

Biology Registration Newsletter

For planning Fall '25 Course Registration

Fall 2025 Course Registration Window
Apr. 1-11, 2025

To help you prepare for Fall 2025 registration, please use the links below to assist in your planning. Though key policy updates are highlighted, 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](#).

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).

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

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Quick Access for Independent Research Forms

Registering for Independent research?

- Talk to your research mentor first and then [click here](#) to fill out the Independent Research Form.
- Want to get involved in research? Read about Independent Research in the [Research Opportunities section](#) and fill in the [Independent Research Interest Form](#) to be considered for an independent research position.

The Registration Process, 101

When can I register?

- Registration is from Apr 1 through Apr 11, 2025. 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 register for Fall 2025 until the first week of the Fall 2025 (end of add/drop period), but many courses will be closed long before then.

Academic Advising Appointments

- An Advising Registration hold has been placed on your account. Look for an email from your advisor to set up a meeting prior to your registration slot to discuss your progress in the major and plans for the next semester. Once you have that meeting, your advisor will remove the hold and you will be able to register for classes.
- Be sure to check PAWS to see if you have any additional holds you may need to address before you can register.

Biology Registration Policies - Seat Holding

- 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.
- Registering for classes you do not intend to take. Please do not fill your schedule with placeholders by registering for classes you do not intend to take if you are waiting on a waitlist or for a seat to open up. This is another form of holding a seat that another student may need for their degree plan.

Correlate Course Updates for Fall '25 Registration

- Physics requirement for the BS in Biology. Biology students now have the option of taking either PHY 121 or PHY 201 to fulfill the physics requirement for any BS degree in Biology. The general difference is that PHY 121 is algebra-based physics, while PHY 201 is calculus-based physics. Please consult with your advisor to determine the right path for you.
- Physics 202. First, PHY 202 is not required of any Biology major. With that in mind, many students are interested in taking a second semester of general physics to fulfill prerequisites for medical school, graduate school, and more. For those who are interested in taking PHY 202 rather than PHY 122, 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 MAT128 and you plan to or already have taken STA215:
 - 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 PHY 201 and Mat127/CalcA. If this applies to you, please go to [this webpage](#) and fill in the Physics Dept permission form by the date specified on the website, and the Physics Office will work you to enroll you in PHY 202 provided you are eligible.

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.

Fall '25 Courses Offered

Below is a list of core and option courses offered this Fall '25. Note that courses marked with OE fulfill the organisms & evolution requirement of all biology majors.

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 301 — Human Anatomy & Physiology I*	BIO 399 — Biology Research Internship
BIO 305 — Systematic Biology	BIO 455 — EcoEvoDevo
BIO 312 — Microbiology	BIO 470 — Animal Behavior
BIO 343 — General Entomology (OE)	BIO 470 — Research Seminar
BIO 370 — Endocrinology	BIO 480 — Neurobiology
BIO 372 — BioConnections: Food & Environment^	BIO 498 — Biology Seminar
BIO 390 — Biology Internship	

* 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 of a different topic.

Research, Internship, and Course Assistant Opportunities

In the Biology department, there are additional opportunities for students to earn course credit including (1) Independent Research, (2) Internships, and (3) 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.

1. Independent Research

- 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 include (full descriptions and syllabi are in the Biology Student Handbook):
 - 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 this 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.

- Interested in getting involved in research? Talk with your advisor during your academic advising session and fill in this [Research Interest Form](#) by the March 7 deadline.

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 fulfills the capstone in the major, and so students enrolled in BIO 495/6 do not need to register for BIO 498 — Biology Seminar.

2. Internships

Biology Internship - BIO 390

- There are a number of biology-related internships in which students gain valuable experience and insights to applying biology in the workplace. If you have or are planning to participate in such a biology-related internship (paid or unpaid), you might consider registering for BIO 390 - Biology Internship and receive credit for a biology options class for your internship. Internships can occur during the summer or academic year.
- If you are interested, please reach out to the Biology Internship Coordinator, Dr. Pecor (pecor@tcnj.edu) about the possibility.

Biology Research Internship — BIO 399 (Offered in the Fall semester 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 and receive course credit for a biology options class for your internship.
- If you are interested in this opportunity, please reach out to the Biology Research Internship Coordinator, Dr Erickson (erickson@tcnj.edu) to discuss whether your experience could qualify for credit.

3. Course Assistants — BIO 300

- The Course Assistant (CA) Program in Biology provides students with the opportunity to mentor students in introductory and options courses. Currently, CAs are placed into nearly all core courses and selected upper level courses.
- CAs earn 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 CA, watch for an email from Dr. Clement during the second week of Registration, which will provide a link to a CA Interest Form. Complete the interest form with your top choices and availability based on your courses for the following semester. If you are placed as a CA, you will be enrolled in BIO 300.

Looking Ahead

Below is a list of Biology option courses that are likely to be offered during the Spring 2026 semester. Please note this list is neither exhaustive nor guaranteed. Courses designated organisms and evolution are noted by OE.

BIO 302 — Human Anatomy and Physiology I*

BIO 341 — Biology of Seed Plants (OE)

BIO 352 — BioStatistics

BIO 372 — BioConnections

BIO 390 — Biology Internship

BIO 411 — Animal Physiology (OE)

BIO 470 — Genetics of Human Disease

** Not available as a major option for most Biology students.*

Summer '25 Courses

- Please look to PAWS for updated information on summer courses, including times and summer session. This summer the Biology department will offer BIO 231: Genetics and BIO 342: Invertebrate Biology (provided enough enrollment to run the courses). Note BIO 342 is a biology options course that fulfills the organisms and evolution requirement.
- Offered again this summer is the off-campus Marine Biology Course(BIO 363) at Sandy Hook
 - BIO 363, Marine Consortium Introduction to Marine Biology, will be offered this summer. This course will count as a Biology Option for all Biology Majors and Minors. However, this course does not satisfy the Organisms and Evolution (O&E) requirement. BIO 201 is a prerequisite for this course.
 - BIO 363 is an in-person course taught on location on Tuesdays and Thursdays, 5/22 through 6/26, from 9 am to 3:30 pm, in Sandy Hook, NJ. You must have access to transportation to the course.
 - BIO 363 is a field- and laboratory- oriented undergraduate course covering the biology and characteristics of marine plants and animals, and is designed to provide the student with instruction and experience in collecting and identifying examples of local marine flora and fauna in and near the Gateway National Recreation Area on the Jersey shore. This summer BIO 363 will be taught by Dr. Dane Ward of Monmouth University.

Fall '25 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 370: Endocrinology** 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 students 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.

- C. **BIO 372: BioConnections: Food and the Environment** How do you use your biology education to make sense of what people are saying in the news and other media? BioConnections is a course that serves two purposes in your science education. One is to help you make connections between concepts you are learning in your core courses and real-world issues. The other is to practice evaluating the use of scientific information in policy-making and influencing how people use the information. You will read a nonfiction book and other science journalism to explore multiple perspectives on the biological aspects of the food we eat. You will evaluate mass media interpretations of the science behind food production. This version of BioConnections will help you connect food choices and systems to environmental issues. This course meets once per week for 80 minutes and is 0.5 course units. It can be combined with a second Biology Connections course to fulfill a Biology options course requirement.
- D. **BIO 470A: Animal Behavior** Prerequisite: BIO 221 (Ecology & Field Biology). In this course students will investigate the genetic, endocrine, and neural bases of behavior, and how selection on individual decision-making and behavioral performance can result in the evolution of diverse and highly-specialized behavioral phenomena. Lecture sessions include student-led discussions of the literature. The lab portion of the course engages students in the defining practices of animal behavior research, and includes a multi-week, student-designed project.
- E. **BIO 470B: Research-Intensive Seminar: Identifying Proteins That Regulate Gene Expression** Research-Intensive Seminar is a course-based research opportunity where students are engaged in semester-long independent research projects related to a common theme. In Fall '25, the research-intensive seminar will be focused in the biology subdiscipline of molecular and cellular biology; future semesters will focus in other subdisciplines. Students will carry out individual research projects in which they utilize a combination of genetic, molecular biology, and biochemical techniques to identify new proteins that coordinate key steps in gene expression using the model organism *Saccharomyces cerevisiae* (baker's yeast). The regulation of gene expression is necessary for many essential functions in organisms; for example, generating the different cell types in complex eukaryotic organisms (e.g. skin cells or root hair cells), for prompting cells to divide to create more cells, and for cells to respond to changes in the environment. Errors in gene expression underlie numerous diseases, including cancer and neurological disorders. Gene expression pathways are conserved between yeast and complex eukaryotes, therefore information learned from yeast research can shed light on the mechanisms that govern growth, development and cellular responses in a variety of organisms ranging from fungi to plants to humans. Importantly, this research can help identify the molecular basis for diseases and targets for therapeutics. Student learning will be assessed using a variety of assignments, including quizzes, class participation, laboratory notebook, skills tests, oral presentations, and research project summaries. To be eligible to enroll in this course, students must have completed the core (BIO 201, 211, 221, 231) and must have not enrolled or be co-enrolled in BIO 393, 493, or 494.
- F. **BIO 498A Biology Seminar: Biology of Sleep** 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.

- G. **BIO 498B Biology Seminar: Experimental Medicine** Students develop and deliver oral presentations and write a comprehensive and current literature review on a research topic oriented around the field of Experimental Medicine. In this seminar, we will focus on how cutting-edge research translates into novel therapeutic strategies and medical interventions. Students will critically evaluate recent advancements in experimental treatments, including gene and cell therapies, immunotherapy, regenerative medicine, and personalized medicine. Prior knowledge of clinical research methodologies is not required, but students are encouraged to engage with interdisciplinary perspectives spanning molecular biology, biomedical engineering, and translational science.