

UChicago Biosciences

Graduate Programs

Graduate Studies in the Biological Sciences at the University of Chicago

University of Chicago graduate students and postdoctoral trainees in the biosciences break new ground every day.

We have a long history of research excellence and notable achievements among our alumni and faculty. At UChicago, you benefit from immersion in one of the world's preeminent research universities, and our community of scholars benefits from you—emerging scientists with bright minds, unbridled enthusiasm, and plenty of fresh ideas.

As an international intellectual destination, the University of Chicago draws students, researchers, and faculty to exchange ideas freely, challenging the status quo and one another to push the boundaries of their fields, leading to world-changing discoveries and insights.



The University's hallmark emphasis on interdisciplinary research and collaboration, coupled with access to the latest technology and to three major affiliated laboratories, offers a graduate experience in the biosciences unavailable anywhere else.

The University of Chicago famously embraces inquiry and impact. Through graduate and postdoctoral education, we celebrate the transformative power of ideas and the opportunity to enrich human life here in Chicago and around the globe through basic, translational, and clinical research.

Victoria E. Prince, PhD

Dean and Director

Office of Graduate and Postdoctoral Affairs



LAST MODIFIED 9/9/2018

NON-DISCRIMINATION STATEMENT



Hyde Park and Chicago

Hyde Park & Chicago

Growing, changing, ever-evolving, yet deeply rooted in tradition, our neighborhood is alive with history. **Hyde Park** is home to lifelong residents, diverse ideas, beautiful vistas, and thriving culture, not to mention affordable **housing** and great **amenities and attractions**.

On the shores of Lake Michigan in the heart of the Midwest, Chicago is home to world-championship sports teams, an internationally acclaimed symphony orchestra and opera, and much more. Visitors to Chicago experience a virtual explosion of cultural activity, civic pride and multicultural expression.

From stunning architecture and world-class museums to lakefront parks and vibrant ethnic neighborhoods, Chicago offers an endless variety of places to explore and things to do. There are museums of every kind; avant-garde art galleries; dance, theater, and music venues; plus ethnic and cultural riches in food, music, and shopping. Millennium Park, Northerly Island, and Navy Pier provide added attractions for the lakefront, with restaurants, concert venues, theatres, art exhibits, museums, shopping and other amusements within walking distance of downtown and public transportation.

Chicago is one of the world's most important financial and trading centers and is home to major high-tech industries, replacing the old livestock and heavy steel industries of generations ago. Yet despite being one of the largest cities in the United States, Chicago retains its charm because it is still a city of diverse neighborhoods, from the New Year festival in Chinatown to the taquerias of Pilsen and the tandooris of Devon Avenue.

Learn about Chicago and all its great neighborhoods on [our website](#) and with a variety of mobile apps at [Explore Chicago](#).



NON-DISCRIMINATION STATEMENT



The University

Located in the community of Hyde Park on Chicago's South Side, just 15 minutes from the city center, the University of Chicago is uniquely positioned to contribute to and draw from the strength and diversity of this world-class metropolis. We have also made an indelible mark on the world at large.

Students

6,286 undergraduate students
10,159 graduate, professional, and other students

Faculty

2,377 faculty
90 Nobel Prize winners, including 6 current faculty

Alumni

More than 157,000 alumni worldwide

Research

\$450 million in sponsored research awards
More than 3,300 patents filed since 1987
Manager of Argonne National Laboratory and
Fermi National Accelerator Laboratory (in partnership);
also affiliated with the Marine Biological Laboratory

Arts & Culture

Professional museums, theater, concerts, and lectures
A multitude of student-run organizations and events

Campus

217 acres in Chicago's Hyde Park neighborhood on Lake Michigan. It was designated a botanic garden in 1997, with a blend of traditional English Gothic and award-winning modern buildings designed by renowned architects

Undergraduate College

Offering 52 majors and 41 minors

Five Graduate Divisions

Biological Sciences
Humanities
Institute for Molecular Engineering
Physical Sciences
Social Sciences

Six Graduate Professional Schools

Divinity School
Chicago Booth School of Business
Law School
Pritzker School of Medicine
Harris School of Public Policy Studies
School of Social Service Administration

Two Affiliate Institutions

Marine Biological Laboratory
Argonne National Laboratory



NON-DISCRIMINATION STATEMENT



Faculty

Approximately 900 faculty members in the Biological Sciences Division form the clusters of degree-granting basic science units, the clinical departments and committees, the Howard Hughes Medical Institute, the University of Chicago Medicine Comprehensive Cancer Center, and several specialized research centers. These faculty are involved in all aspects of biological research and teaching. Currently, around 175 faculty serve as advisers to PhD students.

Many of the faculty have been distinguished by their selection for advisory or editorial positions by national and international scientific organizations, including the National Institutes of Health, the National Science Foundation, the American Cancer Society, and the Leukemia Research Foundation. Some of UChicago's faculty are members of the National Academy of Sciences, several are Fellows of the American Academy of Arts and Sciences, and eight faculty members have received the National Medal of Science.



UNIVERSITY POLICIES

NON-DISCRIMINATION STATEMENT



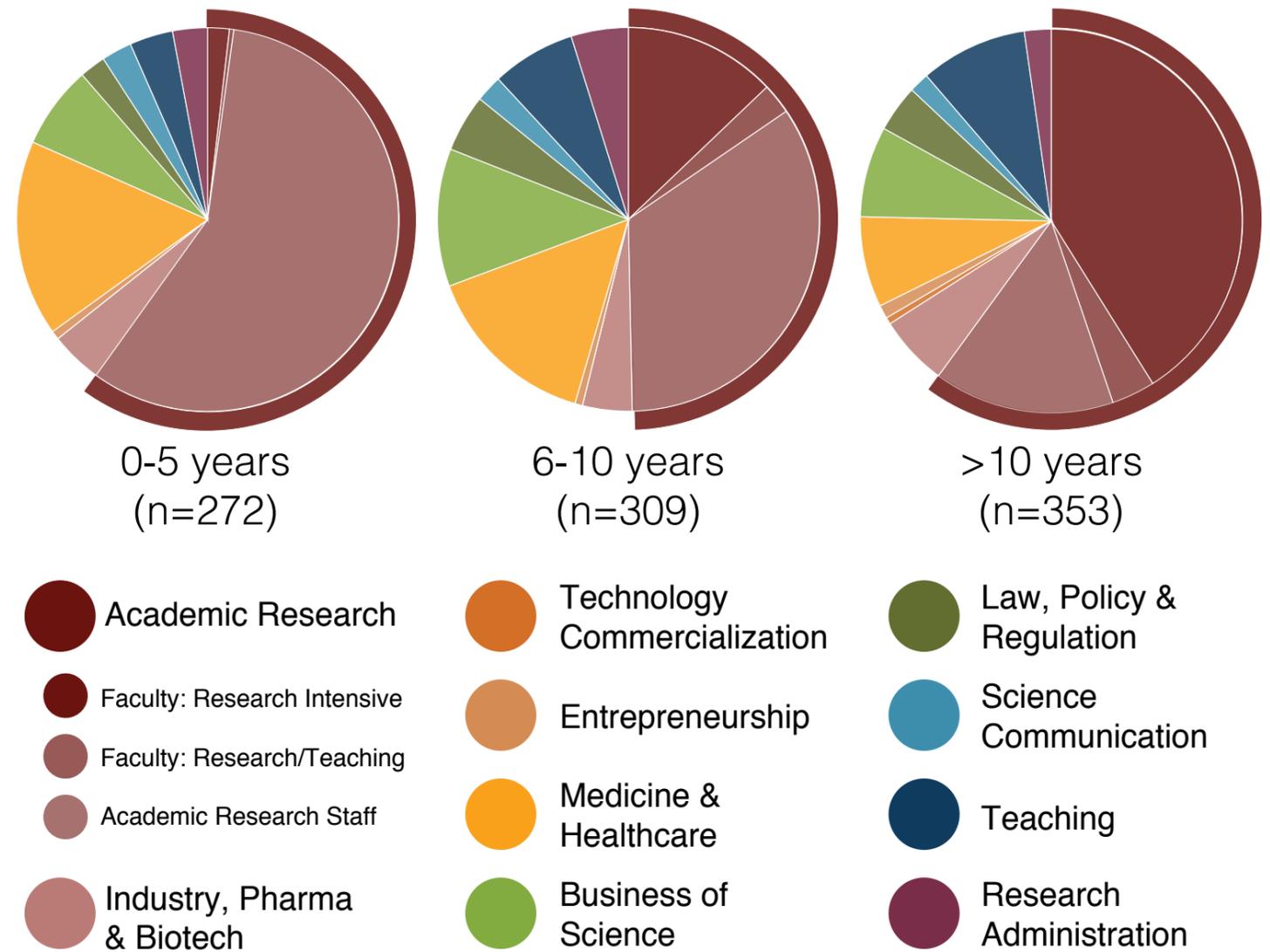
The Student Body

Students in the PhD programs of the basic sciences number over 400 and come from all parts of the country and five continents. The diverse student body includes groups of people traditionally underrepresented in science.

The average time to completion of the PhD degree in the graduate programs is 5.8 years. Because of the traditions of the University of Chicago and the close relationship between the graduate program disciplines and the medical sciences, ten percent of the graduate students obtain both the PhD and the MD degrees.

Many of the graduates of the programs pursue academic research careers. A recent trend has begun to also demonstrate that a substantial number choose other careers that make excellent use of their science training in areas including biotechnology, the pharmaceutical industry, business and technology commercialization, policy, science communication, research administration, and law. Statistics on career placement of BSD alumni are provided on the right.

UChicago BSD PhD Alumni Career Placement



UNIVERSITY POLICIES

NON-DISCRIMINATION STATEMENT



Diversity and Inclusion

UChicago is a multicultural, international community of more than 15,000 students and 20,000 faculty and staff, each supporting the university's mission of inquiry and academic excellence. **Diversity** is central to our mission of discovery as it drives ideas, builds careers, and enriches communities. Having the greatest number of representatives from the most diverse pool of thinkers poses the most likely opportunity to address a problem from all its perspectives. The Biological Sciences Division is committed to attracting, mentoring, and promoting a diverse community of scholars in an environment conducive to excellence for students from all backgrounds.

The University strives to be supportive of the academic, personal, and work-related needs of each individual. UChicago is committed to facilitating the full participation of students with a disability in the life of the University. **Student Disability Services** works to provide resources, support, and accommodations for all students with disabilities and to remove physical and attitudinal barriers, which may prevent their full participation in the University community.

The graduate BSD Diversity Committee, with thirty-four faculty members, administrators, and students, works to enhance diversity in the BSD. The BDC promotes social, cultural, and scientific interactions. It also provides administrative student support, educational and mentorship programs, and networking opportunities. Finally, the BDC endeavors to ensure and increase the availability of funds for minority programs.

The student-led **Multicultural Graduate Community** (MGC) seeks to empower individuals to promote the engagement and success of underrepresented communities in the sciences.

By providing academic and personal support networks, resources for professional development, and student mentorship, the MGC embraces diversity and helps foster a united community capable of addressing the needs of underserved and underrepresented minority groups.

UChicago also hosts a chapter of **SACNAS**, the Society for Advancement of Hispanics/Chicanos and Native Americans in Science, a national organization committed to advancing the achievement of underrepresented STEM students by building opportunities, diversifying the field, and developing future leaders. SACNAS is inclusive of all ethnicities, cultures, and scientific disciplines, and is deeply committed to the highest standards of excellence in science and education.

Pre-admissions programs such as **Discover UChicago** offer talented individuals from traditionally underrepresented populations an expenses-paid opportunity to explore graduate education at the University of Chicago.

The **Graduate Recruitment Initiative Team (GRIT)** is committed to enhancing diversity, inclusion, and equity across the BSD and PSD graduate programs. GRIT focuses on three central components: recruitment, retention, and sustainability in order to increase the recruitment and retention of students from marginalized backgrounds.



Current Students



Having grown up in the area, I knew I was interested in moving back to Chicago to pursue my graduate studies, but it was not until I came and spoke to the professors and other students that I was sold on UChicago. I knew that I wanted to work on disorders of the nervous system and was impressed by the number of opportunities available for translational research on campus. Thanks to a supportive mentor and the numerous student enrichment programs, I have gained experience on a diverse range of projects preparing me well for a future career in science. Furthermore, being located in Chicago has allowed me to explore such a diverse range of activities when outside of the lab, between great food, dancing, and cultural activities (not to mention an amazing lakefront!) I can't imagine having as fulfilling a graduate experience in any other place!

Tahra Eissa, Neurobiology

When I was searching for graduate schools I had a general idea of the kind of research that I wanted to do, but I was unsure about the topic I wanted to work on. One of the main reasons I chose the University of Chicago Medical Physics program was that first years are able to rotate through at least two labs before committing to a thesis lab. By rotating through through a couple of labs, I found the one that best fit my interests. Living in Chicago, there is never a shortage of things to do. When I have free time, it's never hard to find something entertaining going on in the city. Looking back, I have no doubt that I made the right decision to come to Chicago. Not only will I be able to perform cutting edge research, I will be fully prepared for life after graduate school.



Corey Smith, Medical Physics

During the application and decision process, I asked myself the question, "Where will I have the most fun while doing great research?" Everyone affiliated with the Division of Biological Sciences is committed to developing critical thinkers and independent researchers, but the strength of this program is much more than that. I am continually impressed with the individual attention that I received at the University of Chicago while taking classes and quality of mentoring within labs; the faculty here strikes an impressive balance being world class researchers as well as invested mentors for graduate students. Additionally, the graduate students are hard working and passionate about science, and we also have fun inside and out of lab through participation in IM Sports, trips to Downtown Chicago, movie nights, and lots of other activities. The University of Chicago was the answer to my question when I was deciding where to attend graduate school and still is today.



Lauren Blake, Human Genetics

UNIVERSITY POLICIES

NON-DISCRIMINATION STATEMENT



Graduate Programs

We offer a total of eighteen PhD granting programs. The majority of graduate programs in the Biological Sciences Divisions (BSD) are organized in four broader umbrella groups called clusters: **Biomedical Sciences**, **Darwinian Sciences**, **Molecular Biosciences**, and **Neuroscience**. The programs within each cluster have overlapping course work and share additional training activities.

The following unclustered graduate programs offer unique experimental approaches and stand alone: **Biophysical Sciences** (PSD), the **Interdisciplinary Scientist Training Program MD/PhD**, **Medical Physics**, and **Public Health Sciences**. There are also other **dual MD/PhD training programs**.



NON-DISCRIMINATION STATEMENT

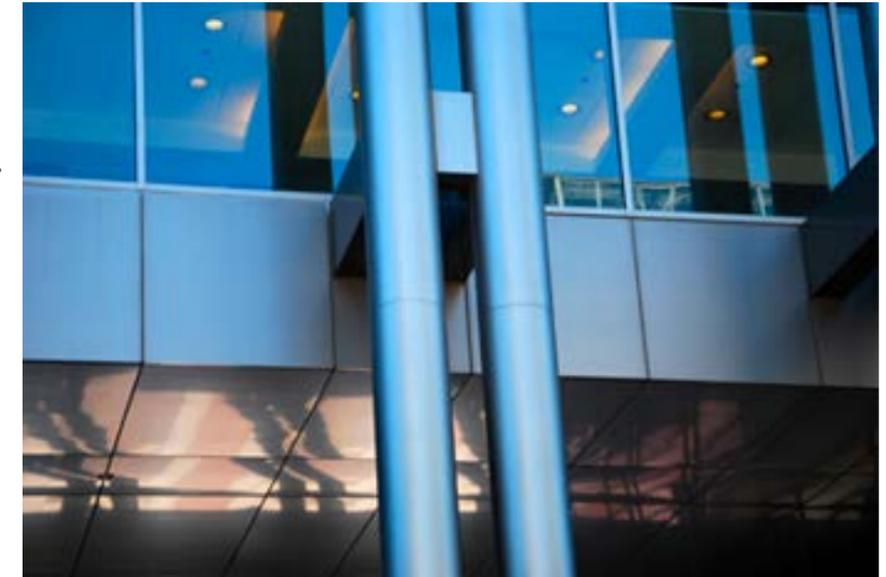


Biomedical Sciences Cluster

The **Biomedical Sciences Cluster** at the University of Chicago consists of four graduate programs: Cancer Biology, Immunology, Microbiology, and Molecular Metabolism and Nutrition. The thematic curricular focus of the Biomedical Sciences Cluster is the basic scientific study of human biology and related disease processes. Each program in Biomedical Sciences is a distinct, degree-granting unit in the Biological Sciences Division. The cluster system enables these programs to integrate faculty, coursework, research programs, training programs, and seminars/symposia for a truly multidisciplinary training experience. The result for graduate students is an integrated and flexible course of study, with options to work with over 170 full time faculty. For both pre and postdoctoral trainees and faculty, the interdisciplinary nature of the Biomedical Sciences Cluster provides extensive opportunities for interaction and collaboration.

Prospective students should apply to one of the four graduate programs within the Biomedical Sciences. It is in the best interest of applicants to apply to programs in rank order based on interest (highest to lowest). Applicants need not identify four individual programs, however the option is available if a student is undecided on his or her area of specialization. It is perfectly acceptable to apply to only one program.

Students are admitted to the Cluster into one of the four programs, but have the option of changing programs during the first year. Students combine study in core basic science areas with specialized study in programmatic core areas within their area of particular research interest. All students in the Biomedical Sciences Cluster must attend the All Stars seminar series which takes place during their first year throughout the Autumn and Winter quarters. This seminar series provides an opportunity for new students to learn about the research taking place in Cluster faculty laboratories. The goals of the Cluster curriculum are to ensure that students are adequately grounded in the basic sciences, exposed to the latest research and methodologies in their particular area of research interest, and allowed maximum flexibility in pursuit of their particular research interests.



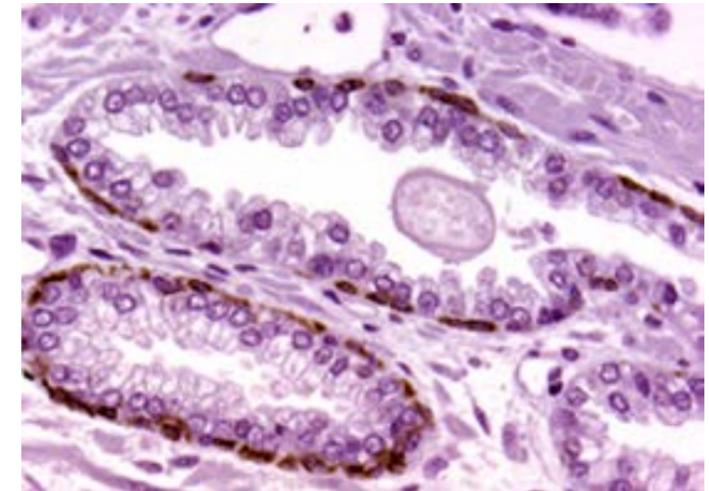
Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

The Committee on Cancer Biology

The **Committee on Cancer Biology (CCB)** provides multidisciplinary and integrated training in cancer biology with an emphasis on innovation and critical thinking in cancer research. The program provides doctoral students with the most up-to-date knowledge and research training with the goal of preparing students for leadership and research careers in academia, industry, clinical research, science journalism, and other relevant areas. The program prepares students to conduct research by offering a core curriculum that focuses on multiple aspects of cancer biology, including molecular mechanisms of cancer, tumor progression and metastasis, autophagy and tumor metabolism, cancer genomics, computational approaches and big data analysis, mechanisms of drug resistance and tumor heterogeneity, in addition to translational research approaches. With approximately 65 faculty members from across the Biological Sciences Division with diverse interests in all of these research areas, students have a broad choice of research concentrations to select from for their thesis research project.

The CCB is committed to fostering interactions amongst graduate students, postdoctoral fellows, and faculty, and has a consistent track record of success in mentorship with many trainees publishing their work in outstanding journals and going on to run their own research labs. This is achieved through our core curriculum, a weekly cancer biology seminar series, journal clubs, student research presentations, group research meetings, an annual retreat and symposia. All of our students attend the AACR meeting in their third year of graduate school and numerous other opportunities are available to our students to present their data at international meetings and symposia. Our dedicated program in Cancer Biology is supported by an NCI training grant in addition to valuable support from foundations allowing us to continue to recruit and train the next generation of expert cancer biologists.



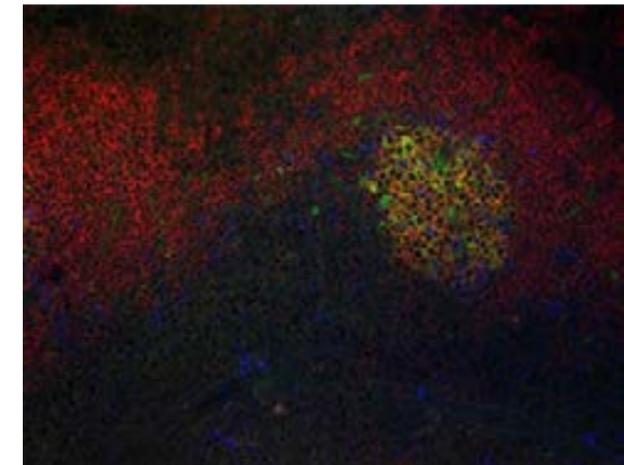
Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Immunology

The **Committee on Immunology** provides multidisciplinary training in all aspects of Immunology. The Committee is dedicated to the open exchange of ideas among scholars of all fields, a commitment enhanced by an organizational structure that completely integrates the basic biological sciences with the clinical sciences. This multidisciplinary and integrated approach corresponds well with the reality of the new biology, where molecular and structural techniques are applied widely and with great success in the effort to develop new immunological approaches to the diagnosis and treatment of various immune diseases and cancer. The Immunology program has won training grant support from the NIH continuously for over forty years.

Immunology students follow a **core curriculum** and take several advanced graduate level courses in specialized areas. As part of the Biomedical Sciences Cluster, Immunology students have the resources and flexibility to design particular courses of study to suit their ultimate research goals. They also have extensive opportunities for interaction with the other three clusters within the Biological Sciences Division.



Katie Block, 2015

Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

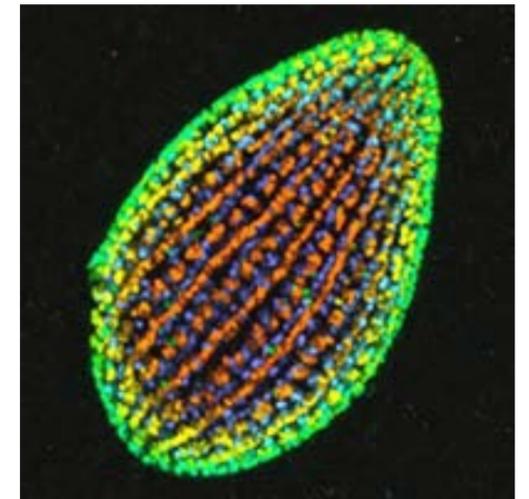
The Committee on Microbiology

Microbiology examines microbial life forms, their physiological properties and structures, as well as their ability to cause human, animal, or plant diseases. The study of **Microbiology** is responsible for doubling human life expectancy in the past century through achievements in anti-microbial therapy, vaccine development, and the enforcement of antiseptic and hygienic principles. It has also led to the prevention of many plant diseases, which has increased crop yields and food supplies for people around the world. Furthermore, microbiology has also enhanced our understanding of the principles of genetics and molecular biology through the study of bacteria and viruses.

As we look to the future, microbiologists will work to identify new anti-bacterial and anti-viral therapies to treat or prevent infectious disease. Research in microbiology will inform the development of new research tools, and will define ecological and evolutionary principles through studies of microbial communities and host-microbe interactions.

Modern microbiology is flourishing at the University of Chicago with students and post-graduate scientists from around the world who continue to push the frontiers of microbiological sciences through excellent educational programs and a challenging **curriculum**. The basis of graduate training in microbiology is the performance of original laboratory research. Required classes are designed to teach students the available experimental tools and to define the experimental frontier in a field. Upper-level graduate classes examine the most current scientific literature or the development of original research problems. Interdisciplinary study is encouraged.

The Committee on Microbiology is expanding with new faculty and research space. It is an energized, cutting-edge enterprise and a fun place to do science.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

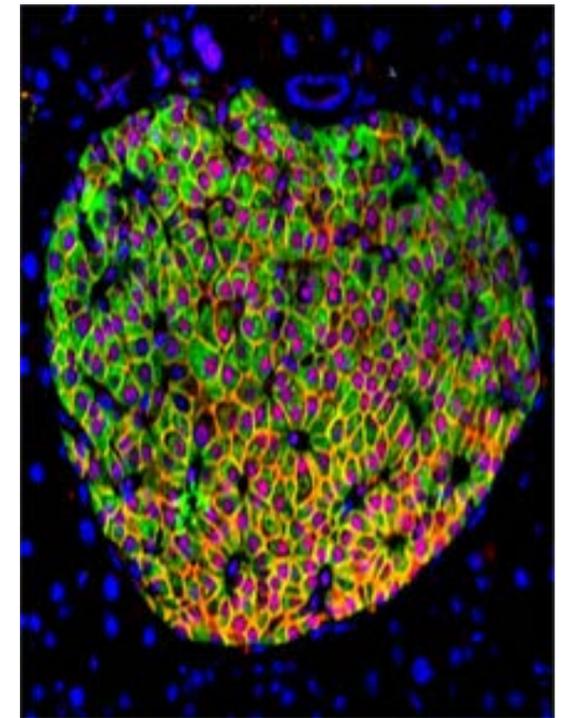
Molecular Metabolism and Nutrition

The **Committee on Molecular Metabolism and Nutrition (CMMN)** is a dynamic research unit offering interdisciplinary training in the molecular basis of biological processes as they relate to metabolic homeostasis, nutritional status, and human disease. Faculty members, who include both basic scientists and clinical researchers, have primary appointments in a variety of departments and join the Committee for the express purpose of interacting, training, teaching and mentoring graduate students.

Faculty research expertise covers the study of metabolism from various angles, relying on clinical research, as well as biochemical, physiological, cell and/or molecular biological approaches. A mixture of nationally recognized senior faculty and talented and active junior faculty provide a stimulating and supportive environment designed to guide graduate students through course work and research training.

Students train in the labs of faculty members associated with a variety of clinical sections and basic science departments. Through the CMMN **curriculum**, they acquire sound basic training in biochemistry accompanied by constant exposure to the impact of metabolism on human health and well being. Student thesis projects can comprise basic, clinical and/or translational research. The flexibility and diversity of options for graduate training coupled with the strong attention paid to the timely progression of each graduate student are the principal strengths of the Committee.

State of the art equipment, resources, and expertise are all readily available for a graduate student in CMMN. The Committee works closely with the federally sponsored Diabetes Research and Training Center, Digestive Disease Research Core Center, the Kovler Diabetes Center, the Training Program in Digestive Diseases and Nutrition, and the Clinical Research Center, sponsored by a Clinical and Translational Science Award from the NIH, to offer a broad array of choices for research topics.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Darwinian Sciences Cluster

Three inter-connected academic units make up the **Darwinian Sciences Cluster**: the Department of Ecology and Evolution (E&E), the Committee on Evolutionary Biology (CEB), and the Integrative Biology Program in the Department of Organismal Biology and Anatomy (OBA).

These PhD programs combine to provide students with exceptional and integrated training in biology at all scales including ecosystems, community, population, individual, cellular, and molecular. Students and faculty conduct research at a wide variety of museums, labs and field sites worldwide.

Students are encouraged to train broadly by interacting with faculty both within and outside the Darwinian Cluster, including close collaboration with colleagues at other local institutions, such as **Argonne National Laboratory**, **Brookfield Zoo**, **Chicago Botanic Garden**, **Field Museum**, **Lincoln Park Zoo**, the **Marine Biological Laboratory**, **Morton Arboretum**, and **Shedd Aquarium**. In addition, CEB and E&E are members of the **Organization for Tropical Studies** which facilitates access to its field sites, research stations and specialized courses in Costa Rica. Ecology and Evolution uses two important research facilities, a state-of-the-art greenhouse on campus and the **Warren Woods Ecological Field Station**, which sits on forty acres in Southwest Michigan. Both are available for short and long-term research projects, as well as curricular work.

Graduate admissions is coordinated not only through admissions committees in each program within the Darwinian Sciences Graduate Cluster, but also with other related departments and committees on campus.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Ecology and Evolution

The **Department of Ecology and Evolution (E&E)** offers exceptional training for students pursuing a PhD. The world-renowned faculty, access to resources at multiple institutions, and an intellectually invigorating environment work together to foster the development of innovative and independent scientists. Researchers apply empirical to theoretical approaches across a wide variety of taxa: algae, microbes, plants and animals. Although our focus is on the importance of basic science, we also work to see the sound application of our research in the areas of genetically modified organisms, resource management, climate change, and the genetics of disease.

E&E students accomplish a lot: they perform research all around the world, publish in top-tier journals, are awarded prestigious fellowships and grants, and pursue rewarding and interesting careers in and out of academia. All students have in common a set of research questions that examine ecological and evolutionary processes that underlie patterns of life on earth.

Graduate student research is supplemented with a diverse offering of **courses** and seminars. In addition to two key journal clubs that have strong student participation, students administer their own Friday afternoon seminar series. Faculty and student interactions are facilitated through these journal clubs and seminars, as well as through our annual Retreat. All of these venues allow students to demonstrate intellectual development and independence.

Students have access on campus to state-of-the-art laboratory facilities, such as DNA sequencing and functional genomics centers, the greenhouses, GRID computing resources, and microscopy cores. Students and faculty in E&E also interact broadly across campus with members of Statistics, the Geophysical Sciences, and other units within the Biological Sciences Division. Affiliations with Argonne National Lab and The Field Museum allow access to collections and facilities at these institutions. Field-oriented biologists take advantage of surrounding reserves and restoration areas, as well as numerous distant locales where faculty members have established research programs. The department has developed its own facility, **Warren Woods Ecological Field Station**, on forty acres in southwest Michigan to facilitate long term research projects as well as field work within the curriculum. The newly constructed field station is an extremely energy efficient "Passive House," making it the first Passive House-certified laboratory in North America and only the fifth worldwide.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

NON-DISCRIMINATION STATEMENT



The Committee on Evolutionary Biology

Since 1968, Ph.D. students in **The Committee on Evolutionary Biology (CEB)** have pursued interdisciplinary research that transcends a single department's purview. CEB students have access to field sites, equipment, laboratories, research funds and receive training in an exceptional range of scientific and technical expertise. The CEB has produced over 125 graduates who are now working around the world in universities, museums, zoos, and governmental and non-governmental agencies.

CEB presently includes more than sixty faculty members representing all four graduate divisions (Biological Sciences, Physical Sciences, Social Sciences, and Humanities), as well as institutions outside the University (Argonne National Laboratory, Brookfield Zoo, Chicago Botanic Garden, The Field Museum, Lincoln Park Zoo, the Marine Biological Laboratory, and Morton Arboretum). This diverse faculty conducts research on most major groups of organisms and in most ecosystems, using a broad and innovative range of methods and theoretical approaches. Faculty and students in the program are engaged in interdisciplinary studies at time scales that range from single generations to the entire history of life, and at organizational scales from molecular to global.

CEB students design individualized research programs in consultation with committees drawn primarily from the CEB faculty. Faculty members of other institutions may be asked to serve on dissertation committees as needed. This diversity of input encourages students to strive for the highest level of interdisciplinary training.

Graduate admissions are coordinated with the Departments of Organismal Biology and Anatomy (OBA) and Ecology and Evolution (E&E), the other members of the Darwinian Sciences "Graduate Cluster," and with other departments and committees on campus. Students admitted into CEB usually draw more heavily on faculty from multiple departments or on faculty from more than one institution, but students in all programs are encouraged to train broadly by interacting with faculty both within and outside the cluster.



Admissions Links

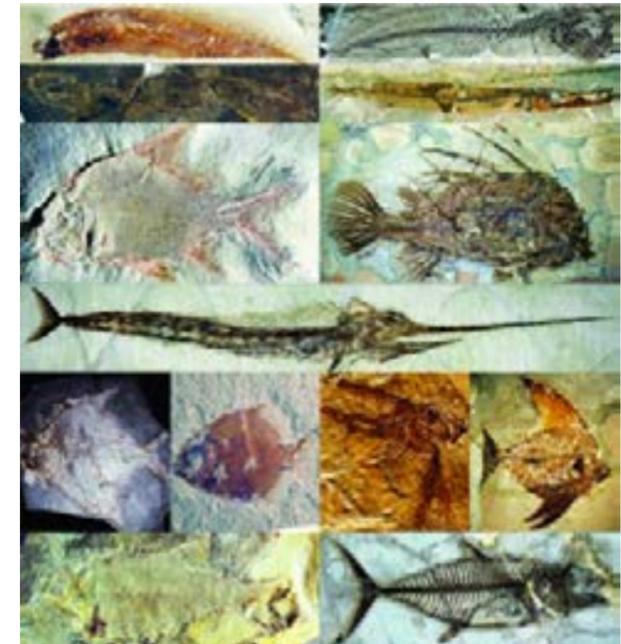
- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Integrative Biology

The **Department of Organismal Biology and Anatomy** (OBA) is home to faculty and students with wide ranging interests in biological structure, function, development and evolution at the level of the organism. Integrative by nature, diverse in its methods, organismal biology is the most exciting and powerful lens through which to advance understanding and education about organismal development, behavior and evolution. Departmental faculty perform research on a wide variety of topics that generally fit under the categories of evolution and development, behavioral neurobiology, comparative biomechanics, and vertebrate paleontology.

OBA's graduate program in **Integrative Biology** trains students to pose strongly interdisciplinary research questions across fields in biology and among levels of biological organization. The educational curriculum enables students to build a strong foundation in integrative biology and students take a variety of core and elective courses in which they are introduced to faculty research and to different approaches to integrative research in organismal biology. A special feature of the graduate program is exploring common themes and points of interaction between areas of inquiry, so students are encouraged to develop a research focus and PhD project that encompass the full range of topics related to their principal interests. Students have the opportunity to utilize the diversity of expertise at the University and affiliated institutions, including the Field Museum of Natural History and Argonne National Laboratory.

There are numerous weekly seminar series that tackle diverse aspects of integrative biology. Core facilities across campus are available for use including a new confocal digital imaging facility in the Anatomy building. Students in the program are often supported by training grants from the NIH and NSF in the areas of developmental biology, genetics, and biomechanics.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Molecular Biosciences Cluster

Graduate students in Molecular Biosciences receive integrated, cross-disciplinary training in the molecular aspects of biology. The programs embrace a wide range of interests and offer great flexibility in options for study and research while still ensuring rigorous training in areas central to each discipline.

Students matriculate into one of five degree-granting programs. With program approval, they may change their affiliation during their first year. The five programs are:

- **Biochemistry and Molecular Biophysics**
- **Cell & Molecular Biology**
- **Development, Regeneration & Stem Cell Biology**
- **Genetics, Genomics & Systems Biology**
- **Human Genetics**

More than 100 faculty research labs comprise an innovative and dynamic research environment in the **Molecular Biosciences Cluster**. The depth and breadth of the cluster's resources assure students' access to the wide range of instruments used in modern biological research. There are core facilities for DNA sequencing, peptide analysis, electron microscopy, computer analysis, and animal research. Shared research facilities are readily available for computer graphics, protein and nucleic acid chemistry, fluorescence-activated cell sorting, confocal microscopy, x-ray crystallography, and nuclear magnetic resonance. Adjoining research space houses internationally acclaimed labs in the areas of physics, chemistry, evolution, and medicine, thereby providing the real possibility of transformative, interdisciplinary collaborations.

Cluster-wide seminars, colloquia, journal and data clubs, and an annual retreat provide numerous opportunities for hearing about the latest research, for students to present their own work, and for developing broad interactions and collaborations among students and faculty.



Admissions Links

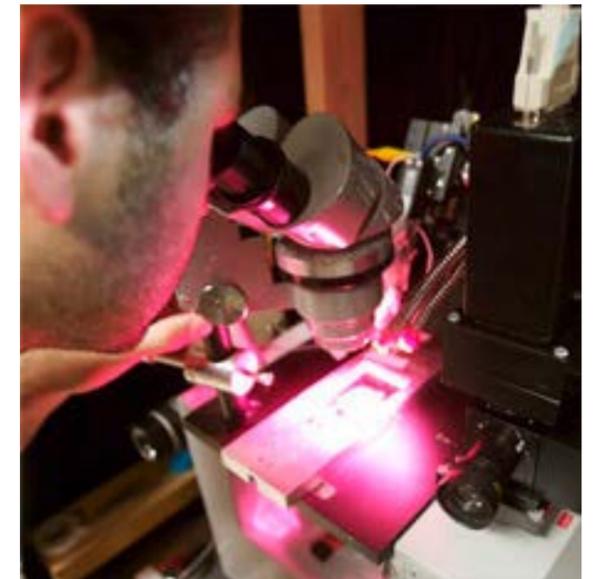
- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Biochemistry and Molecular Biophysics

The **Department of Biochemistry and Molecular Biology** studies how biomolecules operate and interact to drive the complex and diverse behaviors of living systems. Research encompasses all areas of modern biochemistry, including structural biology, biophysics, and biomolecular engineering and design.

The department is distinguished by its intellectual rigor and collaborative style. Interdisciplinary interactions are further facilitated by its presence in the **Gordon Center for Integrative Sciences**, which brings together a large and diverse group of biological and physical scientists to pursue common research goals. Members of the department ask broad and multifaceted questions, and as a result, trainees are well equipped for future academic and industrial careers in biochemistry and biophysics.

Along with coursework, students perform at least two lab rotations before identifying the lab in which they will pursue their doctoral research. These rotations familiarize students with what it is like to actually work in the labs they are interested in and to help them make an informed decision about which lab they would like to join. In addition, a unique feature of our graduate program includes practical workshops in computation, NMR spectroscopy, X-ray crystallography, and cryoelectron microscopy.



Admissions Links

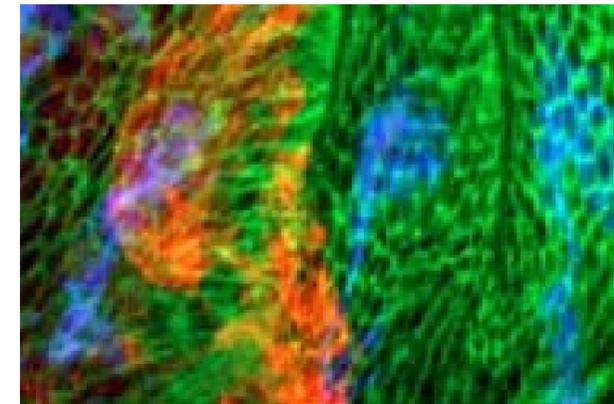
- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Cell & Molecular Biology

The goal of the doctoral program in **Cell and Molecular Biology** is to foster graduates in advanced scholarship at the frontiers of cell biology, genetics, and molecular biology. Collectively, the internationally distinguished faculty in the program focus their research on the mechanisms of biological phenomenon that operate at the cellular scale. Our faculty seek to train graduate students, through coursework and research, to ask and to answer fundamental, mechanistic questions at the forefront of the fields of cell and molecular biology. Given the program's focus on mechanism, we aim to train students to use whatever tool is necessary and most appropriate to address a question. Consequently, we teach our students to utilize a broad spectrum of experimental rationales and methodologies in cutting-edge approaches that integrate diverse disciplines and often involve collaboration; advanced microscopy, biochemistry, and genetic analysis in wide ranging model organisms are crosscutting themes.

In the first year, a strong emphasis on rigorous, didactic preparation in cell biology, molecular biology, and genetics prepares students to choose questions, define experimental approaches, and interpret data. Once qualified, advanced students select from a wide range of opportunities for research in cell biology, molecular biology, genetics, developmental biology, plant biology, and microbiology. Of special interest is the design of interdisciplinary programs that emphasize the frontiers of biology. Indeed, our research and skills are frequently relevant to the research interests of students in other programs; consequently, our research program serves as a wellspring for collaborations.

In fostering advanced scholarship and research in cell and molecular biology, we strive to prepare our students to face the scientific challenges of the future and to become the next generation of leaders in research, medicine, education, and aligned disciplines. Indeed, students trained in the program are highly competitive for top postdoctoral positions and go on to influential careers in basic academic, biomedical, or industrial research and in overlapping fields such as law, business, and public policy – intersecting areas of strength at the University.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

The Committee on Development, Regeneration & Stem Cell Biology

The **Committee on Development, Regeneration, and Stem Cell Biology (DRSB)** takes an interdisciplinary approach to understanding the fundamental question of how a single cell, the fertilized egg, ultimately produces a complex fully patterned adult organism, and how the form of the organism is maintained during adult life through tissue renewal and repair.

More than thirty-five faculty from both basic science and clinical departments in the Division of Biological Sciences belong to DRSB. In their research, the faculty uses traditional model species including nematode worms, fruit-flies, Arabidopsis, zebrafish, amphibians, chick and mouse as well as nontraditional systems such as lampreys and cephalopods. Areas of research focus include stem cell biology, regeneration, developmental genetics, the cellular basis of development, developmental neurobiology, “evo-devo,” and the relationship between development and disease.

Students in DRSB share a common interest in understanding the remarkable processes that underlie development. The first year of study builds a foundation of **course work** in genetics, cell biology, and molecular biology, and provides courses covering all aspects of developmental biology. Course work is complemented by lab rotations designed to expose trainees to the breadth of approaches represented in the program, and to help them choose the right lab for their dissertation project.

Throughout their time in the program, DRSB students broaden their education by participating in retreats, seminars, and journal clubs, as well as regional and national scientific meetings and workshops. The Committee offers a high quality professional training experience with effective mentorship to ensure that DRSB graduate students fulfill their potential, and are well-prepared to make important contributions to developmental biology research and education.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

The Committee on Genetics, Genomics & Systems Biology

The **Committee on Genetics, Genomics & Systems Biology (GGSB)** is an interdisciplinary PhD granting program that brings together over 70 biologists from any academic departments. The GGSB program is aimed at training PhD scholars for careers as independent scientists in basic and applied biomedical research and education, leading to Doctor of Philosophy in Genetics. Our PhD training program combines a foundation in modern genetic analysis with training in current methods for formulating and addressing biological questions in the context of complex systems.

GGSB students are trained in an intellectually stimulating, collegial, and supportive environment for careers as independent scientists in basic and applied biomedical research and education. GGSB has two tracks, 1) “**Empirical Track**” and 2) “**Computational Track**”. While the two tracks are united by the common goals of using genetic, genomic, and systems biology approaches to address important biological questions, the training focuses are different. Training in the “**Empirical Track**” emphasizes experimental techniques, especially those quantitative in nature, while the “**Computational Track**” trains students in building computational skills.

GGSB faculty members employ a wide range of genetic strategies to address important biological problems in diverse genetically tractable systems including, viruses, bacteria, blue-green algae, Arabidopsis, yeast, Tetrahymena, nematodes, Drosophila, mice, humans, and worms.

The presence of both basic and clinical sciences in the BSD enhances the Committee’s broad interdisciplinary approach to teaching and research. The GGSB program combines a foundation in modern genetic analysis with training in current methods for formulating and addressing biological questions in the context of complex systems. Such systems are studied in physiological, developmental, and evolutionary contexts.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Human Genetics

The **Department of Human Genetics** is the home within the BSD for the study of basic principles of genetics and genomics as applied to human disease. PhD candidates in Human Genetics are provided through the **curriculum** with courses and broad training in experimental genetics and genomics, statistical and population genetics, bioinformatics, and clinical genetics.

A common theme throughout the Committee's research is the application of basic genetic principles and strategies to the study of disease mechanism, disease susceptibility, and the genetic architecture of complex traits. Human Genetics faculty bridge the gap between basic and clinical research to train students for careers in academia, industry, and medicine.

Faculty members conduct research in a wide variety of areas of human genetics including:

- Complex Human Diseases and Phenotypes
- Population and Evolutionary Genetics
- Genomics of Gene Expression
- Animal Models of Human Diseases
- Systems Biology
- Epigenetics and Stem Cell Genetics
- Pharmacogenetics

Faculty and students conduct a broad range of basic and translational research in both wet and computational dry labs. Many PhD students combine wet and dry lab work in their thesis research. All students are encouraged to take advantage of interactive and collaborative relationships at the departmental, divisional, and university-wide levels.

Before joining a lab and developing their own research proposal, students attend bi-weekly seminars where divisional faculty present their research programs. Students also undertake two or three laboratory rotations to become acquainted with the full spectrum of research and trainers available to them.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

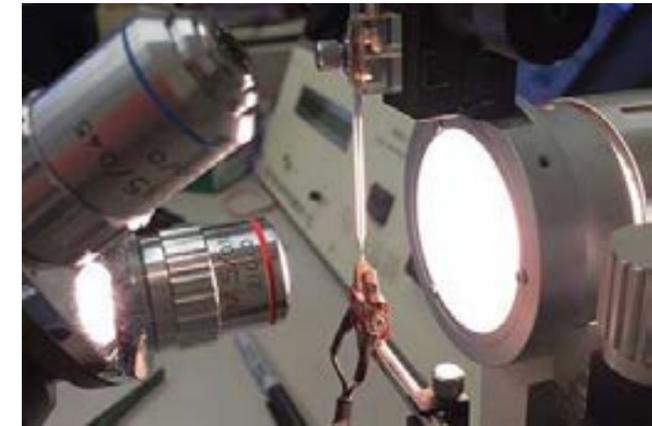
Neuroscience

Neuroscience is one of the most exciting and fastest growing research fields. Examining the development and function of nervous systems not only holds the key to better understanding the interaction of animals and human beings with their environments, but will also allow the development of therapeutic strategies for the treatment of neurological, behavioral, and psychiatric disorders. At the University of Chicago, there are three closely interacting, interdepartmental graduate programs in **Neuroscience** that study nervous systems, brain function, and behavior: Computational Neuroscience, Neurobiology, and Integrative Neuroscience. Combined, these three programs form the Neuroscience Cluster, which comprises over 80 faculty members from both basic research and clinical departments.

Computational Neuroscience focuses on mathematical modeling of neural systems and sophisticated analytic approaches to neural data.

The **Neurobiology** program studies the nervous system, including the genetic and molecular basis of neural development, the activity of channels and transporters, synaptic transmission and neuronal signaling, properties of sensory systems, neuronal activity which generates behavior, and the theoretical basis of information processing.

Integrative Neuroscience, a track of study in the Department of Psychology (Social Sciences Division), focuses on neural systems that mediate complex behaviors.



Admissions Links

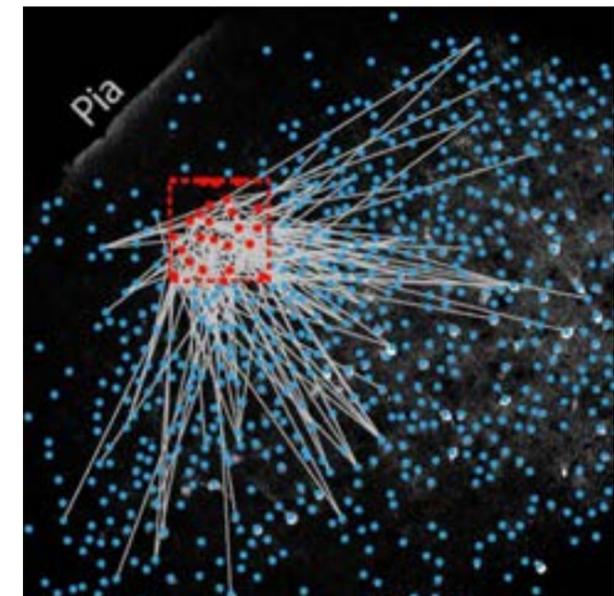
- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Computational Neuroscience

The University of Chicago has a long tradition of innovative research in the neurosciences. K. C. Cole developed the voltage clamp here, Stephen Polyak and C. J. Herrick did pioneering work on the anatomy of the retina and brain, and Jack Cowan and Hugh Wilson were among the first to develop mathematical analyses of the dynamics of cortical neurons using non-linear dynamics. This tradition is continued in the **Committee on Computational Neuroscience**, which provides an interdepartmental and interdivisional focus for multidisciplinary training in neuroscience. Computational neuroscience is a relatively new area of inquiry that is concerned with how components of animal and human nervous systems interact to produce behaviors. It relies on quantitative and modeling methods to understand the function of the nervous system, natural behaviors and cognitive processes, and to design human-made devices that duplicate behaviors.

Students in Computational Neuroscience take the required courses in the Computational Neuroscience curriculum, complete two laboratory rotations, take a qualifying exam at the end of their second year, and enroll for at least nine quarters of research. The required courses are typically taken in the first year and grouped into two themes. The neuroscience theme presents the basic concepts and phenomena in neuroscience. The computational neuroscience theme presents quantitative and theoretical techniques required for a modern analysis of the nervous system, cognition, and behavior.

The curriculum and course work in computational neuroscience prepare students for research in neurobiology, psychology, or in the mathematical or engineering sciences. Graduates from this program move to traditional academic careers, careers in data science, biomedical research or engineering, or opportunities in the corporate world.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

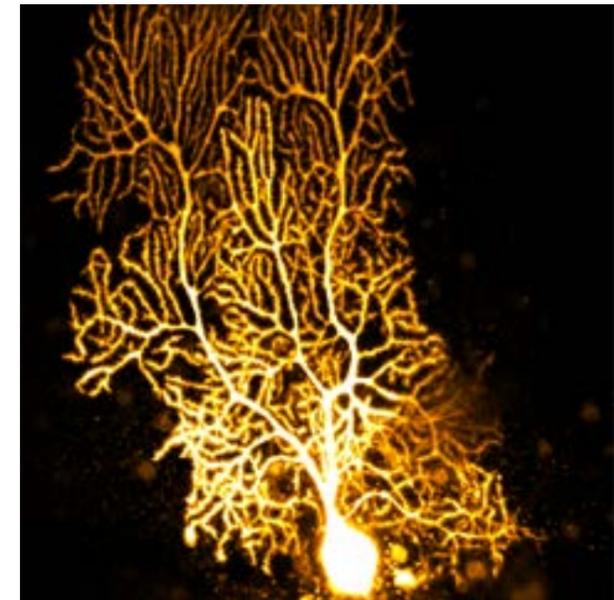
Neurobiology

There has never been a more exciting time to study neurobiology. Novel molecular, cellular, systems-level, and computational techniques are used to explore the functions of the brain to an extent that was unforeseen only a short time ago.

The **Graduate Program in Neurobiology**, with more than sixty faculty members using state-of-the-art techniques is a large, interdisciplinary program where all students receive concentrated attention from faculty who serve as mentors, advisory committee members, and course instructors. Research strengths include molecular neurobiology, cellular neurophysiology, developmental neurobiology, systems neuroscience and computational neurobiology.

Each student takes a core curriculum of three courses, and three electives. The student's faculty advisory committee is responsible for ensuring that students have taken courses appropriate for their research interests and may suggest additional course work in other fields such as cell physiology, molecular genetics, or mathematics.

Neurobiology students rotate through two or three laboratories before choosing one for their thesis work near the end of the first year. About a year later, they qualify for PhD candidacy by presenting and defending a thesis proposal. Most of the remaining time is devoted to thesis research, although students also take electives and can take training in teaching or other professional skills. The average time to PhD is 6.0 years. Since its inception in 1979, the Program in Neurobiology has awarded over 140 PhD degrees.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Biophysical Sciences

The University of Chicago offers a fundamentally interdisciplinary PhD program in **Biophysical Sciences**, designed for top students who want to explore the deep interface between the physical and the biological views of natural science. We provide our students with the training, community, and facilities they need to bridge the divide between traditional disciplines.

Students define their own curriculum by selecting courses from amongst our traditional departments. In this way, we offer a flexible but rigorous curriculum tailored to the students' research aspirations. Students further benefit by taking courses alongside traditional graduate students in both biological and physical sciences. A defining feature of the first year experience is an intense practical course in experimental science involving topics from Molecular Biology to computational modelling and programming real-time instrument control. Referred to as 'the Lab Course,' this course begins with an intense four week full-time Biological Research Immersion (BRI) that begins Monday, August 24th (in 2015), before the start of Fall Quarter.

Thesis research is conducted under the supervision of two mentors who bring different intellectual and physical tools to bear on a student-designed joint project. Our program integrates over 70 faculty members' laboratory groups across the Biological Sciences, Physical Sciences, Clinical Medicine, and Engineering. The depth and breadth of the faculty's experience and interests provide extraordinary flexibility to thesis research possibilities.



Admissions Links

- [Application Information](#)
- [Frequently Asked Questions](#)

Interdisciplinary Scientist Training Program - MD-PhD (MSTP)

The **MSTP** is committed to training the next generation of scholars and leaders in the biomedical sciences by providing students with access to the very best resources of The University of Chicago.

CUSTOMIZE YOUR PATH TO IMPACT

In addition to earning a MD, students earn a unique PhD called the Interdisciplinary Scientist Training Program (ISTP) degree. **Our distinctive interdisciplinary approach** encourages students to explore their medical and research interests in the broadest possible terms in medicine, biology, and the physical sciences.

COMMUNITY OUTREACH & DIVERSITY

The campus location and the hospital's designation as a Level I Trauma Center serve a broad spectrum of patient populations. UChicago remains a leader in research and innovation through clinical trials, and MSTP students have been honored for their work with student-run free clinics for underserved patient populations.

AN OUTSTANDING PEER GROUP

At UChicago, you are not just a number--You will benefit from a tight-knit cohort of bright, motivated peers in addition to the wider community of current MSTP students. The medical school enrolls ~88 per class; MSTP enrolls ~9-10 per cohort (~70+ total MSTPs). Our students enjoy outside hobbies and are involved on campus with organizations such as MSTP's Student Council.

Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

NON-DISCRIMINATION STATEMENT



Medical Physics

Medical physics is an interdisciplinary field that applies physical sciences principles to biomedical problems. The activities of medical physicists cover a broad spectrum from the study of basic biomedical processes to the diagnosis and treatment of disease. A medical physicist must be competent in physical and mathematical concepts related to imaging and radiation physics and must understand biological principles.

Medical physicists engage in three broad areas of activity: clinical, research, and teaching. Clinical activities include consultation with radiation oncologists in the planning and delivery of radiation treatments for cancer, consultation with radiologists concerning the optimal use of medical imaging systems for the diagnosis of disease, and responsibility for radiation hazards. Research activities include the investigation of software, instrumentation, and quality control procedures in medical imaging and radiation therapy.

The **Committee on Medical Physics** at The University of Chicago is recognized for its research excellence. Faculty with a primary interest in diagnostic imaging hold appointments in the Department of Radiology, whereas faculty with a primary interest in the physics of radiation therapy hold appointments in the Department of Radiation & Cellular Oncology. Many faculty also hold appointments in The University of Chicago Comprehensive Cancer Center. Strong interactions exist among clinical and research staff in this highly collaborative field.

The Graduate Program in Medical Physics leads to the Ph.D. degree and prepares students for careers in academia, industry, government, or the clinic. Students have 13 courses to complete for the Program, plus research rotations during the first year followed by thesis research in subsequent years. The Program is CAMPEP accredited and funded, in part, by a training grant from the National Institute of Biomedical Imaging and Bioengineering.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Public Health Sciences

The PhD program in the **Department of Public Health Sciences** offers advanced courses of study in biostatistics, epidemiology, and health services research, supported by a core methodological curriculum in population-based research on human health. Students completing the program are prepared to design and conduct methodological and substantive research on fundamental questions about human health and biomedical science from a population perspective. They are also prepared to collaborate with colleagues from different disciplines to carry out such research.

The program is organized around a common quantitative core curriculum designed to prepare students methodologically for more in-depth study in their chosen field and for dissertation research. Beyond the core curriculum, each student chooses a major disciplinary area of concentration, takes a sequence of advanced courses in that area, and prepares a dissertation of independent, original, and rigorous research in that area. Opportunities for such concentrated study are available in the three broad areas represented by the Public Health Sciences faculty: biostatistics, epidemiology, and health services research.

In addition to the concentration, each student chooses a minor program of study in another area either represented by Department faculty or offered elsewhere at the University. The combination of the major concentration and minor program is intended to provide a curriculum with both disciplinary depth and an interdisciplinary perspective on problems in population health and biomedical science.

The Public Health Sciences PhD program is also designed to accommodate students seeking a joint MD/PhD degree at the University of Chicago. Program requirements are modified to dovetail with coursework and clinical activities taken as part of the MD program. Specifically, core course requirements remain the same as those for non-MD students. However, major concentration course requirements are reduced, as there is expected synergy with medical school courses. Additionally, the minor program is waived, essentially being replaced by the student's preparation in clinical medicine. For the typical student, three to four years of residency in the PhD portion of the MD/PhD program are expected in addition to the four years of medical school.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

Dual Degree MD-PhD Programs

The University of Chicago has a long standing tradition of encouraging students to combine independent research and the study of medicine by obtaining the MD and PhD degrees concurrently. Graduates of combined programs are found in a variety of settings including teaching and research hospitals, universities, research institutions, biotechnology or pharmaceutical companies and more.

MSTP & GDDTP

The Pritzker School of Medicine is home to two highly competitive NIH funded joint doctoral programs, the **Medical Scientist Training Program (MSTP)** and the **Growth, Development and Disabilities Training Program (GDDTP)**. MSTP is designed for students who seek broad careers in biomedical related research and wish to apply both clinical and research expertise to solve the most pressing problems in medical science. The GDDTP is available to current medical students who decide to obtain a doctoral degree after matriculating to the Pritzker School of Medicine.

MD/PhD - Division of Biological Sciences

Medical students may also apply to the nineteen PhD programs in the division to obtain a PhD independent of the above dual degree programs. Admission will be based on the graduate program application including letters of recommendation, GRE scores, and a personal statement describing an interest in scientific research. All applicants admitted to a PhD program are offered a full fellowship that includes tuition, fees, and a competitive stipend.



Admissions Links

- [Application Information](#)
- [Financial Support](#)
- [Frequently Asked Questions](#)

NON-DISCRIMINATION STATEMENT



Career Advising, Resources and Workshops

UChicago GRAD has a dedicated career adviser for BSD graduate students and postdoctoral researchers. Graduate students may schedule one-on-one appointments to discuss various aspects of career development, including career exploration, application documents, interview practice, and connections with alumni and potential employers.

myCHOICE (Chicago Options in Career Empowerment) is a new BSD program dedicated to preparing students and postdocs for their future careers. The myCHOICE seminar series is designed to expose trainees to the full range of careers available to PhDs in biological sciences and to provide professional development opportunities. Following exposure, myCHOICE provides educational opportunities and ultimately experience. A central element of myCHOICE is interactions with mentors within and beyond the institution.

UChicago GRAD also offers additional programs and events for graduate students and postdocs that facilitate professional development and the exploration of a variety of industries and career paths.



myCHOICE

Many pathways, one goal: career success.

Visit the **myCHOICE** website for more information on the program, calendar of events, career profiles and more!

Which path is right for you?



The Three Pillars of myCHOICE



Exposure programming features our What Can I Do with My PhD? career seminar series, where we host alumni and professionals with STEM PhDs who have found success across the career spectrum.



Education programming consists of mini-courses and workshops that offer in-depth coverage of a specific subject area or professional development skill.



Experience programming offers our trainees many different and unique internships, short-term externships, mentor relationships, and long-distance site-visits.

NON-DISCRIMINATION STATEMENT

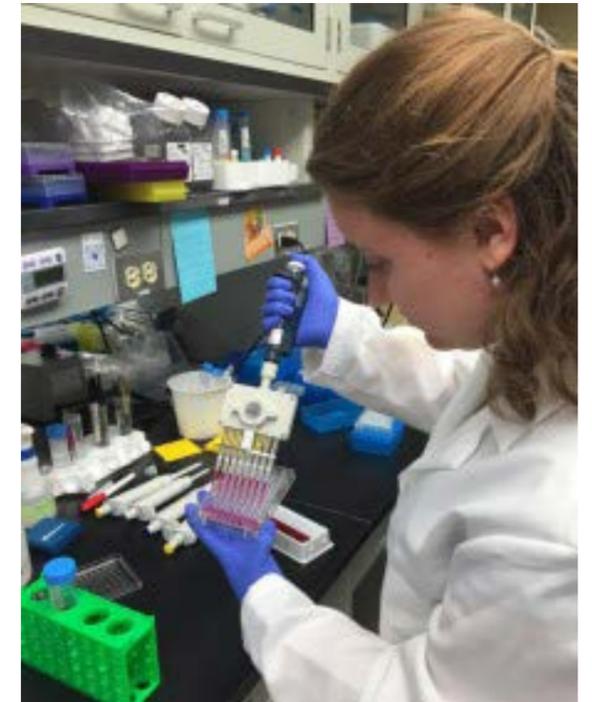


Summer Research Opportunities

Selected new students may participate in a summer class and work full time in a lab supported by a stipend ahead of their matriculation as graduate students. Additional support and summer programming is provided by **IMSD**, the UChicago Initiative for Maximizing Student Development, an NIH funded program designed to support new graduate students who would benefit from academic and professional enhancements before and during their progression through PhD programs.

Additionally, the BSD also offers a long-running and highly successful Post-Baccalaureate Research Education Program. **PREP** is an opportunity for members of groups underrepresented in the biomedical or behavioral sciences who hold a recent bachelor's degree in science to work as lab technicians for a year at the University of Chicago.

Participants in the PREP must be U.S. citizens or permanent residents and intend to pursue a Ph.D. upon completion of their participation in the program.



NON-DISCRIMINATION STATEMENT



Dean's Council

Dean's Council is a graduate student-oriented organization run by student representatives from each graduate program in the BSD. DC has two main purposes:

- To organize and fund social and academic events for BSD grad students
- To advocate for BSD grad students to the BSD administration.

Social events occur throughout the year and include such activities as movie nights, discounted tickets to sporting and cultural events around Chicago, and pub nights on campus. DC also sponsors travel awards for students attending academic conferences.

In addition to deciding how funds should be distributed for events sponsored at the Dean's Council level, members are accorded discretionary funds that may be used for events on a programmatic level (for example, a Thanksgiving party for the Immunology program). Students should feel free to contact their DC representative if they have questions, concerns or suggestions. Ideas and feedback are always welcome!



NON-DISCRIMINATION STATEMENT



Graduate Recruitment Initiative Team (GRIT)

The Graduate Recruitment Initiative Team (GRIT) is committed to enhancing diversity, inclusion, and equity across the BSD and PSD graduate programs. GRIT focuses on three central components: recruitment, retention, and sustainability in order to increase the recruitment and retention of students from marginalized backgrounds. GRIT began as a grassroots student organization and has grown to encompass 18 graduate programs in the BSD and PSD with over 50 members and a dedicated faculty counterpart in the form of the Diversity Council. GRIT members travel to conferences to recruit minority students, maintain personal connections with recruits, and advise admissions committees on equity in the admissions process. GRIT also increases the retention of marginalized students by providing support through community building events, increasing visibility, and networking opportunities for minority students.



Facilities and Resources

The buildings that house the departments and committees of the Biological Sciences Division are grouped toward the western edge of campus, which can be explored virtually at UChicago maps. (<https://maps.uchicago.edu/>) All departments are within walking distance of one another. This close proximity, which enhances interdisciplinary collaborations, is one of the major strengths of The University of Chicago training environment. With researchers working in practically every area of biological investigation, UChicago hosts extensive facilities equipped with the most advanced resources. The BSD includes all basic science (including those typically in Arts and Sciences) and clinical departments, graduate Committees (the equivalent of interdepartmental graduate programs at other universities), the Pritzker School of Medicine, Centers, such as the University of Chicago Comprehensive Cancer Center, and Institutes such as the Institute for Genomics and Systems Biology. Researchers in the Knapp Center (KCBD) translate the fundamental scientific discoveries made by the scientists in the GCIS into better care for patients, including those at Comer Children's Hospital. KCBD is home to the Kovler Diabetes Center, the Comprehensive Cancer Center, the Ludwig Center at the University of Chicago for Metastasis Research, the Institute for Genomics and Systems Biology, researchers from the Departments of Pediatrics and Medicine, and several divisional core facilities.

The **BSD's core computational, imaging, molecular, and cellular facilities** include state of the art **genomic capabilities** with next generation sequencing, constantly updated **integrated microscopy**, and the **transgenic mouse and embryonic stem cell facility**. The **Microwestern Array Core Facility (MWAC)** provides a versatile protein research platform for investigators, facilitating cancer biology, cardiology, and immunology research. The broad and interdisciplinary programs of the BSD provide additional core resources and enhance vital collegial interactions.



NON-DISCRIMINATION STATEMENT



The Marine Biological Laboratory (MBL)



The Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts is a premier international destination for research, education, and training in biology, biomedicine, and environmental science. MBL is now formally affiliated with UChicago through deep financial, organizational and faculty ties. The MBL-UChicago **affiliation** enhances both institutions' missions of leadership and innovation in scientific research and education.

Among the scientists with a significant affiliation with the MBL, there are 55 Nobel Prize winners, 124 Howard Hughes Medical Institute affiliated scientists; 229 Members of the National Academy of Sciences; and 198 Members of the American Academy of Arts and Sciences.

The MBL currently has five year-round research centers focused on areas including ecosystems science and global climate change, microbial evolution, cell biology, neurobiology, and regenerative biology. Excitement regarding valuable innovation surrounds research in scientific imaging, computational biology, and the vast array of marine organisms available for study through MBL. UChicago graduate students are invited to apply for grants to conduct research at MBL.

Before classes begin, incoming students from all programs in the Biological Sciences Division attend a week-long **Quantitative Approaches Bootcamp** with faculty members to develop computational, statistical, and professional skills, become familiar with the MBL, and get to know their fellow first-year students in the BSD through an intensive retreat atmosphere.



NON-DISCRIMINATION STATEMENT



Argonne National Laboratory and The Institute for Molecular Engineering (IME)

The University of Chicago manages **Argonne National Laboratory** in Lemont, Illinois, a huge multidisciplinary science and engineering research center, where “dream teams” of world-class researchers work alongside experts from industry, academia, and other government laboratories to address vital scientific questions. The University of Chicago has served as prime contractor of Argonne since the lab’s founding in 1946 as an outgrowth of the Manhattan Project and the University’s Metallurgical Laboratory. Surrounded by the highest concentration of top-tier research organizations in the world, Argonne leverages its Chicagoland location to lead discovery in a wide range of core scientific capabilities, from high-energy physics and materials science to structural biology and advanced computer science. **The Howard T. Ricketts Laboratory**, located on the Argonne Campus, provides state of the art Level 3 biocontainment facilities for conducting laboratory and animal research on biodefense-related and emerging infectious diseases. A free shuttle bus makes round trips every weekday between Argonne National Laboratory and the University of Chicago to promote collaboration.



In partnership with Argonne National Laboratory, the University of Chicago established the **Institute for Molecular Engineering** in 2011. Assembling a team of world-class researchers across a broad range of science and engineering disciplines, IME aims to translate discoveries in basic physics, chemistry, and biology into new tools to address important societal problems. By bringing together multiple disciplines, IME is well-equipped to develop breakthrough technologies. In cooperation with the BSD, for example, the IME is exploring the mechanisms that control the movement of biological fluids through tissue and the immune responses to tumor invasion—research that could lead to the development of synthetic vaccines against cancer and viral threats.

Application Procedures

We require all applicants to apply online through the website of the Office of Graduate and Postdoctoral Affairs, Biological Sciences Division, at <https://apply-bsd.uchicago.edu/apply/>

Useful links:

- [Application Process](#)
- [Financial Information](#)
- [Application FAQs](#)
- [Admission Schedule](#)
- [Test of English Proficiency](#)

To contact graduate admissions
Email: bsdadmissions@uchicago.edu
or telephone: [773] 834-2105

The mailing address is
Office of Graduate and Postdoctoral Affairs
Biological Sciences Division
The University of Chicago
924 East 57th Street, Suite 104-C
Chicago, IL 60637-5416



NON-DISCRIMINATION STATEMENT



Degree Requirements

Students within individual degree programs are expected to satisfy the curriculum, preliminary examination, qualifying examination, and dissertation requirements of their particular program. These requirements are available from the individual programs.

Residence

For degree track students, the University has established a residency system in which registration and tuition are determined not by the individual course load, but rather by the students' residency classification. Most graduate students on a doctoral track register under the following residence progression:

First Four Years of Graduate Study: Scholastic Residence

From Fifth Year Onwards: Advanced Residence

Students who have reached the advanced residence portion of their degree progress may also request a shift to Pro Forma status, if their research requires that they be out of residence at the University. University academic policies and requirements are detailed in the **student manual**.

Teaching Requirement

It is a Divisional requirement for all PhD students to teach twice for credit in pre-approved teaching assistant positions in the Biological Sciences. The requirement must be fulfilled before the PhD degree can be awarded. Those students who are apprehensive about their first experience of teaching may take a training course, which is currently offered each year during the Fall Quarter. Other helpful materials can be found listed under **Teaching Opportunities**.

Course in Scientific Ethics

All students are required to take a course in Scientific Integrity and the Ethical Conduct of Research in the Spring Quarter of their first year of study. A second training course in Ethics and the Responsible Conduct of Research is required after year four. This training is arranged by the graduate program and focused on specific examples relevant to the program's area of research.



University Policies

Civil Behavior in a University Setting

At the University of Chicago, freedom of expression is vital to our shared goal of the pursuit of knowledge, as is the right of all members of the community to explore new ideas and learn from one another. To preserve an environment of spirited and open debate, we should all have the opportunity to contribute to intellectual exchanges and participate fully in the life of the University.

The ideas of different members of the University community will frequently conflict, and we do not attempt to shield people from ideas that they may find unwelcome, disagreeable, or even offensive. Nor, as a general rule, does the University intervene to enforce social standards of civility. There are, however, some circumstances in which behavior so violates our community's standards that formal University intervention may be appropriate. Acts of violence, explicit threats of violence directed at a particular individual that compromise that individual's safety or ability to function within the University setting, or other criminal acts are direct affronts to the University's values and warrant intervention by University officials. Abusive conduct directed at a particular individual that compromises that individual's ability to function within the University setting and/or that persists after the individual has asked that it stop may also warrant such intervention. Even if formal intervention is not appropriate in a particular situation, abusive or offensive behavior can nonetheless be inconsistent with the aspirations of the University community, and various forms of informal assistance and counseling are available.

Non-Discrimination

The University does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national or ethnic origin, age, status as an individual with a disability, protected veteran status, genetic information, or other protected classes under the law. For additional information see the University's **non-discrimination statement**. For the University Policy on Harassment, Discrimination, and Sexual Misconduct, as well as other University Policies, see the **Student Manual of University Policies & Regulations**.

