Biology Undergraduate Research Guide for Spring 2021

**Biology 499R**

Which biology majors can take Biol 499R Research for Credit for Spring 2021?

- Any biology major planning to do remote-only research that does not require access to a lab can sign up for Biol 499R. Students must have identified a mentor who is willing to mentor them.
- In addition, any biology majors who have junior or senior standing (see below) by January 2021 can do in person research. Students must have identified a mentor who is willing to mentor them. The mentor will be required to verify that they can accommodate them under current density restrictions and other guidelines in the department or program before the student can register for Biol 499R. Students should discuss the possibility of accessing the lab prior to signing up. Labs can be at Emory or elsewhere. All students doing in person research in an Emory-affiliated lab (i.e., anywhere on campus, VA, CHOA, etc.) will need to go through the campus on boarding process. Students eligible for laboratory research in Emory-affiliated labs will have access to on campus housing.

I am not a junior or senior, but I have been approved to be on campus for another reason. Can I do in person research in an Emory-affiliated lab?

- Sadly, no. The University has asked us to limit the number of students being approved for on campus research as there is still a need to control campus density and movement in the spring.

I understand that I must have junior or senior standing in Spring 2021 in order to do on campus, in person research. What does that mean?

- You will need to have completed a total 60 credit hours or more by the end of the fall semester (this can include AP or transfer credits). It is fine to assume that you will pass all the courses that you are currently enrolled in when considering total credit hours. You can sign up for Biol 499R before completing your credits this semester. In fact, please sign up as soon as you can.

Can non-biology majors take Biol 499R?

- While Biol 499R is typically limited to Biology majors and students intending to be Biology majors, the program is also offered to students who cannot receive credit in their majors. For example, QSS majors often take Biol 499R, and occasionally students in other STEM majors whose biology-focused research does not fit within the requirements of their research for credit programs can also take Biol 499R.

I am a Senior graduating in May and have never taken Biol 499R before. Can I take Biol 499R to satisfy my upper level lab requirement?

- Typically, the Biology department requires that students take Biol 499R for two semesters to receive credit for the upper level lab requirement (and an elective requirement), if you were not able to do Biol 499R last semester because of COVID and
would like to start now, you can request that the one semester of Biol 499R be counted towards the upper level lab requirement. Once you are signed up for Biol 499R for Spring 2021, please contact Dr. Nicole Gerardo, director of the research for credit program if you need such an accommodation.

I am a senior hoping to take less than 12 credit hours in Spring 2021? Can I register for less than 4 credit hours?

- No, you must sign up for 4 credit hours. If this is a financial burden for you or your family, please contact Dr. Nicole Gerardo to see if we can find a solution.

I would like to sign up for Biol 499R but I don’t have a mentor identified who can mentor me in Spring 2021. What can I do?

- You can find out more on how to contact possible research mentors in the Getting Starting in Research document on the Biology department website: [http://www.biology.emory.edu/research-opportunities](http://www.biology.emory.edu/research-opportunities).
- A list of contacts for laboratories that are interested in recruiting new undergraduate students can be found in the Biology Research Opportunities Spreadsheet. The contact form has not been sent out to researchers yet, but it will be updated regularly over the next month, so check it more than once.
- For Spring 2021, it will be very important that you contact labs as soon as possible. You will need to explain to potential mentors whether you are looking for remote research opportunities, in person opportunities or whether you have no preference.
- Please recognize that, given density restrictions in labs, Emory laboratories may have very limited capacity to have undergrads work in their labs in Spring 2021. Furthermore, some labs may not be able train new undergraduates given social distancing guidelines. Each lab will differ.

When do I need to register?

- Students are asked to complete the registration form as soon as possible. It is particularly critical that students who need to be onboarded to have campus access or that need on campus housing try to register as soon as possible.
- All students must register at least five days before the add/drop/swap deadline in January.

How do I register?

- First, make sure that your mentor agrees to mentor you. If planning to do in person research, make sure that your mentor can accommodate you under current density and other social distancing restrictions, or expects to be able to accommodate you if density restrictions are eased slightly by January 2021. Then, fill out the registration form at https://docs.google.com/forms/d/e/1FAIpQLSfS_OmlmOdvd3BFYmVOFfI_JSCWXqEBGoFDc1GCha5SEdK3g/viewform?usp=sf_link

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• Once you have filled out the registration form, your mentor will be asked to fill out a form indicating their willingness and ability to mentor you and (where necessary) to accommodate you in their research space.

• Once Biology has received approval from the mentor, you will receive a permission code to register.

**Biology Honors**

I plan to graduate in Fall 2021, so I need to start my honors research now. What do I do?

• Please contact Dr. Alex Escobar. If you need to on boarded in order to conduct research in an Emory affiliated laboratory, Dr. Escobar will need to submit your name to the College.

I did remote honors research last semester but need to do experiments in the lab this semester. What do I do?

• Please contact Dr. Alex Escobar. He will need to submit your name to the College to begin the onboarding process.

I was already approved to do research on campus in Fall 2020. Is there anything that I need to do?

• You will not need to be approved to return to campus again, so there is nothing that you need to do at this time.

**Other Research Opportunities**

Which other undergraduates can work in Emory labs?

• Students in the IMSD and SIRE programs who have identified mentors who can accommodate them can work in laboratories.

I am not in IMSD or SIRE, and I do not qualify for Biol 499R or honors. Can I do work study in an Emory lab?

• No, you cannot be in a lab. Right now, the University is not approving work study students for on campus research lab work. It is important to note that financial aid has already awarded work study eligible students extra grant money this year to cover their lost work study funds. This was done to compensate for the lack of availability of on-campus work study positions. You are not allowed to volunteer to do in person research in an Emory-affiliated laboratory at this time. There are, however, some, limited opportunities to work remotely with a lab.

I am not in IMSD or SIRE, and I do not qualify for Biol 499R or honors. Can I volunteer in an Emory lab?
• No, you are not allowed to volunteer to do in person research in an Emory-affiliated laboratory at this time. There are, however, some, limited opportunities to work remotely with a lab.

Are there any other research opportunities on campus?
• The Biology Department will offer two, in person sections of Biol 386. Aside from leading research projects, students will develop skills in data analysis and scientific presentation. When relevant, instructors will also help students identify future research opportunities on campus that may match their interests. Seniors who need an upper level lab requirement will be given priority and will be granted on campus access and on campus housing should they need it. Biol 386 counts as a Biology elective and an upper-level lab course. The sections include:
  a. This research experience will be guided by Dr. Nicole Gerardo and graduate student Jacoby Robinson. The class will work as a team to assay the outcome of fungal interactions between beneficial and pathogenic fungi found in fungus-growing ant colonies. Student groups will then design their own, novel research projects.
  b. This research experience will be guided by Dr. Chris Beck and postdoctoral scholar Dr. Anna Zelaya. The class will work as a team and in small groups to study the ability of bacteria within insect microbiomes to degrade plant compounds.

Are there any other remote research opportunities?
• The Biology Department will offer a remote, fully online Experimental Evolution laboratory. Students will learn evolutionary biology through the study and practice of experimental evolution. Students will read and discuss scientific literature, design and conduct experimental evolution projects using digital populations, present data, and write scientific articles describing the experiments and results. The class counts as a Biology elective course, an upper-level lab course, and a continuing writing course.

What else can I do?
• We recognize that research opportunities are limited this year. Here are some ways that you can learn more about research to prepare yourself for the future:
  o Attend virtual research presentations, including graduate student presentations. The GDBBS calendar is a regularly updated list of events related to the graduate programs in the biomedical sciences. If the link to the presentations is not included on the calendar, just email the program coordinators for more information. Undergraduates are welcome at most of events, and the talks can be excellent opportunities to hear about current research even before publication.
  o Ask PIs if you can attend their lab meetings. Many labs have weekly meetings where they talk about their work or discuss papers. This is a great way to learn more about their research.

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