

Gaining Your First Laboratory Experiences at MIT

Many laboratories on campus are excited to work with students of all experience levels. However, it can be intimidating to reach out to laboratories without prior experience. This page contains advice both on how to reach out to labs at MIT, as well as other ways to gain introductory laboratory experience and related skills.

UROP (Undergraduate Research Opportunities Program)

The UROP program allows undergraduate students to work on research and other opportunities with MIT faculty and staff. Many labs are happy to guide students through their first laboratory positions and will teach them the laboratory skills they need to know. There are many ways to find UROP positions.

Attend UROP Symposiums:

Student groups such as the MIT Biotech Group hold UROP symposiums throughout the semester, where students can learn about the research being done at MIT, talk to MIT scientists, and find research opportunities. These symposiums are usually announced through DormSpam and other undergraduate mailing lists.

Talk to Your Professors:

If one of your professor's research sounds interesting to you, ask them if they have any openings in their lab, or if they can refer you to another lab that does similar research.

Talk to Graduate Students:

Many graduate students enjoy talking about their research, and can tell you about openings in their labs or their friends' labs. Ask your Teaching Assistants or other graduate student acquaintances about which labs in the department have openings and could be a good fit for you.

Talk to Other Undergraduates:

Reach out to upper-year undergraduates within your classes, student groups, or living communities to learn about the labs they are UROPing in and determine if these labs would be of interest to you. They may be able to refer you to members of their labs.

Check Job Listing Sites:

[Handshake](#) and the [Experiential Learning Exchange \(ELX\)](#) list UROP posted by MIT faculty and staff. However, these platforms are rarely used by Course 7 staff. Note that there is no central listing of UROPs within the Biology education office.

Send out Cold Emails:

Emailing faculty that you do not know personally, or "cold emailing," is one of the most common ways Course 7 students find UROPs. For many faculty, this is how they found their first research positions - writing a type-written letter or physically going to the lab to

ask about research opportunities! Before you send out any emails, read about [MIT Biology faculty](#) and their [areas of research](#). Find faculty whose research interests align with your own. After compiling a list, draft and send your emails! It is good practice to cc the faculty assistant when emailing professors, which are listed on faculty websites. Cold emails generally follow the format below:

- Introduction: Your name, class year, and major.
- Interests: Reasons why you are interested in their lab and the research they conduct.
- Your previous experience: If you don't have any previous research experience, that's ok! Be honest about which lab skills you have, if any. This information can help principal investigators (PIs) determine who in their lab would be a good mentor for you.
- Contact information
- Resume

Although cold emailing is a common practice, faculty are very busy and may not be able to reply to your email. If you do not get a reply, you can follow up with another email a few days later or find another way to get in contact with their lab, such as through the lab's administrative assistant.

Sample email templates:

The following sample emails provide examples of the cold emails that students may send to faculty they are interested in UROPing with. These are not exact templates, and you should come up with your own personalized message to send to faculty. Remember to keep your cold emails brief and respectful.

Sample Email 1: General Template

Dear Dr. [FACULTY]

My name is [STUDENT] and I am a [YEAR] planning to major in [COURSE]. *[Explain how you learned about this faculty member's lab group and why it is of interest to you. It may be helpful to include reasons why their area of research is of personal interest to you.]*

I have completed [CLASSES] relevant classes. I also have experience in [PRIOR EXPERIENCE].

I have attached my resume below. Please let me know if there is any additional information I can provide.

Thank you for your consideration. I look forward to hearing back from you.

Best,

[STUDENT]

[CONTACT INFO]

[ATTACHED RESUME]

Sample Email 2: Student with No Research Experience

Dear Dr. [FACULTY],

My name is [STUDENT] and I am a [YEAR] planning to major in [COURSE]. *[Explain how you learned about this faculty member's lab group and why it is of interest to you. It may be helpful to include reasons why their area of research is of personal interest to you.]*

I do not have previous experience in scientific research, but I believe I can be a valuable member of your lab group due to [SKILLS/INTERESTS/PASSIONS/OTHER EXPERIENCES]. Furthermore, I am passionate and excited to learn about new laboratory techniques and how I can contribute to a laboratory environment.

I have included my resume below for your consideration. Please let me know if there is any additional information I can provide. I look forward to hearing back from you.

Best,

[STUDENT]

[CONTACT INFO]

[ATTACHED RESUME]

Sample Email 3: Student with Prior Experience

Dear Dr. [FACULTY],

My name is [STUDENT] and I am a [YEAR] looking to major in [COURSE]. I have been interested in [TOPIC] research for some time, and found your lab while learning about research at MIT. I am particularly interested in [CONCEPTS]. I would love to be able to speak with a member of your lab group about your research and the possibility of doing a UROP this semester.

In the past, I have done some work with [MODEL ORGANISM] regarding [PROCESS] at the [LAB] at [INSTITUTION]. I also interned at [INSTITUTION] and completed a project on [TOPIC]. I have attached my resume below for your consideration. Please let me know if there is any more information about my past experiences or interests that I can provide.

I look forward to hearing back from you. Thank you for your consideration!

Best,

[STUDENT]
[CONTACT EMAIL]
[ATTACHED RESUME]

More samples can be found [here](#) on the UROP website.

Final Steps:

A potential mentor or PI will likely ask to meet with you after you establish your interest in working in their lab. These meetings are often an informal way for you to get to know the lab culture. Use this time to learn more about the research this lab conducts as well as determine if the lab would be a good fit for you. Some questions to ask yourself are:

- Does this type of research interest me?
- Will I be working with animal models? What model organisms am I comfortable working with?
- Who would I be working under? Does their mentorship style fit with my learning style?
- Will I be able to meet this lab's expectations with my class schedule? Can I take on this UROP without compromising the quality of my classwork?

Once you and your lab have determined that you would work well together, you will likely be given lab safety training. Look out for messages from your new lab's staff!

MIT Biology Introductory Lab Classes

Introductory lab classes are a great way to learn fundamental techniques in a structured environment before your first internship or UROP. Teaching staff are also often happy to help their students connect with labs within their department.

- [7.102 Introduction to Molecular Biology Techniques](#): This course is designed for first years and taught during IAP. It covers microbiology and basic molecular biology techniques.
- [7.002 Fundamentals of Experimental Molecular Biology](#): This course is offered during the Fall and Spring semesters. It covers a variety of fundamental techniques that are commonly used in biology laboratories. This course is usually taken by students in their Freshman or Sophomore years. This course also includes guest lectures by MIT Biology faculty, which can help you learn about the research being done at MIT and which labs'

work is of interest to you. PIs often advertise openings in their labs through these guest lectures.

Student Groups

Many student groups hold events where you can get to know faculty, learn about research fields, and prepare for interviews.

- [Biology Undergraduate Student Association \(BUSA\)](#): This group hosts many events, including faculty dinners where students can get to know faculty and learn about their research.
- [MIT BioMakers](#): This group offers a variety of workshops with bioengineering, chemical engineering, and biology focuses. Many of these workshops are introductory and cover topics such as pipetting, transformation, and microscopy.
- [MIT Biotech Group](#): This student group holds career fairs, UROP symposiums, seminars, panels, and more!
- [MIT BioREFS](#): This group of graduate students can provide confidential support to undergraduates, graduate students, and other members of the biology department. They are a good resource for discussing imposter syndrome, how to choose a lab to work in, and other stressors.
- [The MIT Undergraduate Research Journal](#): This student group publishes a new volume every semester featuring undergraduate work. By joining this group, you can gain experience reading and writing about science.

Other Resources at MIT

- [Career Advising & Professional Development \(CAPD\)](#): This office can advise you on finding internships and help you structure your resume.
- [Biological Engineering Communication Lab](#): Although it is primarily for Course 20 students, this office's website contains advice and examples for cover letters, resumes, CVs, and more!