

Undergraduate Research FAQ

How can I find a mentor and get involved with Undergraduate Research?

There are a number of ways you can become involved in undergraduate research. Opportunities sponsored by the Burnett School of Biomedical Sciences can be found on the last page of this document titled "Research and Internship Opportunities."

You can find information on other undergraduate research programs on the Office of Undergraduate Research (OUR) website: our.ucf.edu. During the academic year, OUR hosts seminars on how to get involved with undergraduate research. During the summer, OUR hosts a Summer Research Academy (SRA), which is a three day course-event, designed to help current undergraduate students and incoming transfer students begin their research experiences here at UCF. More information can be found at: our.ucf.edu/prospective/sra.

You can also find a research position on your own. Burnett School of Biomedical Sciences faculty research can be divided into five areas: cancer, cardiovascular, immunity and pathogenesis, neuroscience, and molecular microbiology. Contact the relevant faculty members by email to see if an open position is available. In this correspondence it will be helpful to provide personal information such as your GPA and upper division coursework, research interests, career goals, and how much time you can devote to lab work (including availability during the summer).

Many faculty members are reluctant to sponsor research projects for students they do not personally know, so a good way to secure a research position is to stand out in the classroom. Ask questions, show enthusiasm, perform well, and then ask the faculty member if there is an open research position in his/her lab. Many new faculty members are located at the Lake Nona campus. Since few students can commute to Lake Nona for two or three extended blocks of time during the week, there are generally more undergraduate research opportunities available at Lake Nona than on the main campus.

Some faculty members in the Biology, Physics, and Chemistry departments, and NanoScience Technology Center conduct research closely related to biomedical sciences, but participating in research with a faculty mentor in any department can provide students with valuable skills and experience.

It would also help to think outside the box and explore off-campus opportunities. Some One potential opportunities in the Orlando area includes microbiology and biology internships with Orange County Government: <https://www.ocfl.net/EmploymentVolunteerism/InternshipPrograms.aspx>

- Epcot Science Internship: <http://disneyinterns.com/science>
- Florida Department of Agriculture and Consumer Services, Bronson Animal Disease Diagnostic Laboratory (BADDL):
<https://www.freshfromflorida.com/Consumer-Resources/Animals/Bronson-Animal-Disease-Diagnostic-Laboratory-BADDL>
- Orange County Government: <http://www.ocfl.net/EmploymentVolunteerism/InternshipPrograms>
- Sanofi Pasteur/VaxDesign: <https://www.vaxdesign.com>

When should I apply for an undergraduate research position?

In general, faculty members are looking for students who have completed some lab and upper division classes but still have 2 years left before graduation. Those students have some relevant background from

classes, but they can also spend a good amount of time in their host lab. Summer is a good time to begin a research project because you should have more free time available to spend in the lab over the summer. This is also important to the faculty sponsor.

Is it difficult to find an undergraduate research position?

Many students are interested in projects and there are relatively few openings available, so be prepared for some negative responses. It may take a while to find an open position.

I am in my last semester; how do I find a lab for a short-term research experience?

Substantial time, effort, and resources are required to train an undergraduate researcher. It can typically take an entire semester for a student to learn the appropriate techniques for data generation. A one-semester research experience would thus provide minimal benefit to the sponsoring lab. As such, faculty are reluctant to sponsor research experiences that last less than 2-3 semesters.

There are a few opportunities sponsored by the Burnett School of Biomedical Sciences that are one-semester long programs and these can be found on the last page of this document titled "Research and Internship Opportunities."

Can I shadow a scientist?

Research requires hands-on training, so not much is gained from shadowing activities in a lab setting. Student shadowing does, however, require time and effort on the part of the sponsoring lab. Very few, if any, faculty members will host shadowing activities for these reasons.

What level of commitment will my research project require?

You and your faculty mentor will determine the level of commitment required for the project. However, as a rule of thumb, you should expect to commit at least 10 hours per week to your project. This effort will likely require two or three extended blocks of time. In most cases, you cannot get any substantial lab work done in just one or two hours. You should therefore plan to set aside a block of 4-5 hours at least twice a week for your project.

Can I get credit for work on my project?

The research-related programs that can be taken for credit can be found on the last page of this document titled "Research and Internship Opportunities." Students engaged in an independent, non-programmatic research project are encouraged to enroll in MCB 4912 Directed Independent Research. The proper number of units for registration and the performance expectations for school credit will be determined by the faculty mentor.

There is also a zero (0) credit hour option for undergraduate research with more information found here: <https://our.ucf.edu/current/courses>. The course will show up on the front of the transcript like any other course, but it will not be included in your GPA and students will not be charged tuition (as long as you are concurrently enrolled in another course for credit). This provides an official recognition for your effort. It also allows your faculty advisor to receive credit for mentoring and provides the University with a means to determine how many students are involved in research. All students are therefore strongly encouraged to enroll for the 0 credit hour option if not committed to other coursework for the research experience. Students cannot enroll on their own and must work with your faculty mentor to complete the enrollment form.

Can I get paid for work on my project?

Faculty expend considerable time, effort, and resources to train undergraduate researchers. Since this is primarily a learning experience, most faculty will not pay undergraduate researchers. During the summer, however, some faculty may pay their undergraduates in order to keep them in the lab rather than at another job. The issue of payment is ultimately decided by the individual student-faculty relationship.

For an alternative source of payment, UCF sponsors a number of grants and programs that support undergraduate research. See the Office of Undergraduate Research (OUR) website for more details: <https://our.ucf.edu/current/programs>.

How can I learn about undergraduate research that has been performed on campus?

Undergraduate research across all disciplines is published in a reviewed on-campus journal, The Pegasus Review (<https://stars.library.ucf.edu/urj/>). UCF Undergraduate Research Journal (<http://www.urj.ucf.edu>).

The Office of Undergraduate Research (OUR) also provides numerous opportunities to learn about on-campus research, including:

1. Peer Advising (<https://our.ucf.edu/prospective/how-to-get-started>)
2. Workshops (<https://our.ucf.edu/about/calendar>)
3. Research Roadmaps Webcourse (<https://our.ucf.edu/forms/research-roadmaps-form>)
4. Showcase of Undergraduate Research Excellence (SURE) Student Scholar Symposium (SSS) (<http://www.showcase.ucf.edu>) (<https://researchweek.ucf.edu/symposium/>)
5. Summer Research Academy (SRA) (<https://www.sra.ucf.edu>) (<https://academicsuccess.ucf.edu/our/prospective/sra/>)

How can I find a summer research experience?

The National Science Foundation (NSF) sponsors numerous summer research experiences at colleges and universities across the country. These Research Experience for Undergraduate (REU) programs are designed to recruit off-campus students and to provide those students with an immersive experience involving technical training and career preparation. More information can be found at <http://www.nsf.gov/crssprgm/reu>.

In the Burnett School of Biomedical Sciences, there are not many opportunities for summer-only research projects. Substantial time, energy, and resources are required to train an undergraduate researcher. Most faculty members accordingly expect their undergraduate mentees to spend at least a full year in the lab.

I am from another University but will be in Orlando for the summer. Are there research positions available for me?

The Burnett School of Biomedical Sciences educates more than 3,000 undergraduates majoring in either Biotechnology or Biomedical Sciences. About 100 students are engaged in undergraduate research. Many more UCF students desire a research position, but there are no open positions for them. Because of this supply-and-demand issue, few faculty are willing to sponsor summer projects for non-UCF students who are not affiliated with an institutional research program.

Biomedical Sciences Research Faculty

Contact information can be found on their faculty profiles on med.ucf.edu/biomed

Cancer Research

Dr. Deborah A. Altomare
Dr. Claudia Andl
Dr. Karl X. Chai
Dr. Ratna Chakrabarti

Dr. Li-Mei Chen
Dr. Alicja Copik
Dr. Annette Khaled
Dr. Jihe Zhao

Dr. Hung Nguyễn
Dr. Wencai Zhang

Affiliated Faculty:

Dr. Priya Vishnubhotla, M.D., Chief of Oncology, Orlando Veterans Affairs Medical Center

Metabolic and Cardiovascular Research

Dr. Manish Gupta
Dr. Michal Masternak

Dr. Shadab A. Siddiqi
Dr. Dinender Singla

Dr. Antonis S. Zervos

Immunity and Pathogenesis Research

Dr. Mollie W. Jewett
Dr. Travis Jewett
Dr. Kai McKinstry
Dr. Griff Parks
Dr. Kyle Rohde

Dr. Tara Strutt
Dr. Justine Tigno-Aranjuez
Dr. George Aranjuez
Dr. James Earnest
Dr. Renee Fleeman

Dr. Daniel Ram
Dr. Hubert Salvail
Dr. Nicolas Salute

Affiliated Faculty:

Dr. Kenneth Alexander, M.D., Ph.D., Nemours Children's Hospital
Dr. Nyla Dil, D.V.M., Ph.D., COM Medical Education
Dr. Le-Chu Su, M.D., Ph.D., COM Internal Medicine
Dr. Bradley Willenberg, Ph.D., COM Internal Medicine

Neuroscience Research

Dr. Zixi (Jack) Cheng
Dr. Cristina Fernandez-Valle

Dr. Stephen J King
Dr. Amber Southwell

Dr. Kiminobu Sugaya

Molecular Microbiology Research

Dr. Debopam Chakrabarti
Dr. Taj Azarian
Dr. Alexander M. Cole

Dr. Amy Cole
Dr. Sean D. Moore
Dr. Saleh A. Naser

Dr. Herve Roy
Dr. William T. Self
Dr. Ken Teter

Affiliated Faculty:

Dr. Ratna Chakrabarti
Dr. Claudia Andl
Dr. Shibu Yooseph

Research and Internship Opportunities

Program	Description	Requirements	Target Student	Semesters Offered	Contact Information
AIM Applied Industrial Microbiology	Apply skills learned in microbiology and molecular biology labs to real-world industrial projects Counts as a restricted elective	QBM and Microbiology	Biotechnology Majors	Fall 1 semester program	Dr. Moore (Sean.Moore@ucf.edu)
Clinical Internship Private Practice, Surgery, Optometry	Clinical shadowing with doctors in the community	Anatomy or Physiology, >3.3 GPA	Pre-Medical	Fall (application deadline: Aug 1) Spring (application deadline: Dec 1) 1 semester program	Dr. Schroeder (Kersten.schroeder@ucf.edu)
Clinical Research Internship at AdventHealth	Clinical research class and clinical research, held at AdventHealth	QBM or alternative, >3.5 GPA	Pre-Medical Pre-Research	Fall (application deadline: Aug 1) Spring (application deadline: Dec 1) *Not offered every semester* 2 semester program	Dr. Schroeder (Kersten.schroeder@ucf.edu)
GEAR Group Effort Applied Research	Work in teams on a real research project in a classroom setting Counts as a restricted elective	Varies according to the instructors, freshman and sophomores may apply	Pre-Graduate Pre-Medical	Fall, Spring, Summer depending on faculty availability 1 semester program	Dr. Self (William.Self@ucf.edu)
HUT Honors Undergraduate Thesis	Produce original work in a research lab or independently with a thesis advisor Counts as a restricted elective	60+ credit hours, 12+ upper division credits, >3.4 overall GPA	Pre-Graduate Pre-Medical	Fall, Spring, Summer 2 semester program	Dr. Teter (Kenneth.Teter@ucf.edu)
PILOT Peer Instruction and Laboratory Occupational Training	Teaching/research course, TA for QBM, weekly meetings, presentations, research project Counts as a restricted elective	A or B in QBM, students selected by final QBM rank and lab engagement	Pre-Graduate Pre-Medical	Fall (application deadline: May 1 st) Spring (application deadline: Dec 1 st) 1 semester program	Dr. Borgon (Robert.Borgon@ucf.edu) Professor Verity (Nicole.Verity@ucf.edu)
PURE Program for Undergraduate Research Experience	Perform 10-20 hours of research per week in a research lab, weekly group meetings Counts as a restricted elective	Burnett School major or students already in a research lab, rising junior or rising senior, >3.4 GPA	Pre-Graduate Pre-Medical	Begins each Summer (application due in Spring) 3 semester program	Dr. Teter (Kenneth.Teter@ucf.edu)