

Biology Registration Newsletter: Spring Semester 2010
Fall 2009 REGISTRATION PERIOD
Tuesday Nov. 3rd – Friday, Nov. 13th

I. Registration **NEWS** and **UPDATES**:

A. **All biology majors** – information on courses:

- a. **One new course** will be offered this spring under the Topics in Biology heading (BIO 470 sections A and A01), Advanced Genetics, offered by Dr. Killian. Please note: this course requires Genetics as a pre-requisite. See the Notes on Individual Courses in Section V of the Newsletter for a description of this course.
- b. Additional courses under the BIO 470 heading:
 - i. BIO 470 (sections B and B01) Aquatic Ecology, offered by Dr. Pecor. This course has Ecology and Field Biology (BIO 221) as a pre-requisite.
 - ii. BIO 470 (sections C and C01) Endocrinology, offered by Dr. Uzwiak. **Note:** This course **ONLY** has Themes in Biology (BIO 185) as a pre-requisite.
- c. Please note that the organismal biology option requirement is *in addition to* the four biology option requirements. Therefore, all BIOA students must take a total of FIVE biology options, at least one of which must be an organismal biology option.

B. **All biology majors** – additional information

- a. Program Planners are no longer in use: the Program Planners you have been using to track your progress in your major program have been eliminated. In their place are two new resources:
 - i. The Academic Requirements page on PAWS – this will provide you with everything you need to determine whether you have met your requirements. **Note:** *Please notify Dr. O'Connell via email if there appears to be any incorrect information on PAWS.*
 - ii. Plan Summary Charts – these provide a summary of all requirements for each program (i.e., they replace Program Planners) and can be found on the School of Science web page, under “Degree Programs.”
- b. **NO LABORATORY COURSES IN CHEMISTRY OR PHYSICS CAN ACCOMMODATE MORE THAN 24 STUDENTS.** Therefore, do not ask to be signed into one of those courses over the cap. However, if you wish to take a chemistry or physics course that is full, you can go to the main office of chemistry or physics, and put your name on a wait list. This information will help them decide whether they are able to open additional sections.
- c. For biology courses that are zero-capped on PAWS, a wait list will be maintained in the biology main office. *Note:* priority will be given to students on the wait list who could not register for *any* other biology course during their assigned registration window.
- d. For any other biology course you are hoping to register for but cannot, please first speak to the professor teaching the course or to Dr. O'Connell if the instructor is STAFF.
- e. For any biology major interested in traveling abroad, be sure to contact the Office of Global Programs, and speak to your advisor, LONG before you wish to travel abroad.

C. **Special Area Advisement** – *new* advisors:

- a. Students interested in the 7-year optometry program (BIOP) should now see Dr. Nayak, whose office is in Room 126.
- b. Students interested in secondary education in biology (BIOT) can receive advisement from both Dr. Lipton (Room 240), and Dr. Thornton (Room 119).
- c. Students interested in becoming a member of the Graduate Studies Club should contact Dr. Kress (Room 117)
- d. Students interested in Biology Departmental Honors please see Dr. Morrison, Room 227.

II. See your advisor: *NOTE: a registration hold has been placed on all biology majors and you must meet with your advisor to have it removed.*

A. ***Bring the following with you when you meet with your advisor***

- Spring 2010 class choices, and tentative schedules
- Your plan summary chart, available on the School of Science web page
- Any questions about your coursework and future plans

B. Advisor assignments – are available through PAWS. There is also an updated list in the Main Office of the Biology Department. If you wish to change your advisor please see Dr. O’Connell.

III. When to register

A. Course Registration is based on EARNED CREDIT HOURS. The registration windows are posted on the Records and Registration web page. Transfer students should check PAWS under ‘Transfer Credit’ to verify that official transcripts have been received by the college.

IV. What to register for

A. Numbering of courses in Biology:

100-level courses – those that require no pre-requisite

200-level courses – core courses

300-level courses – those that require Themes (BIO 185) as a pre-requisite

400-level courses – those that require Themes and at least one additional pre-requisite

B. Biology major courses offered **Spring 2010** (*courses that fulfill the organismal requirement)

BIO 185	Themes in Biology
BIO 211	Biology of the Eukaryotic Cell
BIO 221	Ecology and Field Biology
BIO 231	Genetics
BIO 311	Laboratory Techniques in Biotechnology
BIO 342*	Biology of the Invertebrates
BIO 370	Oceanography
BIO 399	Biology Internship
BIO 413	Microscopic Anatomy
BIO 444	Immunology
BIO 451	Developmental Biology
BIO 461	Evolution
BIO 470A	Topics in Biology – Advanced Genetics
BIO 470B	Topics in Biology – Aquatic Ecology
BIO 470C*	Topics in Biology – Endocrinology
BIO 493	Independent Research
BIO 49801	Biological Seminar – Topics in Neuroscience
02	Biological Seminar – Genetic Regulation of Stem Cells and Apoptosis
03	Biological Seminar – Genome-wide Approaches to Basic Science and Medicine
04	Biological Seminar – The RNA World
05	Biological Seminar – Non-pathogenic symbiosis

C. A subset of biology options likely (but *not* guaranteed) to be taught in Fall 2010 (or perhaps Spring 2011) (*courses fulfill the organismal requirement)

BIO 312*	Microbiology
BIO 315*	Plants and People
BIO 343*	Entomology
BIO 411*	Animal Physiology
BIO 470*	Vertebrate Evolution (a new course)
BIO 470	Ornithology
BIO 480	Neurobiology

V. Notes on individual courses: This is a brief reference for courses that are either new or have special attributes. Be sure to refer to the Undergraduate Bulletin (<http://www.tcnj.edu/~bulletin>) for descriptions of all courses.

- A. *BIO 302, Human Anatomy and Physiology II – note: **This course does not serve as a biology option for BIOA majors.*** This is the Human Anatomy and Physiology course recommended for students wishing to pursue Physical or Occupational Therapy, Physicians Assistant programs, and for those who are BIOT, ELBI and ECBI. BIO 302 is not recommended for medical school preparation.
- B. *BIO 370, Oceanography* – This course provides a survey of the basic sciences of the sea with a focus on biological processes. Two all-day Saturday field trips to the Jersey shore will be included in the laboratory component of the course. Students will be expected to car-pool.
- C. *BIO 470 (sections A and A01) Advanced Genetics – note: **This course has BIO 231 (Genetics) as a pre-requisite.*** This course will focus on modern experimental approaches in genetics and how they are used to investigate interesting questions in molecular, cellular, and developmental biology. Students will read primary literature, evaluate experimental approaches, analyze data, and contemplate the significance of the findings. The laboratory will be a semester-long investigation of gene function in the model organism *Caenorhabditis elegans*. Selected genes/proteins will be the focus of phenotypic analysis, expression studies, sub-cellular localization studies, and subsequent student inquiry-based experimental approaches.
- D. *BIO 470 (sections B and B01) Aquatic Ecology – note: **This course has BIO 221 (Ecology) as a pre-requisite.*** “If there is magic on this planet, it is contained in water.” This quote from the naturalist Loren Eiseley captures the fascination with aquatic systems exhibited by both scientists and non-scientists alike. In this class we will explore the world of lakes and rivers, which despite their commonplace appearance represent only 1.5% of the total water on Earth. A combination of lectures, discussions, and field study will be used to explore the ecology of fresh waters. Topics for consideration will include the physical properties of aquatic systems, adaptations of aquatic organisms, aquatic communities, and freshwater fisheries.
- E. *BIO 399 Biology Internship (1 to 2 courses)* – Internship involves application of intellectual and laboratory research skills acquired in course work to an investigative laboratory or field research project at a site off campus (pharmaceutical/biotechnology companies, colleges/universities, field stations, NJ Forensic Lab, etc.) Internships may be paid or unpaid. Students who perform research during the summer will be granted 1-2 course credits in the ensuing fall and spring semesters. An oral presentation is required as well as a paper written in the form of a scientific research publication. Students who have obtained a research position and wish to pursue an internship for credit should email Dr. Klug (klugstev@tcnj.edu) to set up a meeting. Prerequisites: Sophomore status as of May, a 2.5 cumulative GPA, and approval of the project by Dr. Klug. *****NOTE: you may have 1 to 2 courses of either BIO 399 or BIO 493 count toward biology options. Any credit beyond two courses will count as elective credit toward graduation.**

- F. **BIO 493 Independent Research**— This course involves laboratory or field research under the direction of a faculty member at TCNJ and can be taken for up to 1 course unit/semester (a two semester project is recommended). Typically juniors and seniors enroll in Independent Research, though sophomores may inquire with individual faculty about starting on a research project. Interested students should *contact individual faculty members* with whom they are interested in working in order to register for Independent Research. *****NOTE: you may have 1 to 2 courses of either BIO 399 or BIO 493 count toward biology options. Any credit beyond two courses will count as elective credit toward graduation.**

Students must have an overall GPA of 2.5 or better to enroll in BIO 493. In order to enroll, students must obtain the form available in Biology Main Office, fill it out with the faculty mentor, obtain the appropriate signatures, and turn in a copy to Records and Registration *no later than the end of the first week of the spring semester.*

G. HONORS PROGRAM

- Departmental Honors – If interested, see Dr. Morrison.
- Honors Independent Research in Biology – Independent Research can simultaneously count toward biology options and the College-wide honors program. See Dr. O’Connell with any questions.

VII. ALERTS

- A. **EXIT CUMULATIVE GPA IN SCIENCE:** In order to graduate, you must have an overall GPA of 2.0 or better; a 2.0 cumulative GPA in all sciences (you may include only 2 course units of research related courses in this calculation); and a cumulative GPA of C- (1.67) or better in all core courses (BIO 185, Themes in Biology; BIO 211, Eukaryotic Cell Biology; BIO 221, Ecology and Field Biology; BIO 231, Genetics; and BIO 498 Biological Seminar).
- B. All graduating seniors are encouraged to visit Career Service to begin work on a resume and to open a permanent credentials file. Seniors seeking employment will need these materials immediately.
- C. **OVERLOAD-** You may carry up to 18 credits without special permission. A 3.3 cumulative GPA, sophomore status or above and *permission from your advisor* (i.e., meet with them first!) and from Dr. O’Connell are needed to carry 19-20 credits.
- D. Be aware of course ***pre-requisites***. If you have taken a pre-requisite at another college and you are denied enrollment in a TCNJ course because PAWS does not recognize this fact, obtain a note from Dr. O’Connell and register in person.
- E. **HOW TO HANDLE TIME CONFLICTS** - If two desirable courses overlap in their scheduled times, it is sometimes possible that arrangements can be made with the respective instructors so that you can take both courses. Consult with both parties involved. If some arrangement can be made, bring a note from the faculty involved to Dr. O’Connell, who will need to approve the time conflict override before you register. The courses with the conflict will need to be registered for in person.

Remember: it is ultimately each student’s responsibility to monitor his or her progress toward graduation, so **USE THE WEB!!!!!!** There are all sorts of excellent resources at YOUR disposal on the web, so be sure to get yourself completely informed before seeing your advisor. Two pages that are of particular value are an advising site which can be found at <http://www.tcnj.edu/~advising>, and the liberal learning site which can be found at <http://www.tcnj.edu/~liberal>.

The last day to register for Spring 2010 is the end of the first week of classes of Spring 2010

The final responsibility for the success of your advisement rests with you!