

There is so much to know about the Biology department and the Biology major that we have prepared some FAQs that are useful for students and faculty.

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What are the requirements for the Biology major?

A total of 10.5 units including:

1. Two units of 100-level Biology including BIOL-107* *Energy Flow in Biological Systems* and BIOL-108 *Information Flow in Biological Systems*.

*Students with an AP Biology exam score of 5 or IB HL Biology exam scores of 6 or 7 may choose to place out of BIOL-107. Students must send their exam scores to Vassar and then confirm their AP or IB Biology credit with the Dean of Studies office. Contact Mary Ellen Czesak (maczesak@vassar.edu) in the Biology Department with questions.

2. CHEM-125 *Chemical Principles*

3. Three units of 200-level Biology, with at least one course taken from each Content Area:

Content Area 1

BIOL-202 *Plant Physiology and Development*
BIOL-205 *Microbiology*
BIOL-208 *Plants and Fungi*
BIOL-217 *Human Physiology**
BIOL-226 *Animal Structure and Diversity*
BIOL-228 *Animal Physiology**
BIOL-241 *Ecology*

Content Area 2

BIOL-218 *Cellular Structure and Function*
BIOL-232 *Developmental Biology*
BIOL-238 *Molecular Genetics***
BIOL-244 *Genetics and Genomics***
BIOL-246 *Epidemiology*
BIOL-248 *Evolutionary Genetics***
BIOL-272 *Biochemistry*

* May take only one of these courses

**May take only one of these courses

4. Two units of 300-level biology classroom (CLS) courses . **Be sure to check prerequisites for 300-level courses of interest so that you can plan for them.** Please refer to the current course catalog for 300-level course offerings.
5. Two additional courses in consultation with your major adviser.
 - a. An additional 200 or 300 level Biology CLS course
 - b. A CLS course in the Natural Sciences Division that is not in Biology.
 - c. Other CLS courses approved by your adviser.
6. 0.5 unit of Intensive Work.

What are Intensives? Intensives are non-classroom based experiential learning opportunities in which students can work with faculty individually or in small groups. These experiences may include research in faculty labs, project-based learning, activities in partnership with community organizations, or skills-based experiences. A group of students can also propose an intensive to the department.

Some intensives have regularly scheduled meeting times, while others do not. For a half unit intensive you should expect to commit 70 hours of work during the semester, while a full unit intensive is 140 hours of work. All intensives are taken with permission of the instructor.

Click [here](#) for a handy advising sheet for the Biology major.

If relevant to your plans, be sure to discuss requirements for medical, veterinary, dental, and graduate school with your pre-major or Biology major advisor. Click [here](#) for **pre-med, pre-vet, and pre-dental** requirements from the Pre-Health Advising Office. Click [here](#) for information about **graduate school** from the Center for Career Education.

Where should I start?

If you have an AP Biology exam score of 5 or an IB-HL (higher level) Biology exam score of 6 or 7, you may choose to place out of BIOL-107. To place out of these courses, your exam score must be sent by the College Board or the IB Organization to Vassar College, and then communicate your score to Mary Ellen Czesak in the Biology Department (maczesak@vassar.edu). *We still encourage you to take BIOL-107.* The BIOL-107/108 courses are taught in a very different manner than AP or IB Biology courses, so you will undoubtedly learn new material!

If you have completed advanced level biology in high school but did not earn an exam score to place out of BIOL-107 or did not take an exam, Biology offers a placement test. Please contact Mary Ellen Czesak in the Biology department (maczesak@vassar.edu) if interested in completing the placement test.

How do I find an advisor for the Biology major?

Any of the faculty members of the Biology Department (not currently on sabbatical/leave) can serve as your Major Advisor. If you have a preference for a particular faculty advisor, you may ask that individual whether they are able to serve as your advisor. If you do not know which faculty member to ask, you should email the Biology Department Chair to be assigned an advisor. It is helpful if you become acquainted with the Department's faculty members and their areas of interest to make an informed choice of advisor. Faculty research and teaching interests are described on the Biology Department website: <https://www.vassar.edu/biology/faculty-staff>

What does it mean to be waitlisted for a course?

If you are waitlisted for a course, you are not enrolled in the course. It is a good idea to email the instructor to state your interest in the course, ask if you can attend the first session, and ask the waitlist policy. Instructors vary in their approach to enrolling students off a waitlist if a spot opens in their course. Some instructors will enroll students in the order on the waitlist through the Registrar's system while other instructors will enroll students based on criteria they

determine. Being waitlisted for courses is common, but keep in mind that we will work closely with you to ensure completion of your degree.

May I use the NRO (Non-Recorded Option) for courses toward the Biology major?

After declaration of the major, no NRO work is permissible in the major.

Can I count biology or chemistry courses I take while studying abroad or in the summer towards the Biology major?

Before taking a Biology or Chemistry course at another institution (including courses taken while studying abroad), it is best to ensure that this course can be transferred to Vassar and fulfill one of the Biology major requirements. Provide your advisor with the course syllabus and catalog description and together discuss whether this course could possibly fulfill a Biology major requirement. The next step would be for you to present the course syllabus and catalog description to the Biology Department Chair for approval.

For coursework taken while studying abroad, the Biology Department can accept up to one Biology course (200-level or 300-level course) and one additional course (in consultation with the major advisor) towards the Biology major. No more than two courses from other institutions may count towards the Biology major.

What is “sabbatical” or “leave”?

Sabbatical is a time period during which a faculty member does not have teaching or advising duties. During sabbatical leaves, faculty may be doing research on or off-campus, writing, or learning new techniques at other institutions. If your advisor is on sabbatical, you are not automatically removed from their list of advisees. You should email your advisor to ask if they are able to advise you during the sabbatical or if you will need to find a temporary advisor. If you will need to find a temporary advisor, ask for some suggestions for a temporary advisor. If you have difficulty or need a signature before you have found a temporary advisor, you can visit the Biology Department Chair for assistance.

Click [here](#) for a list of faculty on leave currently on leave (list is at the top of the page).

What are the criteria for Honors in Biology?

1. A superior cumulative GPA (approximately 3.7) in all units for the Biology major

2. Evidence of outstanding initiative and integrative ability as demonstrated by performance in advanced Biology courses
3. Demonstrated creativity and initiative through excellent independent research or intensive work conducted sometime after the summer following the sophomore year. A poster presentation to the department is required.

What is a Biology Department seminar?

The Biology Department hosts a seminar series each semester, which is attended by faculty, staff and students. A seminar speaker may be one of the Biology faculty members or one of their colleagues at another institution. We post flyers around the building as a seminar approaches and encourage all biology majors to attend. Frequently, we host a pizza lunch for majors to meet with the speakers before or after the talk. The talks are great ways to learn about current work in many different areas of biology.

The Biology Majors Committee is a great way to get involved! Past activities include a monthly morning gathering with bagels as a casual way for students and faculty to interact and a recent alum panel about life after Vassar. Each year the committee invites a speaker as part of the Department seminar series.

How do I ask for letters of recommendation?

For a faculty member to be able to write a detailed letter in support of your applications, they have to know you well. Meet with your professors during their office hours. Attend Biology seminars and then discuss the seminar with your professor. Read the student research posters in the hallways, then meet with the faculty mentor to discuss the findings. Read published work by a faculty member, then meet to discuss the findings. Become involved with events through the Biology Majors Committee, as many events may be attended by faculty.

If a faculty member agrees to write a letter(s) for you, it is a good idea to provide them with a spreadsheet/table listing the name of the program, name of the institution, due date, and how they are to submit the letter (i.e., via a link, email, or mail). Explanations of why you are applying to a particular program, how you would be an asset to a particular program and how it can benefit you (e.g., gaining research skills) are helpful as well. Give the faculty member at least two weeks notice before the due date of your letter(s).

How do I get the opportunity to do independent research in the Biology Department?

The Biology Department currently has at least 16 faculty conducting research in laboratories and/or in the field (*i.e.*, outdoors). Many of the faculty researchers mentor multiple students. That being said, the Biology Department currently serves over 100 Biology majors, so unfortunately there is not a guaranteed spot for every Biology major in our faculty research programs. There are steps you can take to improve your chances (see below).

The requirements and expectations vary among faculty researchers. A faculty researcher may require certain coursework before a student can enter a research program. For example, it may be required for you to have a certain skill set (*e.g.*, molecular genetics skills, statistical skills) before undertaking an independent research project. Each faculty researcher has a specific set of criteria used to select students into their research programs.

There are several things you can do to increase your chance of entering a faculty research program. It is wise to begin these steps right away, as it may take time to find an available spot in a research program. Keep in mind that faculty researchers may select students based on their coursework, career goals, or other experiences.

1. **Become familiar with the various research programs of the Biology faculty.** The Biology Department website (<http://biology.vassar.edu/>) is the place to start to learn about the various faculty research programs. Take time to read through the information about each professor. Take time to read through the **research posters** that are displayed in the hallways of Olmsted Hall. Attend the **Biology Department Senior Presentations** that occur during study week of each semester. **Attend Biology Department seminars** and take note of the faculty member introducing the speaker (as faculty members often invite their colleagues to present a departmental seminar). Choose the faculty research programs that best match your interests. Students in the **Biology Majors Committee** can also be helpful to you, so look for announcements about events sponsored by that committee.
2. **Spend time reading work published by faculty researchers** whose work in which you are most interested. Use the library databases (*e.g.*, PubMed, Scopus) to search for primary research articles published by the faculty researcher. Use the library catalog to search for books published by the faculty researcher. Often, faculty will have a list or links to published work on their individual web pages (accessed through the Biology Department webpage). Take notes as you read the published work, writing down your conceptual questions about their work. At this point, select one faculty research program in which you have the most interest.
3. **Email the faculty researcher** with whose work you have the most interest. It may be best to write the email in proper form ("Dear Prof. _____, Sincerely, _____) and keep the email short. In your email, show that you are serious by stating *why* you find their research so interesting. State that you have conceptual questions related to their research and wish to meet in person. Faculty researchers have limited available time, so

do not be discouraged if you do not hear back right away or if the faculty researcher replies that they currently do not have time to meet. Instead, politely follow up with a second email (after a week) and ask for a suggested timeframe to meet.

4. At your meeting, **ask your conceptual questions** about their published work. Ask about current research conducted by the faculty member and their student researchers. Ask about the role of student researchers in their research program and about availability for you in their research program.
5. If you can find out the names of **students currently working in this lab**, it would be helpful to speak with them about their research experiences. You may be able to find the names of past and current students on the research posters in the hallways.
6. If the faculty researcher currently does not have room in their research program for you, **ask when a spot is expected to become available**. Evaluate if this timeframe works with your graduation date and other plans. If the faculty researcher declines your inquiry, **do not give up**. You may contact a different faculty researcher and set-up a meeting to ask your conceptual questions about that other faculty researcher's work.

If the opportunity to conduct independent research is not working out for you, there are other ways to become involved in research. The Biology Department offers paid research assistant positions in which a student is employed to help the faculty researcher with their work. Contact the faculty researchers of which you are most interested to inquire about availability of this position.

Are there research opportunities in the Biology Department during the summer?

Independent research can also be conducted during the summer months. The URSI program (Undergraduate Research Summer Institute) at Vassar College provides a stipend to student researchers during the summer. Faculty from a wide variety of science departments, including Biology, participate in the URSI program. Look for announcements of URSI project descriptions and application deadlines in February (for more information, go to <http://ursi.vassar.edu/>). Other summer research opportunities are possible at other institutions through paid or unpaid internships. Helpful information can be found on the Center for Career Education website (<http://careers.vassar.edu/internships-jobs/>). The application deadlines for summer internships at other institutions vary widely, from November through March/April, so it's best to explore such opportunities as soon as possible.

What are the various paid positions for students in the Biology Department?

There are four types of positions available to students who wish to work in the Biology department.

Laboratory assistants help with the set-up and clean-up of our laboratory courses. They work directly with one of the Biology staff members in charge of preparing for that laboratory course. Tasks may include washing of glassware, cleaning laboratory tables/benches, and other tasks. Students may apply for these positions using the JobX system through Student Employment. It is a good idea to write some comments on the application through JobX to highlight your skill set and science-related interests.

Research assistants help a faculty member with their research. Assigned tasks vary among faculty members. Students can inquire directly to a faculty member about this position. Following the advice listed earlier under the FAQ on independent research may be helpful.

Academic interns assist during the laboratory sessions and/or assist other students with course material outside of scheduled class/lab time. The academic intern position is one of the benefits that students can receive for excellent work in a particular course. Students are nominated by faculty to serve in these positions based on grades and potential for teaching ability. The Dean of Studies office evaluates the nominations and approves academic interns based on GPA and coursework.

Office assistant The Biology department administrative assistants often hire one or two student office assistants to help with office tasks like getting the department mail from the VC Post office, printing and posting flyers about upcoming talks and setting up refreshments for the Department seminars. Ms. Janice Perez is the individual to contact about becoming an office assistant (japerez@vassar.edu).

Greenhouse Assistant These students positions help our Greenhouse Manager, Alicia Contelmo, with watering the greenhouse plants, which require seven day a week care. Sometimes the assistants also help with re-potting plants, organizing the collections and watering items from the collection that are distributed in other offices, like the department office, and outreach programs. Ms. Alicia Contelmo is the individual to contact about becoming a greenhouse assistant (acontelmo@vassar.edu).

Below is more specific information about some of the positions:

Biology Laboratory Assistant

Job Description

Assist departmental Coordinators in preparing for instructional laboratories. Duties include gathering, distributing, cleaning, and storing laboratory equipment, safe handling of chemicals, making and dispensing solutions, washing glassware, data entry and clerical work including copying and collating, working with microorganisms and caring for invertebrates. Use of laboratory equipment such as: pH meters, balances, spectrophotometers, autoclave, centrifuges. Laboratory

procedures/techniques such as: micropipetting, making accurate solutions, making sterile media, pouring agar plates.

Requirements

Can be taught. Students with experience and interest in Biology and/or Chemistry preferred. Must be dependable.

Biology Research Assistant

Job Description

Assist faculty member in research activities. Duties vary according to faculty member, but may include library research, retrieval of journal articles, copying and collating, computer data entry, data analysis, making of chemical solutions, washing glassware, sterilizing solutions, maintaining microbial cultures, using and/or caring for laboratory plants or animals, etc. Skills will vary according to the faculty member's needs for the semester. Students may become very proficient in some laboratory technique or procedure, in some form of data analysis, in sterile technique, in maintaining a species of plants or animals, etc.

Requirements

Laboratory experience and library skills desired in most instances. Occasionally a willingness to learn will do. Varies according to faculty member. Some computer skills. Some faculty members require specific knowledge and skills such as Biology or Chemistry lab skills; others may require computer skills with spreadsheet, mathematical or graphing software. Still others may be willing to teach the skills that are needed for the job.

Biology Office Assistant

Job Description

Clerical work includes typing, copying, shredding, hanging and removing flyers for events, and occasionally creating flyers, collating duplicating material, keeping track of supplies needed and organizing supply closet. This position will be shared with the one Chemistry office assistant in a large shared office space. Job also entails answering phones when needed, picking up incoming mail and dropping off outgoing mail at campus mailroom, picking up packages at either the mailroom or receiving, photocopying, filling the copy machines with paper, in addition to assisting faculty for various tasks if asked.

Requirements

Adaptability/Flexibility. Judgment. Maturity. Self-starting. Familiarity with computers required. Must be reliable.

Greenhouse Assistant

Job Description

Assist in care of plants and help to maintain a clean, safe greenhouse. Tasks include watering,

pruning, potting, weeding, sweeping, pot washing, and pest control. Some weekend hours are required. How to care for plants, plant propagation, control of plant pests.

Requirements

Will be trained. Interest in plants, dependability and willingness to learn contemporary alternatives to traditional gardening and greenhouse equipment. All majors welcome.