in any correspondence that concerns registration, enrollment, graduation requirements, or problems with your transcript with your advisor or the department chair, Dr Clement (clementw@tcnj.edu).

Correlate Course Updates for Spring '24 Registration

- Physics 202. First, PHY 202 is not required of any Biology major. With that in mind, many students are interested in taking PHY 202 to fulfill prerequisites for medical school, graduate school, and more. For those who are interested in taking PHY 202, please note MAT 128: CalcB is a prerequisite for this course. What does this mean for you? Read on!
    - If you have taken MAT 128, you can register for PHY 202 yourself when your registration slot opens.
    - If you have not taken MAT 128 and you plan to or already have taken STA 215:
        - You can opt to take PHY 122, which is an algebra-based physics.
        - You can take PHY 202 if you have a B or higher in MAT 127: CalcA. If this applies to you, please complete this form at the time of your registration, and the Physics Office will enroll you in PHY 202.
        - Please confer with your advisor during your appointment to plan which option is the best fit for you. Please be mindful that these prerequisites are important to ensuring you are prepared to take PHY 202

Policies for Off-Campus Courses

- Off-campus study
    - *NJ Community or County Colleges*: Off-campus study (*e.g.*, a summer course) at a NJ county college is regulated by NJ Transfer (njtransfer.org). You can use this website to see the course equivalencies of any community or county college in New Jersey and understand what courses or requirements that course would fulfill at TCNJ.
    - *Off-campus study elsewhere*. Off-campus study at a non-NJ community college or a domestic four-year college must be approved by the chair of the department to determine which course(s) would be transferable to TCNJ. Be sure to confer with Dr Clement before enrolling in these courses to determine the course equivalency. Here is the form for approving off-campus study.
    - Consult with Dr. Clement regarding online (distance learning) laboratory courses. As a general rule, courses with online labs are not approved.

- Study abroad
    - Can Biology majors study abroad? Of course! Any Biology major interested in studying abroad should contact the Center for Global Engagement and speak to their advisor well before they wish to travel abroad.
    - Any course to be taken abroad for biology option credit must receive approval of Dr Clement before you enroll in the course.

Spring '24 Courses Offered

Below is a list of core courses and option courses offered this Spring '24. Note that courses marked with OE fulfill the Organisms & Evolution requirement.

Core Courses	
BIO 201 — Foundations of Biological Inquiry	BIO 221 — Ecology and Field Biology
BIO 211 — Cell Biology and Biochemistry	BIO 231 — Genetics

Options Courses	
BIO 302 — Human Anatomy & Physiology II*	BIO 370D — Topics: Principles of Immunology
BIO 341 — The Biology of Seed Plants (OE)	BIO 411 — Animal Physiology (OE)
BIO 342 — The Biology of the Invertebrates (OE)	BIO 445 — Cancer Genetics
BIO 343 — General Entomology (OE)	BIO 455 — Ecological Developmental Biology
BIO 370A — BioConnections: Growing a Green Lens^	
BIO 370C — Topics: Endocrinology	

** Not available as a major option for most Biology students.*
^This is a 0.5 unit course. This course can count as a Biology options course if combined with a second BioConnections course.

Summer '24 Courses

Additional courses may be offered and will be advertised when added to PAWS. All summer course offerings are contingent upon both minimum enrollment and availability of the instructor.

BIO 201 — Foundations of Biological Inquiry BIO 231 — Genetics

Research, Internship, and Course Assistant Opportunities

In the Biology department, there are additional opportunities for students to earn course credit including Independent Research, Biology Research Internship, Biology Internship, and Course Assistants. Each of these types of courses require enrollment through a form or application – you will not be able to add them to your shopping cart. See below for details and reach out to Dr Clement with questions (clementw@tcnj.edu).

Independent Research

- Independent research is an excellent way to acquire a strong foundation in biology by engaging in original research under the direction of a faculty mentor. To get started, plan to attend the 'Getting Involved in Research' session hosted by Dr. Clement on Nov 7 at 12:30 pm in P101. Also, talk with your advisor during your academic advising session.
- To register for independent research, you must have approval from a faculty member and discuss which course and number of units (often either 0.5 or 1 unit) prior to registering. The three courses (full descriptions and learning goals for which are in the Biology Student Handbook) include:
    - BIO 393 — Independent Research in Biology I

    - BIO 493 — Independent Research in Biology II
    - BIO 494 — Honors Independent Research in Biology II
- Once you have conferred with an independent research faculty member, you need to fill out the Independent Study Qualtrics form to be placed in the appropriate course. This form will be sent to your advisor to be approved before you are registered.
- Most Biology degree plans allow one unit of Independent Research to substitute for a Biology options course.
- If you are only taking a total of three courses next semester, it is important that you fill out the Independent Study Qualtrics form and send it in as close to your registration window as possible. There is no need to register for a course you do not intend to take just to have full time status as you wait to be enrolled in research.
- Course overload (taking >4.5 units) to enroll in research is rarely approved.

Independent Research in Biology Capstone

- If you have completed at least one course unit of BIO 493 or BIO 494, you may complete your capstone by taking BIO 495 or BIO 496 with the same instructor.
    - BIO 495 — Independent Research in Biology Capstone
    - BIO 496 — Honors Independent Research in Biology Capstone
- To register for BIO 495 or 496, first confer with your research faculty mentor. Then, fill out the Independent Study Qualtrics form to be placed in the appropriate course. This form will be sent to your advisor to be approved before you are registered.
- BIO 495/496 Independent Research in Biology Capstone may substitute for BIO 498 — Biology Seminar.

Biology Internship - BIO 390

- Are you involved in a biology-related activity or project off-campus? You may be able to receive credit for that activity. Contact Dr. Pecor (pecor@tcnj.edu) about the possibility.

Biology Research Internship — BIO 399 - (Offered in the Fall only)

- A number of local pharmaceutical and biotech companies, as well as universities and ecological field stations throughout the country, offer undergraduate summer research opportunities that qualify for academic internship credit. If you participate in such a program, you might consider registering for BIO 399 — Biology Research Internship.
- If you are interested in this opportunity, please reach out to the Internship Coordinator, Dr Erickson (erickson@tcnj.edu) to discuss whether your experience could qualify for credit.

Course Assistants — BIO 300

- The Course Assistant Program in Biology provides students with the opportunity to mentor students in introductory and options courses. Currently, Course Assistants (CAs) are placed into nearly all core courses and selected upper level courses.

- CAs earn 0.25 - 0.5 units of elective credit, and the course is pass/fail. CAs meet weekly with a faculty mentor, attend a designated class at the same time each week, sometimes hold peer study hours, and write a final reflective essay on their experience.
- If you are interested in being a Course Assistant, we encourage you to attend the information session held during registration. In most cases Course Assistants had to have already taken the course they are interested in being a Course Assistant for.
- To express interest in being a Course Assistant, please fill out the CA Interest Form with your top choices and availability based on your courses for the following semester. Plan to attend the CA Info Session for more details.

Looking Ahead

In the Fall semester of 2024, we will offer BIO 301 – Human Anatomy and Physiology I (not available as a major option for most Biology students), and BIO 312 – Microbiology. Stay tuned for more course offerings to be announced next semester.

Selected Spring '24 Course Descriptions

Below are brief references for courses that are either new or have special attributes. Be sure to refer to PAWS for descriptions and prerequisites of all courses offered.

BIO 301 & 302 Human Anatomy and Physiology I (Fall) & II (Spring). Students who plan to pursue Physical / Occupational Therapy or Physicians' Assistant programs, or are in an education program, may count one of these two courses as a Biology major option with the chair's approval. These courses cannot serve as an option for most students and are not recommended for medical school preparation.

BIO 370A: BioConnections: Growing a Green Lens with Dr Clement. Bound by their inability to move, plants inhabit nearly all environments across the globe and exhibit a stunning array of adaptations that connect them to their habitats. Plants are plentiful in nearly every landscape and are essential to our everyday lives; however, we as a species often struggle to recognize and differentiate members of this lineage of life, or describe the value of these organisms to life on Earth. From a scientific lens, we will consider the role plants play in our past and future from their part in an infamous mutiny to their importance in drug discovery. We will identify misconceptions that contribute to our disconnection to the photosynthetic world and discuss how we can more effectively communicate key information to the general public about the plants we depend on. Also, our collaborative work in "Growing a Green Lens" will connect us with ongoing efforts focused on combating climate change and increasing sustainability practices here at TCNJ. These topics and more will be explored through a series of readings (primary literature and non-fiction book), discussions, and short assignments. A final goal will be a science communication project to unlock the hidden histories of the greenest members of campus.

This is a 0.5 unit course that meets once a week. This can be combined with a second BioConnections course to fulfill a Biology options course requirement.

BIO 370C: Endocrinology with Dr Sitnick. This course will provide students with the concepts underlying the linked form and function of the human endocrine system. Topics will cover the structure, function and contribution of the major endocrine glands towards human physiology. Throughout the course, the roles of essential hormones will be discussed, focusing on hormone production, action and regulation. These topics should prepare the

student with the ability to understand the normal function of the endocrine system's contribution to homeostasis as well as how their disruption develops into endocrine disorders. Upon completion of this course the student will be able to: understand the endocrine system as it applies to human physiology and the link to disease. The student will be able to make connections between the endocrine system, the central nervous system, in the regulation of homeostatic set points. Further by integrating basic with clinical endocrinology the student will enhance his/her understanding of disease progression.

This is a 1 unit course that meets two times a week. This course fulfills a Biology options requirement.

BIO 370D: Principles of Immunology with Dr Taylor. This course is a study of the immunological mechanisms of the vertebrate body including antigen structure and types, antibody structure and formation, and antigen/antibody reactions. Discussion topics will include tolerance, autoimmunity, cellular and humoral immunity, hypersensitivity, and suppression. Students will learn the basic principles and molecular mechanisms of the immune system of the vertebrate body. The course will provide students with a solid foundation of immunology, including the anatomical structure of the immune system, the innate immune response with an emphasis on pathogen-sensing mechanisms, the adaptive immune response focused on clonal selection of lymphocytes, antigen recognition and antigen presentation, as well as the cellular and humoral immune responses. Students will gain critical thinking skills by applying the principles and mechanisms to discuss clinical issues such as inherited or acquired immunodeficiency, autoimmunity, allergy, and transplantation.

This is a 1 unit course that fulfills a Biology options requirement.

BIO 498A: Senior Seminar: Genetic Models of Human Disease with Dr Peel
This course is focused on understanding how research in model genetic organisms (e.g. mice, zebrafish, Drosophila, C. elegans, yeast etc) advances our understanding of the genetic contribution to human disease, how human disease may be studied using genetic models, and how this knowledge may lead to advances in disease treatments. Students will develop and deliver oral presentations and write a comprehensive and current literature review on a research topic oriented around the central theme.

BIO 498B: Senior Seminar: The Biology of Sleep with Dr Pecor
In this seminar, we will explore the biology of sleep and related phenomena. Students will give a series of presentations and produce a research paper on a topic related to sleep in humans and/or other animals. Potential topics for projects include the physiology of sleep initiation and maintenance, factors that affect sleep quality, sleep disorders, circadian rhythms, torpor, hibernation, and aestivation.