



Research Guidebook

David C. Frederick Honors College
Office of Research



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Introduction to Undergraduate Research

Undergraduate research has long been identified as a high-impact practice that increases student engagement, retention, and success. Undergraduate research, however, is often misunderstood as being something only for students in certain fields or those who hope to pursue graduate research programs. This is entirely untrue! At its core, research serves to develop new knowledge, inform action, and advance the public good. These goals are applicable to any field. The reality of undergraduate research is that it takes many forms – from developing new health interventions to understanding how art can be used to advocate for social change. Research of impact is done in the arts and the sciences, and it is conducted by artists, engineers, and students across all disciplines.

In the David C. Frederick Honors College (FHC), we help students explore their interests, understand what research looks like in their major, and conduct their own research! Because the paths to research opportunities differ by major, and even by person, the FHC provides training, funding, and academic opportunities to help you pursue your unique interests and become an expert in your field!

This guidebook is intended to show you the necessary steps for starting your research journey as well as how to become involved in undergraduate research throughout your undergraduate career. This guidebook also provides suggestions for how to boost your research activity and ways you can utilize your research experiences once you have completed your undergraduate career in the FHC.

Here at the Frederick Honors College, we believe in the importance of interdisciplinary research and that all students, regardless of academic interest, can conduct research of impact that serves to make our world a better place. So, whether you already have an idea about what you would like to research, or you just want to know more about what research looks like in your field, the Frederick Honors College can help you get started.

Honors 0001

HONORS 0001, or University Orientation, is a 1-credit course offered through the FHC that familiarizes incoming Honors students with FHC research opportunities and strategies. This course acquaints Honors students with the many research opportunities exclusive to FHC students. Topics in this course range from identifying faculty mentors and funding to developing research questions. Students will also learn about foundational concepts of research that are applicable to any discipline. The final project for the course will be a research proposal students can use as the foundation for pursuing research or creative opportunities in their area of interest. This class is applicable to students in any major.

The Research Peer Mentoring (RPM) Program

The Research Peer Mentoring (RPM) program pairs first- and second-year students with upper-division FHC students who have already participated in faculty mentored research experiences at Pitt. Student mentors have experience in all fields and can provide mentees knowledge ranging from general advice and proposal and thesis advice to ways to get involved in research and how to pursue their own research ideas. Because this is a peer-to-peer program, it is much less intimidating and more informal than approaching a faculty member, and these relationships can continue throughout your time in the Frederick Honors College. The RPM program also helps you gain experiential credit (for mentors) and OCC credits (for mentees) that can be used to complete Honors Degree or Distinction requirements. You can apply to the RPM program through the FHC Office of Research. The program, at this time, has limited capacity. First-year students who participate in the program are expected to "pay it forward" by becoming mentors themselves!

Expanding Your Interests

Moving from Subject to Topic

The first step in becoming involved in research is identifying what interests you. However, it is not enough to simply know a general subject that interests you; you must be able to narrow your idea down to a manageable and researchable idea. For example, you may have an interest in studying a topic such as climate change. While that is a good place to start, this is a research subject that is too broad to produce a researchable question. Instead, you will need to identify a specific topic related to climate change that interests you. For example, you may want to research how changing temperatures affect the migratory patterns of certain animals. Even better, perhaps you know you want to study how water temperatures affect the migration of oceanic whitetip sharks! Being able to move your interest from subject to topic helps you identify research and researchers in your area of interest. Once you have discovered your topic, congratulations: you have completed the first major step of research!

Research Events and Professional Associations

Now that you know the topic you want to research, you will need to learn more about it. This can be done through attending research talks or events, many of which can be found through the Suitable App, to help you complete Honors OCC requirements. You can also find information through different professional associations. Pitt retains an institutional membership with several professional associations, such as the Council for Undergraduate Research, meaning that you already have free access to academic resources, mentoring opportunities, reduced conference costs, educational tools, grants and funding opportunities, and more! This costs most individuals hundreds of dollars per year but is often free to Pitt students. Some professional associations have reduced membership rates for students if Pitt is not already an institutional member. We encourage you to find what professional associations are within your discipline and explore the membership requirements.

Review this list of [Professional Associations](#) that may be of use to you.

Faculty and Staff Support: First Steps

Reaching out to Faculty

Once you have identified and learned more about your topic, the next step for any undergraduate researcher is reaching out to a potential faculty member. This may include asking to join a faculty project as a research assistant or having them mentor you through your own project through FHC fellowships or the BPhil. Before reaching out, you will want to have a loose proposal to present to them. To find the right faculty member for you, consider talking with a faculty member from a class you enjoy or learning about Pitt faculty through department websites. It is important to learn about the faculty member before contacting them to show you are genuinely interested in their work. You can do this by learning about current projects they are working on or previous papers and books they have published. Try to find a few faculty who really align with your interests instead of contacting many at one time. If one faculty member is unable to help you pursue your research goals, do not get discouraged. Pitt has many tremendous professors and researchers that will be willing to assist you in a plethora of projects, and the right mentor for you may be in a different department.

Some students may not think there are many faculty who conduct research in what they are interested in, but it is important to remember that Pitt has faculty conducting research in all areas, from the arts and humanities to bioengineering. You may think that your research interests do not align with what you assume “traditional” research looks like, but remember, research takes many forms. There have been hundreds of research projects from Pitt faculty and Honors students that have centered around subjects such as philosophy, law, political science, English literature, film, and more.

Once you have identified a few faculty members, reach out to them with a brief email to set up an informational meeting. The purpose of this meeting is to learn more about them and their work, NOT necessarily get accepted as a research assistant. Faculty want to work with students who are genuinely interested in their work, so be genuine with your inquiries. Even if a faculty member does not have a current project that matches your interests, they may be more than willing to guide you through your own independent research project or refer you to another faculty member.

A great place to start exploring faculty research is the work done by FHC [Faculty Fellows](#) or [Electus Faculty](#). These faculty work with the FHC and are often happy to talk with students about their interests!

FHC Research Advising

Still unsure about what you would like to research or who to talk to? Start by speaking with your FHC academic advisor. Honors Advisors work with FHC students every day and might know certain classes in your major that can teach you research skills. The FHC Office of National Scholarships is also a great resource. The fellowships advisors in the office can help you identify scholarships outside the Pitt community that can provide funding or training to further your research skills or pursue new research opportunities. If you still have questions after reviewing and following the steps in this guide, you can contact Abby Chen, Research Program Coordinator, to discuss further.

Writing a Proposal

Research proposals and prospectuses can be daunting to new researchers. There is no one correct way to write a research proposal, but there are standards to follow. Enrolling in the Honors 0001 course, participating in the research mentoring program, or speaking with the Office of Research or Office of National Scholarships will connect you to people who have experience writing competitive research proposals. This network of support can help you identify what should (or should not) be included in your proposal and provide valuable advice for making your proposal as competitive as possible. We recommend that you avoid browsing the internet for what a proposal should include to avoid conflicting information. Each proposal is unique, and you should always adhere to specific proposal guidelines.

Research proposals are required for most grants, all FHC fellowships, and the BPhil, so it is crucial to know how to execute one effectively for your specific project and aspirations. Each year, the FHC Office of Research offers online workshops on proposal writing, grant writing, and writing research statements. These workshops can help you navigate how to approach writing research proposals and provide you with Honors OCC credit.

Opportunities to Conduct Research

Honors Fellowships

The FHC provides students with one-of-a-kind research opportunities through funded fellowships that cater to all fields. These fellowship programs take place throughout the year, including the summer semesters. A list of FHC fellowships with semesters and stipend amounts is provided below:

Name	Semester	Stipend amount
<u>Community Research Fellowship</u>	Fall/Spring/Summer	\$1,000 (Fall/Spring) \$4,000 (Summer)
Brackenridge Fellowship	Summer	\$4,000
Honors Research Fellowship	Fall/Spring	\$1,000
Creative Arts Fellowship	Summer	\$4,000
Health Sciences Fellowship	Summer	\$4,000
Chancellor's Undergraduate Research Fellowship	Fall/Spring	\$800
Chancellor's Undergraduate Teaching Fellowship	Fall/Spring	\$800
Dick Thornburgh Fellowship	Summer	\$4,000

Each fellowship has its own characteristics, and it is up to you to decide what suits your interests best. For example, if you are interested in interdisciplinary practices and using the research of your peers from other fields to better your own research, you may find the Brackenridge compelling. Pitt and the FHC have a strong tradition of supporting students through research and creative fellowships, and we encourage you to become a part of that tradition.

For more information on FHC Fellowships, refer to the [Appendix](#), or visit a comprehensive [list of FHC fellowships](#).

Honors Martinson Applied Projects

The Martinson Applied Projects (MAPs) are team-based research experiences designed to provide small groups of honors students the opportunity to work on applied research projects throughout the Pitt community. Led by Pitt researchers across disciplines, MAPs allow students to gain experiential credit while working on projects that create new knowledge, inform action, and advance the public good.

Students participating in a MAP work on the project in the fall and spring semesters led by a Pitt research mentor. While each research MAP is unique, all MAPs follow a two-phase structure focused on project training and community building throughout the academic year.

- Phase I – Honors 1810 (3-credits)
- Phase II – Honors 1811 (1-credit)

To be eligible for a MAP:

- Students must be at least in their second year of study a. Students cannot apply if they intend to graduate during the same semester of application (i.e., students must be able to participate for a full academic year)
- Students must currently hold a 3.25 GPA or higher
- Students must be enrolled in an FHC degree or distinction program

Honors Research Courses

HONORS 0008 – FOUNDATIONS OF RESEARCH

- In this seminar, students will learn foundational research concepts, applicable to any discipline, while also learning how to navigate the world of undergraduate research. Course topics range from identifying a faculty research mentor to developing a research project proposal students can use to pursue research opportunities in their area of interest at the David C. Frederick Honors College.

HONORS 0084 – CREATIVE ARTS FELLOWSHIP

- Reserved for students who have received a Creative Arts Fellowship through the Frederick Honors College, this seminar provides an opportunity for students to engage with other creative scholars while exploring interdisciplinary ideas, methods, and perspectives in the creative arts. Meetings will help students support creative projects through goal setting, resource identification, and project exhibition.

HONORS 1810 – MARTINSON APPLIED PROJECTS 1

- This will be the 3-credit class in the fall.

- This is the first course of a two-semester sequence for students participating in the Martinson Applied Projects program (MAPs). Students participating in the MAPs program work on applied projects during the academic year, led by a Pitt research mentor. In the fall semester, students become familiar with their projects, under the mentorship of the project lead, and learn foundational concepts of research related to their work. Students meet regularly with their project lead each week to identify a project-specific deliverable by the end of the semester.

HONORS 1811 – MARTINSON APPLIED PROJECTS 2

- This will be the 1-credit class in the spring.
- This is the second course of a two-semester sequence for students participating in the Martinson Applied Projects program (MAPs). Students participating in the MAPs program work on applied projects during the academic year, led by a Pitt research mentor. In the spring, students continue working with their mentor on their existing project or advanced a new project using the knowledge gained in the fall. Student work must continue under the mentorship of a MAPs Lead. Satisfactory completion of this seminar will require successful completion of a preapproved project outcome by the MAPs lead and Frederick Honors College.

HONORS 1800 – FHC RESEARCH MENTORING

- This course implements a unique mentoring model to teach students effective mentoring strategies, across disciplines. Upon completion of the mentor training, students meet weekly with first-year student mentees to help them learn about undergraduate research and connect them with the FHC community. Student mentors will develop mentoring and teaching skills while helping peer mentees create a plan of action for undergraduate research that requires completion of an OCC experience set.
- This course is worth 1-3 variable credits depending on the number of mentees you take on.

HONORS 0080

- This course is restricted to students who received the Brackenridge Summer Research Fellowship. This seminar requires research fellows the opportunity to develop their summer research projects further, culminating in an abstract, research paper, or poster exhibited to the larger Pitt community.

HONORS 0081

- This course is restricted to students who received the Health Sciences Summer Research Fellowship. This seminar requires research fellows the opportunity to develop their summer research projects further, culminating in an abstract, research paper, or poster exhibited to the larger Pitt community.

HONORS 0082

- This seminar is restricted to students who received a Frederick Honors College Research Fellowship. In this seminar, students meet weekly with a group of interdisciplinary undergraduate researchers to learn about concepts of research applicable to any discipline. In addition to their research, students are expected to produce a project outcome that will advance their academic interests. Outcomes can range from a national scholarship application to a thesis written for a senior project or the BPhil degree. Students at any point of their research process will benefit from this seminar.

Other Pitt Research Programs

Pitt brings in over \$1 billion in external funding to Pennsylvania each year, and this allows the University to support a variety of opportunities for undergraduate students. While the FHC has many internal fellowship opportunities, there are other opportunities around campus we can help you identify. For example, the Summer Undergraduate Research Award provides a \$4,000 stipend to conduct independent research over the summer.

For students in the Kenneth P. Dietrich School of Arts & Sciences, Pitt also has a program called First Experience in Research (FE-R), which provides Dietrich students with firsthand research experience. It is a yearlong program in which a student from any discipline is paired with a faculty member from that discipline or a similar one and can provide a valuable foundation for conducting independent research.

Examples of Pitt research opportunities outside the FHC are provided in the [Appendix](#), though this is not a comprehensive list. If you have specific goals in mind, schedule a meeting with the FHC Office of Research.

Independent Studies

Many majors also provide for-credit independent research courses which can be enrolled in through PeopleSoft. The crediting for these courses varies, but it provides undergraduates with the ability to be independent researchers and provides the academic freedom they may desire. If this is something you would like to pursue, set up a meeting with the FHC Office of Research or your Honors advisor.

Becoming a Researcher

The Bachelor of Philosophy (BPhil)

The Bachelor of Philosophy Degree (BPhil) is an exclusive and renowned opportunity provided to undergraduate students at very few universities around the world. The BPhil is a research-intensive degree that will replace your BA or BS. With this degree, you essentially create your own “sub-major” with guidance from your academic advisor and a chosen thesis advisor. You then create and defend a thesis at the end of your senior year. We recommend familiarizing yourself with the process as early as you can, but BPhil applications are accepted on a rolling basis and students begin the BPhil process at different times in their undergraduate career depending on their own goals and experiences. Below is a list of requirements needed to apply to the BPhil program:

1. Biographical Information Form
2. Resume
3. Transcript
4. Plan of Studies
5. Thesis Prospectus

The FHC Assistant Dean, Director of Research, Honors advisors, or your scholar mentors can help you learn more about BPhil requirements and how to prepare a BPhil application.

See the Appendix for more information about the [BPhil](#).

National and International Scholarships

National and International Scholarships are prestigious opportunities that can provide a student with the funding and knowledge to further their research and academic endeavors during or after one’s undergraduate career. There are many National and International Scholarships available to students and opportunities that cater to many fields, disciplines of research, or careers. For example, the Marshall scholarship is a post-baccalaureate program that supports study in the United Kingdom in almost any discipline. Marshall Scholarships focus on strengthening the political and governmental relationship between British and American peoples. The Fulbright Program is another prestigious scholarship which allows students to research, study, or teach English abroad in over 140 countries.

The prestigious Rhodes Scholarship, awarded to only 32 US students each year, provides students of high character, commitment, and leadership with a fully funded and full-time postgraduate award that can be used for a variety of postgraduate academic endeavors, including research, at the University of Oxford.

Students who conduct undergraduate research through FHC programs have a unique advantage and proven track record for receiving national scholarships. If you are interested in pursuing a national scholarship, the FHC Office of National Scholarships provides individual advising that will help you stand out among the competition.

Contact the Fellowships Advisors for personalized information on national scholarships. Use [Handshake](#) to make an appointment.

For more information about national scholarships, visit the [Appendix](#).

The Pittsburgh Undergraduate Review (PUR)

The Pittsburgh Undergraduate Review is an interdisciplinary, peer-reviewed, online forum for students to publish their research and creative scholarship. Sponsored by the Frederick Honors College, the PUR strives to build an integrative community of undergraduate scholars to showcase the work done under the mentorship of Pitt faculty researchers. Submissions fall under four categories: research, creative writing, visual arts, and review.

For more information on the PUR, visit the PUR website.

Appendix

Professional Associations

STEM	Arts	Humanities
American Medical Assn (AMA)	American Institute of Architects (AIA)	National Criminal Justice Assn (NCJA)
Biomedical Engineering Society (BMES)	Council of Fashion Designers of America (CFDA)	National LGBT Bar Assn (LGBT BAR)
Assn of Climate Change Officers (ACCO)	Professional Photographers of America (PPA)	National Speakers Assn (NSA)
American Pharmacists Assn (APhA)	Society for News Design (SND)	American Sociological Assn (ASA)
International Game Developers Assn (IGDA)	College Art Assn (CAA)	Education Writers Assn (EWA)

This list includes just a few examples of professional organizations. If you can think of a field, career, or subject, there is likely a professional association for it. Visit JobStars for a more extensive [list of professional associations](#), or learn more through the [Council on Undergraduate Research](#).

Fellowships Advisors

Lesha Greene, MFA—Director of National Scholarships

Josh Cannon, PhD

Peter Levins, PhD

To make an appointment with a fellowships advisor, visit [Handshake](#).

Presenting at Conferences

Posters

Before you start, you need to know:

- Size and materials for poster
- Required information
- Formatting requirements
- If a formal oral presentation is required

Content

- Focus on the main points of your message
- Choose a specific, informational, eye-catching title

- Acknowledge sponsors, grants, and assistance
- Use bullets and lists
- Leave out “research paper” details
- Present visually as much as possible
- Captions should be clear and show significance

Poster design

- Color—can be used to enhance visual appeal, but do not overdo with bright colors. Colored backgrounds use a lot of ink.
- Layout—create a story that is easy to follow (top to bottom, left to right). Do not overcrowd images and text.
- Visuals—use high-quality images. If they are not your own, make sure you cite the creator.

Before Presenting

- Rehearse plenty
- Prepare a brief and standard talk that explains the overall significance of your poster
- Bring backup materials (tape, pins, etc.)
- Bring pens/paper to give/receive information from your viewers
- Dress appropriately—it is better to err on the side of professionalism

While presenting

- Engage with your viewers
- Understand the background of your topic and anticipate questions that will be asked by your viewers
- Stand by your poster without blocking it
- Do not monopolize time on small details
- Do not allow one viewer to monopolize your time and exclude other viewers
- Speak to passers-by but do not force them to view your presentation

After presentation

- Clean up on time
- Follow up with viewers who provided their information
- Take note of what went well and what did not and use that information to help with any future presentations.

For more information, visit [Hillman Library Guides](#).

Previously Successful Project Majors

STEM	Arts	Humanities
Biology	Literature	Political science
Engineering	Film	Philosophy
Physics	Photography	Legal studies
Computer/ information science	Media	Sociology
Neurology	Theater arts	History

Research is done in all disciplines. Students can read about FHC student research projects, across majors, via our [Honors Blog](#). The BPhil link below can also help you review research projects and papers from students across disciplines.

Frederick Honors College Fellowships

Get more information on Frederick Honors College [fellowships](#).

The Bachelor of Philosophy Degree (BPhil)

Read more about official information for the [BPhil](#).

Read [completed BPhils](#).

Other Pitt Research Programs

The FHC and Pitt are always exploring new ways to support undergraduate research. Here are a select few examples of programs throughout campus:

- <https://www.asundergrad.pitt.edu/research>
- <https://www.sustainable.pitt.edu/academics-research/funding-opportunities/>
- <https://somgrad.pitt.edu/prospective-students/summer-undergraduate-research-program-surp>
- <https://hillmanresearch.upmc.edu/training/high-school-and-undergrad/>
- <https://careers.upmc.com/pages/students>
- <https://www.biology.pitt.edu/undergraduate/undergraduate-research-internships>
- <http://psychology.pitt.edu/research/undergraduates-interested-research>
- <https://www.sustainable.pitt.edu/what-you-can-do/career-opportunities/>
- <https://www.engineering.pitt.edu/subsites/centers/mcsi/academics/summer-research-opportunities/>
- <https://www.sci.pitt.edu/research/undergraduate-research-scholars>
- <https://www.pharmacology.us/SummerFellowships/>
- <https://www.engineering.pitt.edu/student/programs/excel/summer-research-internship/>

National/International Scholarships

View an extensive list of [national and international scholarships](#).

For more information on applying to scholarships outside of Pitt, visit the FHC's Office of National Scholarships.

Faculty Email Example Draft

Dear Dr. _____,

My name is [insert name] and I am a ____-year student majoring in _____. I am reaching out because I have read about your work in the field of _____ and am very interested in your work and this type of research. More specifically, I enjoyed reading about your work on [cite a specific thing that interested you about this faculty member's work] and would like to learn more about Pitt faculty doing research in this area.

Would I be able to set up a brief meeting with you sometime in the next few weeks to discuss your work and how I might become more involved in this area of research? Thank you very much.

Sincerely,
[insert name]