



Department of Bioengineering

UNIVERSITY OF COLORADO

DENVER | ANSCHUTZ MEDICAL CAMPUS

Graduate Student Handbook

2018-2019

The policies, procedures and guidelines outlined in this document are based on the University of Colorado Denver | Anschutz Medical Campus Graduate School Rules and supplemental policies. In some cases, Bioengineering may have more stringent rules or requirements than those set forth by the Graduate School.

Information in this handbook is subject to change at any time without prior notice.

Last revised:

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How to Use this Handbook

The purpose of this handbook is to document the important policies and procedures that govern your graduate program in Bioengineering. Like all graduate programs, the graduate program in Bioengineering is subject to the University of Colorado Denver | Anschutz Medical Campus Graduate School Rules, which form a foundation of minimum requirements. Each program is permitted to set policies that are more stringent than the Graduate School Rules, but never less stringent.

About the Program, Department and Graduate School

What is Bioengineering?

Bioengineering is a highly interdisciplinary field that combines mathematical and physical sciences with engineering principles to study biology, physiology, medicine, behavior and health. Bioengineering is emerging as the leading discipline at the interface of clinical sciences, basic research, and engineering with a focus on applying technology to cure and prevent disease.

Department of Bioengineering and Its Mission

The Department of Bioengineering is the first of its kind in Colorado. Its mission is to improve human health through the application of engineering principles, ideas, methods and inventions in order to solve important clinical problems.

The consolidation of the Downtown Campus and the Anschutz Medical Campus provides unprecedented instructional resources in bioengineering and research opportunities in health sciences. Students have opportunities to learn from clinicians and engineers and to perform research or medical device design in world-class hospitals and clinical research labs.

Bioengineering is a true dual-campus department and program. Administratively, the Department of Bioengineering is within the College of Engineering and Applied Sciences located on the Downtown Campus in Denver. Physically, the department is located on the Anschutz Medical Campus in Aurora. Though graduate students will spend the majority of their time on the medical campus, they may sometimes choose to enroll in classes on the downtown or Boulder campuses.

Graduate Program Governance

Graduate Affairs Committee: The Graduate Affairs Committee (GAC) consists of one committee chair, two additional core faculty members from Bioengineering and the Graduate Program Manager. The GAC's role is to evaluate and make decisions on policies and procedures pertaining to all aspects of the Graduate Program. Among some of its provisions, the GAC serves as the approving authority for core course substitution and extension to milestone deadlines. The GAC members regularly evaluate the program structure to ensure that all Graduate School requirements are met and that the program is operating with a similar or higher level of rigor as other graduate programs on campus. As such, the GAC may introduce new requirements or activities for the graduate program.

The Graduate Committee in the 2017-2018 academic year:

Dr. Daewon Park, Chair
Dr. Jeffrey Jacot
Dr. Emily Gibson

Dr. Cathy Bodine
Graduate Program Manager

Department Chair (also referred to as the “Program Director” by the Graduate School) is Dr. Robin Shandas. You may need to meet with the Department Chair to request exceptions to policy or to address concerns. Dr. Shandas is available, by appointment, to discuss your academic and career goals.

BMES Student Chapter

The Biomedical Engineering Society (BMES) is a leading professional group that serves as home for biomedical engineers and bioengineering. The BMES student chapter at the University of Colorado Denver | Anschutz Medical Campus creates a nexus for students, the profession of biomedical engineering, and the multidisciplinary relationship bioengineering has with other professions.

Dr. Cathy Bodine and Dr. Emily Gibson serve as the chapter’s co-faculty advisors.

All Bioengineering students are strongly encouraged to join the BMES chapter. Meetings will be announced through regular departmental communication channels. For more information, contact one of the faculty advisors or a member of the student leadership board. More information can be found at <http://www.ucdenver.edu/academics/colleges/Engineering/get-involved/student-groups/Pages/Biomedical-Engineering-Society.aspx>.

The Graduate School

As a department within the College of Engineering and Applied Science, Bioengineering is considered a Denver Campus department. As such, the graduate program in Bioengineering works most closely with the downtown side of the consolidated Graduate School. Students will interact with the Graduate School at all stages of their studies, from admission to graduation. Many of these interactions are managed collaboratively between the Graduate School, the College of Engineering and Applied Science, and the department.

Program Requirements & Academics

University Training Requirements

The University delivers most of its safety and other training online through SkillSoft accessible via UCD Access. All students must take (and remain current on):

- CU: Chemical Waste Management
- CU: Lab Safety
- CU: Regulated Medical Waste Management
- CU: Bloodborne Pathogens
- CU: HIPAA Regulations
- CU: Information Security and Privacy Awareness
- CU: Discrimination and Harassment

Students may be required to take additional training modules depending on their research project or teaching duties. Graders and Teaching Assistants must attend the TA and Grader Training organized by CU Online at the beginning of the term.

University of Colorado Hospital Access Requirements

In order to participate in some of the exciting clinical training opportunities at the University of Colorado Hospital (UC Health), students will be required to provide documentation of current vaccinations or titers

as well as pass a background check, 10-panel drug test and safety training. Students must also be able to provide proof of current health insurance. The cost of the background check and drug test will be covered by student fees through the department.

The department will not provide students with copies of their University of Colorado Hospital documentation. In addition, such documents will not be shared with a third party, even at the student's request. Therefore, it is strongly recommended that students make copies of all documents (including vaccination records) prior to submission.

Calendar

The Department of Bioengineering follows the Downtown Campus academic and holiday calendars, which are sometimes different from the Anschutz Medical Campus calendar. Please pay close attention to the appropriate calendars and check with professors or program administrators if you have any questions or concerns. Students may find the Academic Calendars on CU Denver Registrar's website.

Core Coursework Requirements

The Bioengineering curriculum consists of 21 core credit hours that cover life sciences, quantitative methods, technology and research & clinical experiences. Both MS and PhD students have the same core requirements. Below is a list of applicable courses that may be applied toward the core requirements. Substitutions will only be approved if the proposed course offers in-depth content provided by experts in the field (e.g. immunology class from Immunology Dept.).

Coursework Notes:

1. Graduate students must seek the approval of their BIOE Core Faculty and Research Advisors when selecting courses.
2. An individual course may only satisfy one requirement.
3. All courses are not offered every semester. **Students should consult the current class schedule for offerings.**
4. Students registering for classes outside of the Department of Bioengineering are subject to course prerequisites, expectations etc.

| Life Sciences Core (6 credits) | |
|--------------------------------|--|
| Core I | Core II (Choose one of the following) <i>Please refer to the current class schedule for fall/spring course offerings.</i> |

BIOE 5010 (Fall only)
Cell and Molecular Biology for Bioengineers

BIOE 5011 (Spring only)
Systems Physiology for Bioengineers

BIOE 5073
Neural Interfaces & Bionic Limbs

CANB 7600
Cancer Biology

NRSC 7600
Cellular and Molecular Biology

NRSC 7610
Fundamentals of Neuroscience

Quantitative Methods Core (6 credits)

Core I

BIOE 5020 (Fall only)
Analytic Methods for Engineering Analysis

Core II

BIOE 5021 (Spring only)
Numerical Methods for Engineering Analysis

Technology Core (6 credits)

Choose a minimum of 6 credits (usually two courses) from the following list.

Please refer to the current class schedule for fall/spring course offerings.

- BIOE 5053:** Optics and Microscopy in Biomedical Research
- BIOE 5063:** 3D Modeling for Bioengineers
- BIOE 5064:** Advanced MatLab for Bioengineers and Life Scientists
- BIOE 5065:** Introduction to iOS Applications
- BIOE 5066: Advanced Topics in iOS Applications
- BIOE 5068:** Introduction to Medical Imaging
- BIOE 5069:** Advanced Biomechanics
- BIOE 5073:** Neural Interfaces & Bionic Limbs
- BIOE 5074:** Introduction to Laboratory Animal Research
- BIOE 5083:** Polymers in Biomedical Applications
- BIOE 5420:** Special Topics in Bioengineering (for the following topics only)
 - Regulatory Affairs
 - Rehabilitation and Assistive Technology
 - Introduction to Design, Disability, and Aging
 - BioDesign
 - Mechatronics
 - Stem Cell and Regenerative Medicine
 - Applying Systems Engineering to Bioengineering
- BIOL 6764:** Biological Data Analysis
- CSCI 5211:** Mobile Computing and Programming
- ELEC 5638:** Digital Imaging Processing
- ELEC 5667:** Wavelet Theory and Application
- MECH 5020:** Biomechanics
- MECH 5025:** Advanced Biomechanics
- MECH 5175:** Finite Element Stress Analysis
- MECH 5143:** Theory of Elasticity

Students may also apply the following courses from the University of Colorado Boulder toward the Technology Core Requirement. See 'concurrent registration' in this document for more information.

MCEN 5115: Mechatronics & Robotics I (Boulder)

MCEN 5023: Solid Mechanics I (Boulder)

Research & Clinical Core (3 credits)

Students can register for BIOE 5041 in the Fall or Spring.

BIOE 5041
Clinical Experiences for Bioengineers

BIOE 5040 (Spring only)

Research Methods for Bioengineers

Elective and Research Coursework Requirements

MS students will take an additional nine credit hours for a total of 30 credit hours. These nine credits hours must include three to six credit hours of project or thesis (BIOE 6960 or 6950) plus three to six credit hours of elective courses.

PhD students will take an additional 15 credit hours of didactic (instruction-based) coursework and 30 credit hours of dissertation (BIOE 8990). Students are expected to outline the entire program of study at their preliminary examination at the end of the first year. The exam committee may make recommendations for changes to this plan. Students must also plan their dissertation credits carefully.

Elective Course Selection

There is not a “list” from which students may select elective coursework; however, all elective coursework must be graduate-level (5000 or above), relevant to the student’s degree plan, and approved by the student’s thesis/project or dissertation committee in advance. Undergraduate-level coursework cannot be applied toward a graduate degree in Bioengineering.

Taking Classes at another CU campus

Students who wish to take classes at CU Boulder or Colorado Springs must submit an “Intercampus Enrollment Form” to the Graduate Program Manager. This form can be found on the Registrar’s Office website. Once this form is processed, CU Denver Registrar’s Office will manually enroll the students on the first day of the term. Please note that this means that popular classes may fill up before that day. Talking to the professor ahead of time may help, as professors can often grant enrollment even if the class is officially full (if classroom capacity allows). Please be sure to have a backup option in case the class is full before the first day of the term.

UCDAccess

The online Student Self-Service Portal allows you to apply for financial aid, search for and enroll in classes on the medical and Denver campuses, pay your tuition bills, order transcripts and more. To log into the UCDAccess portal, you will need your official University username and password.

Enrollment Status

According to the University of Colorado Denver Graduate Catalog (please see full details at http://catalog.ucdenver.edu/content.php?catoid=20&navoid=5056#full-time_part-time), full and part-time graduate statuses are defined as:

Full-time:

- 5 or more semester hours
- 0 semester hours as candidate for degree
- 1 or more semester hours of thesis (not master’s reports or thesis preparation)

Half-time:

- 3 - 4.5 semester hours

Enrollment Status and Funding

Individual students receiving financial aid may be required to complete hours in addition to those listed above. The exact requirements for financial aid will be listed in the student's financial aid award letter and students are encouraged to contact the Financial Aid Office directly with questions regarding enrollment expectations.

Other types of funding (i.e. grants) may also require certain enrollment status. Therefore, it is critical that students work closely with their direct funding source (i.e. a specific grant source) regarding enrollment expectations.

Finally, enrollment status may impact student employee withholdings. Visit <https://www.cu.edu/employee-services/payroll/student-employee-payroll> for more information.

PhD Full-time Enrollment Requirements

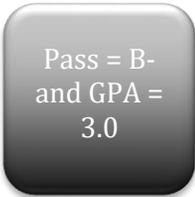
The Department recommends that PhD students remain full-time every semester (including summer) prior to passing the comprehensive exam.

Post-comprehensive exam PhD students **must** take five credits of dissertation during the fall and spring term and one credit of dissertation in summer until they successfully defend.

Post-comprehensive PhD students who have 30+ dissertation hours on their transcript may register for one credit of dissertation during the fall and spring terms with their Research Mentor and/or BIOE Core Faculty Advisor's support.

Grades & Academic Probation

Students must maintain a **cumulative GPA of 3.0**. This will include all coursework that students take during their graduate program, regardless of where the courses are taught (Anschutz Medical Campus, Denver Campus or the Boulder Campus) or what level they are (graduate or undergraduate). Please note that CU Denver does not allow grade replacement: all grades count towards cumulative GPA.



Pass = B-
and GPA =
3.0

A passing grade as defined by the Graduate School is a **B- or better**; only courses with a grade of "B-" or better will count towards the final degree requirements. Any course with a grade of "C+" or lower must be retaken. Students may choose a different course if it is an elective course. Both grades will count towards the cumulative GPA.

A few other grades that students may see on their transcripts:

- "W": this grade appears when students withdraw after Census Date.
- "IP": All master project/thesis or PhD dissertation hours are reported as "IP" (in progress) until the final defense exam. At this time, the "IP" grade will be changed to a letter grade.

Per Graduate School rules, if cumulative GPA falls below a 3.0, students will be placed on academic probation and will have two semesters to raise their cumulative GPA to above a 3.0. (These two semesters do not include summer if, during the summer, students only take thesis/project/dissertation credit. This is because the credit will be graded as IP until the defense exam. However, if students are not enrolled in any course for graded credit during the summer, the summer term will count toward the two-semester academic probation). Failing to raise the cumulative GPA to at least a 3.0 after two semesters of academic probation results in high risk of being suspended from the program.

Before the next semester starts, students are required to meet with their faculty advisor, the Graduate Program Manager and/or the Department Chair to develop a plan to raise their GPA. Students on

probation cannot register for classes on UCD Access until they complete this step. The Graduate Program Manager can assist with this process.

Withdrawing from a Class

Students may withdraw from a class up until Census Date each semester without being recorded on their transcripts. Withdrawals after Census Date will be recorded on final transcript with a grade of "W." To withdraw from a class after Census Date, please fill out the Schedule Adjustment Form and ask the instructor to sign. After the second drop deadline, the Dean also has to sign. Please refer to the Academic Calendar for more details: <http://www.ucdenver.edu/student-services/resources/Registrar-dev/CourseListings/Pages/AcademicCalendar.aspx>

Repeating a Class

Per the Graduate School Handbook, a student who received a failing grade (less than a "B-") in a required class may repeat that class one time only. Both grades will appear on the transcript and be included in the GPA. A recorded grade of W counts as an attempt. Students may withdraw from or fail a class the first time taking it, but must pass it the second attempt. Failure to meet course requirements will result in dismissal from the graduate program at the end of the term in which the failing grade or withdrawal from a required course occur the second time.

Program of Study Sheet

It is critical for students to establish their Program of Study during the first semester. The Program of Study is a list of all the courses students to take to meet the degree requirements. It is acceptable and even expected that the program of study may change as students learn more about bioengineering and the available research opportunities. However, by documenting these courses and subsequent changes each semester, students and their Academic/Research Advisor can ensure that they are on track to meet all the Bioengineering and Graduate School requirements. Having regular conversations with the advisor about academic progress can avoid miscommunication and misconceptions that may delay graduation.

To help with this planning, there is a Program of Study form for each degree program (MS & PhD).

Independent Study

Students may choose to do an independent study and count it as an elective for the degree. Students must check in with their faculty advisor first. If the instructor is not a core BIOE faculty member, students need to ask their faculty advisor to serve as the instructor of record. They must fill out a Special Processing Form, attach a syllabus with specific assignment for each week, course objectives and grading rubrics, and then submit them to the Graduate Program Manager. It is important to understand that the independent study must be different from the final project or thesis. The GAC will review and make the final decision.

Transferring Credit

The Graduate School Rules define the guidelines for transferring credit toward a graduate degree at CU Denver. The Department of Bioengineering defines the process by which these transfers must be approved. Please refer to the Graduate School Rules and consider the following:

1. The maximum amount of transfer work that may be applied toward the MS degree is twelve (12) hours of coursework and thirty (30) hours of coursework for the PhD degree.

2. Master's courses applied to one previously conferred Master's degree program may not be applied to our MS program. However, graduate level coursework (5000 level or higher) taken for a Master's degree may be applied toward the PhD program with the instructor and the GAC approval. Likewise, coursework taken for a completed doctoral degree may be applied toward a concurrent or subsequent Master's degree with the program approval.
3. PhD students should be prepared to discuss any proposed transfer credit at their preliminary examination. The prelim committee will approve or deny the transfer request. Students should complete the transfer credit form no later than one semester after the prelim exam.

Substituting a Core Class

Though the course offerings in Bioengineering continue to expand each year, and new courses are added that satisfy core class requirements, students' area of research interest may dictate that other courses would be more valuable. In this case, students may petition to substitute a core class with another graduate level class offered in the CU system. Please obtain approval from the faculty advisor first, then complete a *Petition a Core Class Substitution* and submit it to the Graduate Program Manager at least one month before the semester starts. The GAC will review this petition and notify the result to the student via email.

Withdrawing from the Program

Students may choose to leave the Bioengineering program for academic or non-academic reasons. CU Denver system will automatically deactivate student accounts if no classes are enrolled during three consecutive semesters, including summer. However, if students wish to be formally withdrawn from the program, please work with the Graduate Program Manager to complete the necessary paperwork. Remember to return any keys, badges or parking permits.

Entrepreneurship Certificates

The Jake Jobs Center of Entrepreneurship in the CU Denver Business School offers two certificates that may be of interest to Bioengineering students:

1. Entrepreneurship Certificate
2. Certificate in Bioinnovation and Entrepreneurship

Both certificates require that students select from collections of courses with business and entrepreneurship foci. Graduate-level courses from these programs will meet the BIOE MS elective requirement. PhD students should consult with their mentors about the relevance of these courses to their programs of study.

It may be possible that the BIOE MS project, MS thesis or PhD dissertation satisfies the capstone requirement for the certificates, provided that the work has an entrepreneurial component and involves a Business School faculty member. Students should speak with the Business School for more information and guidance.

Dual MS/MBA

To participate in the dual MS/MBA program, students must apply and be accepted to both degrees. Though coursework does not necessarily need to be taken for both degrees in a given semester, a student will remain enrolled in both programs until all requirements for both degrees are met. Degrees are conferred at the same time.

Dual MD-MS

Bioengineering offers the MS component of a dual MD/MS-Bioengineering. The School of Medicine manages all admissions to the MD program without input from Bioengineering. Further, matriculation in the BIOE-MS program first does not confer any admissions advantage to the MD program. Most dual degree candidates will take a leave of absence between their third and fourth years of medical school to complete their BIOE-MS requirements. The dual degree option is available to University of Colorado School of Medicine MD students who are in good standing and have the permission of the School of Medicine to pursue the dual degree. The MS requirements can be completed by a motivated student in three semesters (Summer, Fall, Spring) but may require additional time, depending on the student's course choices and research project. To meet the MS requirements of the dual MD/MS-BIOE, students must:

- Complete a modified BIOE core (14 credit hours) + one elective (3 credit hours) (please note that exact course numbers are subject to change):
- Complete BIOE 5020 & 5021 (Quantitative Core; 6 credit hours)
- Complete the Technology Core (6 credit hours)
- Complete BIOE 5040 – may satisfy the research ethics course requirement; (2 credit hours)
- Complete the elective requirement: any graduate-level class agreed to by the academic and/or research mentors
- Conduct research and produce a project or thesis under the mentorship of an approved faculty member and earn six credit hours of BIOE 6960 or 6950 (project or thesis hours).
- Establish a committee of at least three Graduate Faculty members to oversee the research and administer the final defense examination.
- Pass a final defense examination

MD/MS students will count the following classes towards their life sciences and clinical experiences core requirements, in lieu of BIOE 5041, BIOE 5010 & 5011 or equivalent:

- Molecules to Medicine
- Cardiovascular, Pulmonary and Renal Systems
- Nervous System
- Digestion, Endocrine and Metabolic

Expectations

Faculty & Staff

The program strives to create an atmosphere that is respectful and inclusive, with an emphasis on the student. All faculty and staff have open-door policies and will communicate office hours; scheduling a one-on-one meeting is the best way to ensure staff availability.

Graduate Students

The program expects that all graduate students will conduct themselves with the utmost integrity in academics, research, service and outreach. Regular class attendance is key to success in the program. As a graduate student, students will have more freedom in setting their research schedule. Students must respect the lab's culture and requirements, such as lab meetings. There are a number of department events throughout the month and year; please see the Events section of this document for more details.

Email

Email is the official form of communication at the university. Students should check their university email at least three times a week to make sure they do not miss any important notices.

Grievances

Any time an issue or concern with an instructor, faculty, staff or fellow student occurs, please try addressing that person directly first. If the students are unable to resolve the problem or feel uncomfortable confronting the person, they may go to the Graduate Program Manager, the advisor, the Department Chair or the Graduate Affairs Committee for advice. If the issue cannot be satisfactorily resolved through those avenues, additional resources are available through the College of Engineering and Applied Science, the Graduate School and the University (see “Campus Resources” on page 28 and the College of Engineering and Applied Science website for more information).

Time Commitment

Bioengineering is a very rigorous program. Previous students report that a full course load often results in 40+ hours of class, homework and study time per week. Combined with research, graduate students can expect to spend upwards of 50-60 hours per week at their studies and research. In some cases, students may need to visit the lab on evenings and weekends, and even in the middle of the night or during holiday time.



Graduate school is rigorous and may demand 50-60+ hours per week!

Vacation

Please see Appendix 1: Graduate School Policy for Vacation and Leave for PhD Students. The Department of Bioengineering does not have a formal process for documenting vacation leave for PhD students. Students are encouraged to discuss with their PhD advisor. MS students working in a lab do not receive paid time off and should discuss leave requirements with their mentors.

Funding, Tuition and Residency

Master's Students

The Department of Bioengineering does not have formal research assistantships for MS students. However, some students have been able to find mentors with research funding. Students may also be hired as teaching assistants or graders for undergraduate or graduate level courses. Job postings for such positions are usually distributed by the department 4-6 weeks prior to the start of the term.

Scholarship information is available at CU Denver's Financial Aid and Scholarships Office. Please visit <http://www.ucdenver.edu/scholarships>.

The Downtown Campus Financial Aid Office is located in the North Classroom Building on Auraria Campus. Their phone number is 303-315-1850. Please visit: <http://www.ucdenver.edu/student-services/resources/CostsAndFinancing/FA/Pages/FinancialAid.aspx>

Tuition & Fees

It is difficult to predict exactly how much a student will spend in tuition and fees in a given semester because not all students take the same number of classes. Students also find that some classes have additional instructional fees. During the academic year of 2017-2018, in-state graduate students in the Bioengineering program pay \$621 per credit hour; out-of-state graduate students pay \$1,365 per credit hours (subject to change each year).

Currently, Bioengineering graduate students pay Denver Campus tuition and Anschutz Medical Campus (AMC) fees. Please visit the AMC Bursar's Office website for more details about student fees:

<http://www.ucdenver.edu/anschutz/studentresources/StudentBilling/TuitionFees/Pages/GRAD-TuitionFees.aspx>

As students on the Anschutz Medical Campus, Bioengineering graduate students must enroll in student health insurance or, if eligible, request a waiver. More information can be found on the Anschutz Medical Campus' Student Health Insurance website:

<http://www.ucdenver.edu/life/services/student-health/Pages/default.aspx>

PhD Students

Most new PhD students are offered a stipend plus tuition, fees, and health insurance at the time of admission. Continued funding, however, is dependent on a number of factors including but not limited to mentor funding availability, successful grant applications, residency status, and satisfactory academic and research progress.

The PhD is a pathway to a career as an independent researcher and most of the available funding for research comes from public (NIH, NSF) and private research and philanthropic organizations. As part of the degree path, PhD students are strongly encouraged to write and apply for grants in their first year. This process prepares the student for success in early career funding and allows mentors to fund more students as their students start to fund themselves. Your mentor and the department's Grants Manager will provide grant-writing guidance.

The following list is not exhaustive, but should give you ideas of where to look for grant and fellowship opportunities. Each program is going to have its own application requirements, deadlines and review processes. However, many applications are due in fall for funding the following school year and review can often take 6-12 months.

Internal CU Denver Programs:

- Colorado Clinical and Translational Sciences Institute TL1 (T32) Predoctoral Fellowship
- Bioscience Discovery and Evaluation Grant

Federal Government:

- National Defense Science and Engineering Graduate Fellowships
- NSF Graduate Research Fellowship
- NIH NRSA Predoctoral Fellowship (F31)
- NIH PA-12-149 Research Supplements to Promote Diversity in Health-Related
- NIH R36 Dissertation Award

Other Organizations:

- Graduate Women in Science Fellowship
- American Heart Association
- Juvenile Diabetes Research Foundation
- American Association of University Women
- American Association of Cancer Research travel grants
- L'Oreal USA for Women in Science

Many professional organizations will have travel awards to support students who will be attending annual meetings to present research. In addition to award application deadlines, pay attention to abstract submission deadlines as well.

Travel Funding

The department does not have specific travel funds for graduate students. However, research mentors might have available funding for students to attend conferences. The Graduate School has small travel awards available, and often the professional associations that sponsor conferences have travel awards. Students are encouraged to explore all of the options.

Colorado Residency

Out-of-state students should consider establishing Colorado residency to be qualified for in-state tuition. ***Funded PhD students may only be eligible for continued funding if Colorado residency is established prior to their second year in the program.***

By law, an “in-state” student, or student’s parents, must be domiciled in Colorado for 12 or more continuous months immediately preceding the first day of classes. Students can establish domicile in Colorado only if they are residing in Colorado with the present intention to reside permanently in the state. Please reach out to the Residency Office on the Downtown Campus for more information and direct any questions to residency@ucdenver.edu.

Academic and Research Integrity (from the Graduate School Honor Code)

The University of Colorado Denver | Anschutz Medical Campus has a student academic honor and conduct code that is endorsed and enforced by the Department of Bioengineering. Refer to Appendix 4 for the College of Engineering and Applied Science Honor Code.

Academic Honesty

The program expects students to adhere to the highest standards of academic honesty and integrity. Students are expected to do homework and exams alone and individually unless the instructor specifically approves group collaboration. In general, group work on homework is allowed and encouraged to support peer learning, but students need to ensure that submitted work reflects individual student effort. Examples of unacceptable behavior that will result in disciplinary action include plagiarism (including the undocumented use of internet and web-based information), cheating, illegitimate possession and/or use of examinations, violation of ethical standards for conducting research, and falsification of official records.

Professional Conduct

As a future bioengineer, students should adhere to the highest standards of professionalism. Examples of unprofessional conduct include misrepresenting effort, credentials, or achievement in either an academic or professional setting; any action that compromises the quality or safety of patients, research subjects or colleagues; violation of patient or student confidentiality; and falsification of data. Lab benches and equipment set up for research should be respected at all times.

Alcohol and Drug Use

Students must adhere to current University policy governing alcohol consumption on campus and at official functions. Access to University of Colorado Hospital and the Children’s Hospital Colorado require passing a standard drug test. In addition, the Anschutz Medical Campus is a smoke-free zone.

Alcohol and/or drug abuse compromises the student's ability to learn and to practice as a researcher and is thus considered unprofessional conduct. Students who attend class and appear to be cognitively impaired as a result of drug or alcohol intoxication may be dismissed from class and/or referred to University Student Services for further action.

Respect for the Rights and Property of Others

Students should conduct themselves in a manner that recognizes the rights and property of others. Examples of inappropriate behavior include theft, damages to University or personal property of others, disruption of educational or other activities on campus, illegal use of University facilities, sexual harassment, physical assault, and any conduct that threatens the health or safety of others.

PhD Program Milestones

Choosing Your Dissertation Project

The dissertation project may form the foundation of student’s future research career, with all the future projects stemming from it. More likely, students will find themselves engaged in many different projects throughout their career. It is important for students to enjoy their research project to remain motivated to complete the work necessary for the dissertation. However, students might not do the same research for the rest of their career.

It is important for students to understand that some projects are higher risk than others. High risk, cutting-edge projects may yield higher rewards. However, failing a project may delay graduation.

Bioengineering students should also highly consider the intellectual property aspects of their projects, especially when working with an industry partner. All PhD dissertation must be publicly publishable.

PhD Timeline Table

Students should use the below table to plan their Program of Study. The individual plans may differ from the one below, but all students must meet the preliminary and comprehensive examination deadlines in order to progress in the program.

| | Pre-app | | | Year 1 | | | Year 2 | | | Year 3 | | | Year 4 | | |
|--|---|-----|----|--------|-----|----|--------|-----|----|--------|-----|----|--------|-----|----|
| | Fall | Spr | Su | Fall | Spr | Su | Fall | Spr | Su | Fall | Spr | Su | Fall | Spr | Su |
| Bioengineering Program Requirements | Note that only 10 dissertation credits should be taken in before the semester of the Comprehensive exam. Additional credits will not count toward the degree. All post-comp PhDs must take 5 credits of dissertation in Fall and Spring and 1 credit in Summer until defense. | | | | | | | | | | | | | | |
| Identify Funding & Advisor | X | | | | | | | | | | | | | | |
| Application | X | | | | | | | | | | | | | | |
| Admission Decision | | X | | | | | | | | | | | | | |
| Core Classes (21 CR) | | | | X | X | | | | | | | | | | |
| Preliminary Exam | | | | | | X | | | | | | | | | |
| Elective Classes (15 CR) | | | | | | | X | X | | | | | | | |

| | | | | | | | | | | | | | | | |
|---|--|--|--|--|---|---|---|---|---|---|---|---|---|---|--|
| Comprehensive Exam | | | | | | | | | X | | | | | | |
| Dissertation (30 CR) | | | | | | | X | X | | X | X | X | X | | |
| Dissertation Defense | | | | | | | | | | | | | | X | |
| Predoctoral Fellowship Applications | Deadlines below are based on a submission deadline in the Fall and rejection of the first application. | | | | | | | | | | | | | | |
| Identify possibilities and submission deadlines | | | | | X | | | | | | | | | | |
| Write & Revise | | | | | X | X | | | | | | | | | |
| Submit | | | | | | | | X | | | | | | | |
| Decision | | | | | | | | | X | | | | | | |
| Resubmit | | | | | | | | | | X | | | | | |
| Decision | | | | | | | | | | | X | | | | |
| Publications | Bioengineering PhD students must publish at least one peer-reviewed publication, but mentors may expect more (e.g. three). Timing will depend on pace of research, review and publication. | | | | | | | | | | | | | | |
| Identify Journal for MS 1 | | | | | | X | | | | | | | | | |
| Write | | | | | | | | X | | | | | | | |
| Submit | | | | | | | | X | | | | | | | |
| Decision | | | | | | | | | X | | | | | | |
| Revise | | | | | | | | | | X | | | | | |
| Resubmit | | | | | | | | | | X | | | | | |
| Published | | | | | | | | | | | X | | | | |

Lab Rotation

At the discretion of the department and the admissions committee, some students may be admitted with the expectation that they rotate through laboratories for one or two semesters in order to choose a lab. Rotations would generally occur over the first semester with three required six-week rotations, but could last for two semesters with three required 12-week rotations at the discretion of the admissions committee. The students must complete all three rotations during the time specified in the offer letter. However, if students receive their own funding, from a grant or fellowship, they are no longer held to the rotations and the completion of rotations is at the discretion of the student and their advisor. Additionally, the student will be assigned an advisor who is not a PI of one of the rotation laboratories. Any other changes to the offer letter stipulations must be approved by a vote of the Graduate Affairs Committee.

Year 1: Preliminary Examination

At the end of the first year in the bioengineering PhD program, students will take the first of three major examinations: the preliminary (prelim) examination.

The main purpose of this exam is to test the student's competency in key knowledge areas required for success in Bioengineering. Students should expect to be examined on any content from their undergraduate career through the first year coursework. The core competency topic areas are: life sciences, quantitative methods, technology, and research methods. Students need to discuss expectations with their Exam Committee.

Your preliminary Exam Committee consists of at least three faculty members, including the Research Advisor, Academic Advisor (if different) and one other member. The committee must include at least two core bioengineering faculty.

Students must submit a Preliminary Exam Committee Proposal to the Graduate Program Manager prior to moving forward with a Request for Exam; please allow two weeks for the proposal to be reviewed by the GAC. Please see the ***PhD Candidate Preliminary Examination Description and Committee Proposal Documents*** for more details.

Dissertation Advisory Committee

By the end of the second Fall semester, students will need to establish their Dissertation Advisory Committee (DAC). The Dissertation Advisor will work with the student to select at least four other faculty members to serve on this committee. The purpose of the DAC is to advise the student and the Dissertation Advisor to ensure that the research and dissertation progress in a timely manner. Students will also likely choose their Comprehensive Examination and Dissertation Defense Committee members from the Dissertation Advisory Committee. The Committees can be the same.

The Chair of the DAC must be a bioengineering core faculty member and may not be the Dissertation Advisor. This will allow the DAC to provide more objective guidance to the student and their Dissertation Advisor. Note that the majority of the committee must consist of faculty who are affiliated with the Bioengineering program.

Student must meet with their DAC twice per year following the preliminary examination. Failing to do so may negatively impact the overall progress. Every other meeting will correspond to a public Methods & Research Seminar and may also correspond to planning the major examinations.

Please notify the Graduate Program Manager about these meetings, as this information must be documented in the student record.

Years 2-3: Comprehensive Examination

Between the end of the second and third years in the Bioengineering PhD program, students will take their second major examination: the comprehensive examination. Details about this exam can be found in the ***Comprehensive Examination Document***.

The comprehensive (comp) exam is a major stepping-stone for PhD students. This exam must be taken by the end of the third year. The first part of the exam is an open seminar (45 minutes), followed by a closed-door portion (two hours) with the exam committee. Once students pass the exam they will be admitted to candidacy and officially become a PhD Candidate. Before taking the comp exam, students must complete all of the didactic coursework (36 credit hours) and have made progress on their research (as determined by the DAC). Students may earn no more than ten credits of dissertation prior to their comp exam. Some advisor and committee will have specific requirements, but generally, students should have produced at least preliminary data by this point, have a clear plan for the remainder of their research, and some sense of where to publish and present. See the ***PhD Candidate Comprehensive Examination Document*** for more details.

The Comprehensive Examination Committee must consist of at least four members of the Graduate Faculty. These members may be the same or different from the DAC members. The Comprehensive Exam Committee Chair must be a bioengineering core faculty member and may not be the Dissertation Advisor.

The Graduate School is responsible for documenting the comprehensive exam. Students must submit the completed Application for Admission to Candidacy and Request for Exam to the Graduate School following their instructions and deadlines. The Graduate School will generate an exam report form. Please copy the Graduate Program Manager on any communications regarding the comp exam paperwork.

Years 4-5: The Defense Exam & Graduation

The defense exam is the last major milestone and there are several important deadlines to consider that precede the defense. The defense exam will begin much like the comprehensive exam, with an open seminar about 45 minutes in length. This seminar should focus entirely on the research, followed by a closed-door exam by the defense committee.

The final defense committee may be the same as or include different members from the DAC. At least five members of the committee must hold Graduate Faculty appointments and the Committee Chair must be a member of the bioengineering core faculty but not the Dissertation Advisor. Please see the earlier section on Graduate Faculty appointments for more information.

Besides the defense exam, students must complete the following items to graduate. Please see the Graduate School website for more details about the deadlines.

1. Apply for graduation on UCDAccess
2. Submit the dissertation for format review to the Graduate School
3. Submit Request for Examination two weeks before the exam to the Graduate School (the Graduate School schedules the final defense exam)
4. Defend (make sure to bring the Thesis Approval form to the defense exam)
5. Submit Thesis Approval form to the Graduate School
5. Submit final thesis/dissertation to ProQuest

Missing any of these deadlines results in delay of graduation. There are no exceptions made to the graduation deadline so please plan accordingly.

Publication Guidelines

As publications are the currency of research, students are strongly encouraged to publish their work. Each Dissertation Advisor will set their own requirements, but a typical dissertation will result in at least one first-author, peer-reviewed journal article. For many students, the first publication may come in the form of a literature review that will also serve as the introduction to the dissertation. By the comprehensive exam, students should have a good idea what their publications will be; ideally, they should have already submitted one.

Time Limit for PhD Completion

Doctoral students, whether enrolled full-time or part-time, must complete all degree requirements within eight years of matriculation. Students who fail to complete the degree in this eight-year period are subject to termination from the Graduate School upon the recommendation of the Program Director and concurrence of the Dean. For a student to continue beyond the prescribed time limit, the Program Director must petition to the Dean for an extension and include (1) reasons why the program faculty believes the student should be allowed to continue in the program and (2) an anticipated timeline for completion of the degree. Normally, extensions for time to degree are for one year or less, but under rare circumstances, a second extension may be requested. Complete the Graduate School's Extension of Time Limit form. Approved leaves of absence do not automatically extend the time limits for earning a degree, but they may be used as a reason to request an extension, if needed.

Master's Program Milestones

MS Timeline Table

Students should use the below table to plan their Program of Study. The individual plans may differ from the one below, but this shows students how to graduate in two years.

| | Pre-app | | | Year 1 | | | Year 2 | | |
|--|---|-----|----|--------|-----|----|--------|-----|----|
| | Fall | Spr | Su | Fall | Spr | Su | Fall | Spr | Su |
| Bioengineering Program Requirements | MS students may choose to spread their core classes out over both years to ease the load, particularly if they are going to start research right away. However, doing core in Year 1 leaves more time for research in Year 2. | | | | | | | | |

| | | | | | | | | |
|--|---|---|--|---|---|--|---|---|
| Application | X | | | | | | | |
| Admission Decision | | X | | | | | | |
| Core Classes (21 CR) | | | | X | X | | X | X |
| Identify a project/thesis mentor & project | | | | | X | | | |
| Elective Classes (3-6 CR) | | | | | | | X | X |
| Project/Thesis (3-6 CR) | | | | | | | X | X |
| Defense | | | | | | | | X |

Choosing Academic Advisor

Each incoming Bioengineering student is assigned an Academic Advisor from the Bioengineering core faculty. This faculty member may also be your project/thesis advisor; alternatively, he/she will help you identify a project/thesis advisor.

Choosing Your Project/Thesis

MS students have the choice between a Master's project and a Master's thesis. The Master's thesis is a traditional academic document. If the work results in a peer-reviewed publication, students are likely doing a thesis. Master's theses are subject to the same formatting guidelines as doctoral dissertations and must be filed with the Graduate School. Master's theses are acknowledged on the final transcript with the inclusion of thesis title, whereas Master's projects are not. Students who do a thesis must register for at least three credits (and no more than six credits) of BIOE 6950 during their studies. Students will receive a grade of "IP" (in progress) until their final defense. See the ***Master's Thesis Guidelines Document*** for more details.

A Master's project is more flexible than the Master's thesis and is likely more appropriate if the project involves an industry partner. Examples of Master's projects include product designs, product testing, regulatory and policy review, market analysis, business plans, and patent applications (though these may still be involved in theses). Because the project does not have to be filed with the Graduate School, it does not have to follow the same formatting guidelines. This does not mean the project should be viewed any more lightly than a thesis. Students will still be expected to produce a well-written, professional document. If doing a Master's project, students must register for at least three (and no more than six) credits of BIOE 6960 during their studies. Students will receive a grade of "IP" (in progress) until their final defense. See the ***Masters Project Guidelines Document*** for more details.

Choosing Exam Committee

The final defense committee must consist of at least three Graduate Faculty members, two of whom must be part of the Bioengineering Core Faculty. The Committee's Chair must be a Bioengineering core faculty member. The research advisor may also serve as the committee's chair. Use the ***Committee Planning Form*** to help you with this important task.

If students choose to work on a project with an industry partner, their Industry Advisor may not already have a Graduate Faculty appointment; please work with Bioengineering's Student Services team to seek such an appointment. Alternatively, students may have three Graduate Faculty members plus the Industry Advisor.

Some students choose to begin working on a research project immediately, whereas others choose to focus on coursework in their first year and focus on research in their second year. Students should talk to their advisor to establish a plan. This decision depends on project availability and the nature of the work. For example, students should start working on a project that may take a long time to do. Alternatively, if there is a project coming up in the future that is appropriate, it may be a wise plan to get most of the coursework finished during the first year and focus on doing research during the second year.

Years 2-3: Final Defense Exam

All MS students must take the final defense exam. However, there are several important deadlines to consider that precede the defense. Please find the specific dates of these deadlines on the Graduate School's website.

1. Apply for graduation on UCDAccess by Census Date
2. Submit the thesis for format review to the Graduate School (if doing a thesis)
3. Submit Request for Examination to the Graduate Program Manager at least two weeks before the exam
4. Defend (make sure to bring the Thesis Approval form to the defense exam if doing a thesis)
5. Submit Thesis Approval form to the Graduate School (if doing a thesis)
5. Submit final thesis to ProQuest or final project to Graduate Program Manager

Missing any of these deadlines results in delay of graduation. There are no exceptions made to the graduation deadline so please plan accordingly.

Your defense exam will begin much like a PhD comprehensive or defense examination, with an open seminar about 45 minutes in length. This seminar should focus entirely on your research. Plan on about two hours of closed-door examination by your Master's committee.

Publication Guidelines

As publications are the currency of research, you are strongly encouraged to publish your work. It is not unusual for a Master's Thesis to result in one or more first-author, peer-reviewed journal articles. Talk with your advisor about your career plans and your desire to publish.

Time Limit for Master's Completion

Master's students, whether enrolled full-time or part-time, have seven years from their first semester to complete all degree requirements, including filing the thesis with the Graduate School, if required. Students who fail to complete the degree in this seven-year period are subject to termination from the Graduate School upon recommendation from the Department Chair and concurrence of the Dean. For a student to continue beyond the prescribed time limit, the Department Chair must petition to the Dean for an extension and include (1) reasons why the program faculty believes the student should be allowed to continue in the program and (2) an anticipated timeline for completion of the degree. Normally, extensions for time to degree are for one year or less, but under rare circumstances, a second extension may be requested. Students need to complete the Graduate School's Extension of Time Limit form. Approved leaves of absence do not automatically extend the time limits for earning a degree, but they may be used as a reason to request an extension, if needed.

Continuing from the MS to the PhD

The MS in BIOE is a great stepping stone to a PhD in Bioengineering at CU Denver or elsewhere. Here are some important things to know:

1. Students should have identified a mentor with whom they will be studying for their PhD. This person must have guaranteed funding for a PhD student and may or may not be their MS advisor.
2. Students will need to apply to the PhD program following the standard application process. Students will probably do this in during their second year of the MS. Please note that the PhD application window closes on December 1 for all applicants.

3. Students may apply for certain pre-doctoral fellowships while they are finishing the MS so that funding is available for the PhD.
4. Students must finish (defend) their MS. Doing a thesis is recommended and the final defense exam must take place before the start of the PhD. Pay attention to Graduate School deadlines; the last day to defend is NOT the last day of the semester!
5. If the MS cannot be completed before students start their PhD in the fall semester, they may defer for up to a year, provided prospective PhD advisor agrees.

Campus Resources

A complete list of campus life student resources for the Downtown Campus can be found here: www.ucdenver.edu/life/services/Pages/index.aspx. Bioengineering is academically and administratively a downtown department and program, so students have access to resources through the Downtown Campus student services offices.

Badging & Security

All campus community members are issued access control cards (IDs) and are required to wear them visibly at all times. Students get their University of Colorado Denver badge at orientation from the Security Badging Office in Building 500 on the Anschutz Medical Campus. Students bear the costs of replacement badges.

This badge serves the dual purpose of identification and access to many interior and exterior locations. All Bioengineering students are granted regular student access to campus. All other access is added on a need-only basis, and usually takes some time to get the proper approvals, so please plan ahead!

Additional badges (i.e. hospital badges) may be necessary to conduct research. Badging requests will only be made at the request of the advisor and upon the approval of the badging authority.

Badge sharing is not permitted.

Bursar's Office

The Bursar is responsible for all financial activities related to student billing, tuition collection, institutionally managed loan programs and coordination with the state. Please contact them at bursar@ucdenver.edu

Denver Campus
Student Commons Building
303.315.1800

Anschutz Medical Campus
Education 2 North
303.724.8032

Campus Bookstores

The Anschutz Medical Campus Bookstore is located in Education 2 building. The textbooks can be found at this bookstore if the instructors have made the order. However, many bioengineering instructors do not send their booklists to the Bookstore. They will direct students to other resources prior to or at the start of class. Please contact instructors with specific questions.

Computers can be purchased at academic discount prices, visit the Auraria Campus Bookstore on Downtown Campus. Students may also ask Apple or Dell directly for the discount.

Medical Campus Bookstore

Ed 2 South
303.724.2665 (4-BOOK)

Auraria Campus Bookstore

Tivoli Building, Suite 105
303.556.4286

Room Scheduling

Student Services Staff can assist with room scheduling. Please speak with the office staff should you have questions.

Food Services at the Anschutz Medical Campus

The main locations for food in buildings on the medical campus are: Etai's in Research 2, the food court in Building 500, and Intermission Café in Education 2 North. There are a number of fast food restaurants along E 17th Ave. (just west of Administrative Offices 1 on the first floor of the parking structure) including: Dazbog Coffee, Jimmy John's, Subway, Pudge Brothers Pizza, Chik-fil-a, and Chai & Chai. In addition, Food Trucks occasionally line up in the quad outside Building 500.

There are cafeterias in the Children's Hospital Colorado and University of Colorado Hospital. Restaurants located under 21 Fitzsimmons Apartment Homes are popular destinations as well. Student discounts may be available with some on-campus and nearby food vendors.

Health and Wellness Center

The Medical Campus is home to the Anschutz Health and Wellness Center. It offers state-of-the-art research, education and wellness services in one facility. The Center's mission is to transform the lives of individuals and communities through science-based wellness strategies. In addition to high quality gym facilities and group fitness, cooking classes and wellness services such as massage. Student membership to the Center requires a monthly fee.

Health Insurance Office (from the Student Health Insurance website)

All degree and specific approved, certificate-seeking students on the Anschutz Medical Campus must enroll in the university's Student Health Insurance (SHI) Plan unless they can provide evidence of enrollment in other comparable insurance. Students enrolled in less than five credit hours in a degree program are eligible to purchase the SHI Plan by submitting a selection/waiver form by the deadline.

The Student Insurance Office is available to assist with selecting or waiving the SHI Plan. They can help evaluate student's insurance needs so they choose the best plan available.

Please note that for SHI, bioengineering students are considered Anschutz Medical Campus students and should contact the Medical Campus office. Funded PhD students who are required to enroll in the SHI Plan will have insurance premiums paid as part of their tuition and fees. Please direct all plan specific and coverage specific questions to the Student Health Insurance Office:

303-724-7674

CUAnschutzStudentInsurance@ucdenver.edu

Education II, North Room 3213

13120 E 19th Ave, Aurora, CO 80045

Health Sciences Library (from the Health Sciences Library website)

The University of Colorado Anschutz Medical Campus Health Sciences Library links people, reliable health sciences knowledge and technology in support of effective learning, quality health care, vital research, and community service. The staff of the library strives for the highest quality services as they enhance access to the knowledge base of the health sciences, instruct users in information retrieval and management techniques, and acquire and organize a specialized collection of electronic, print and other resources in a cost-effective manner.

Please note that the library will not get textbooks for students through interlibrary loan. The instructors can put textbooks on hold or students can request textbooks to be added to the collection. However, it is unlikely that will occur quickly enough to avoid buying the textbook. Students should try the Denver Public Library.

University of Colorado Anschutz Medical Campus Health Sciences Library

12950 E. Montview Blvd.

303.724.2152

hslibrary.ucdenver.edu

Housing

The Anschutz Medical Campus Office of Campus Student Services maintains listings of students who are looking for roommates. These listings can be found at the Student Housing section of the Campus Student Services website (<http://www.ucdenver.edu/anschutz/studentresources/student-assistance/housing/Pages/home.aspx>). Many of the area apartment complexes have preferred employer/student programs that give application discounts to AMC students

Office of Campus Student Services

Education 2 North (Anschutz Medical Campus), Room 3123

303-724-2866

Parking and Transportation

The Parking and Transportation Services office is located in Building 500 on the 2nd floor (west side of the food court eating area). This office assists students with any request and question regarding parking on campus. Their office can be contacted at 303-724-2555.

Students who take classes at the Downtown Campus or Boulder campus may ask the parking office for a "Reciprocal Parking Pass" which will allow access to specific parking lots (check their parking maps) on those campuses at no additional charge if the pass is hung from the vehicle mirror.

Students will have a charge for the RTD College Pass on their account every term. This mandatory fee supports the RTD pass for all students, which includes all regular fixed route services, including bus (local, express, regional), light rail, call-n-Ride, and skyRide service (free to Medical Campus students with RTD College Pass). Services not included in College Pass are access-a-Ride, BroncosRide, RockiesRide and other special event services. Students may get their College Pass from Badging and Security with their badge. Campus is well-served by the 20, 121, 15 and 89 buses with easy connections to the 105 as well as the R-line lightrail.

The University runs a shuttle between the Anschutz Medical and Downtown Denver Campuses with stops at the VA and National Jewish Health (NJH). The shuttle runs from right in front of Building 500 to the Lawrence Street Center (LSC). The shuttles leave from either end at 10 after the hour and arrive at about 10 to the hour. The first eastbound shuttle leaves LSC at 8:10 am and the last leaves at 6:10 pm. The first

westbound shuttle leaves the Medical Campus at 7:10 am and the last leaves at 5:10 pm. Download a printable shuttle schedule to see the departure and arrival times at the VA and NJH. Students must present their badge to board the shuttle.

<http://www.ucdenver.edu/about/departments/FacilitiesManagement/ParkingMaps/Pages/ShuttleService.aspx>

Registrar's Office

The Registrar is responsible for all grade & course scheduling activities, including transcripts, schedule adjustments, course catalog & curriculum management, changes of record, residency, and personal student information including name change.

Denver Campus

Student Commons Building
303.315.2600

Anschutz Medical Campus

13120 E. 19th Ave.
303.724.8059

Student Lockers

Students may claim a locker in Bioscience 2. The lockers are for semester-long use. To claim a locker, students must provide their own lock and then register the locker by emailing their name, department, email address, phone number, and locker number to allison.ferreri@ucdenver.edu. Unregistered lockers will be emptied and contents thrown away. Students must empty out the locker at the end of the academic year (spring semester). Lockers that have not been cleaned out at the end of the year will be emptied and all contents thrown away.

Printing and Copying on Campus

A student printer is available for all students to use in the Bioscience 2 Student Lounge. In addition, Anschutz Printing Services offers copying, printing and binding services and there are computer lab locations across campus, including the Education Buildings, RC1 and the Health Science Library.

Commencement Policy

Bioengineering students may participate in commencement ceremonies on either or both campuses (Downtown and Anschutz Medical Campus). The Downtown Campus holds commencement ceremonies in December and May; the medical campus has only one ceremony in May. Typically, spring defenders will attend the May ceremonies. Summer MS defenders may be permitted to participate in May ceremonies in advance of defense or asked to wait until the December and following spring ceremony. Fall defenders can attend the downtown ceremony in December and the medical campus ceremony the following May. Note that PhD students can only participate in commencement and be hooded if they have successfully defended their dissertation.

In order to be listed in the medical campus' program, you must let the Graduate Program Manager know that you intend to graduate. The program for Downtown Campus is generated automatically from the list of students who declare their intent to graduate on UCD Access.

Bioengineering graduate student diplomas will list both the University of Colorado Denver and University of Colorado Anschutz Medical Campus.

Department Events

To foster a sense of community, the department holds several events each year.

New Student Welcome & Orientation

The Monday before classes start, the department will host a new student breakfast & orientation for all new MS and PhD students. The day's events are designed to help new students begin to get to know one another, current students, staff, faculty and receive their badges. The remainder of the week will be spent in a MatLab boot camp.

Student Methods & Research Seminars and Examination Talks

BMES sponsored Student Methods & Research Seminar talks take place throughout the academic year. They also have periodic social events such as ice-cream social and pitch nights where faculty members and researchers on campus pitch their research ideas to students to recruit them to join different labs around campus.

Student examinations (PhD comprehensive exam and dissertation defense and MS thesis defense) will be advertised by the Bioengineering Department with an email containing the date, time, location and abstract, as well as flyers posted publically at both the Anschutz Campus and the Downtown Campus.

Please make every effort to attend these talks, as they are good learning experiences.

Open House

Each fall and spring, Bioengineering hosts an Open House for prospective students and community members. The highlight of the Open House is the research showcase, where Bioengineering and affiliated lab groups set up tables to showcase their research activities. Undergraduate students also showcase their projects. Other events include an informational talk from the Graduate Program Manager, and a greeting from the Chair.

Appendix 1: Grad School Policy for Vacation & Leave (PhD)

Graduate school is a privilege; working in the biomedical research/academic field, whether as a graduate student, a postdoctoral fellow, or an independent investigator, is a time-honored and challenging profession that requires a high level of commitment and responsibility. Students who receive full-support stipends from CU Denver | Anschutz Medical Campus PhD programs are required to pursue their training on a full-time basis, devoting each day of the normal work week, plus any additional time required by their research projects and academic courses. Additionally, for a student to maintain full-time status, the following guidelines for vacation and leave time have been established by the Graduate School. These represent the leave to which a graduate student is entitled; however, research demands and commitment to graduate studies often result in students using less than the allotted leave. Individual graduate programs may not have a formalized system for accounting for vacation and sick leave; if so, vacation and leave monitoring falls under the honor system and is the responsibility of the student.

Vacation and Holidays

Graduate students receive all University holidays and no more than 14 calendar days (counting all days Monday through Sunday) of vacation per annum, with no year-to-year accrual. Students continue to receive stipends during vacations and holidays. In the Graduate School at CU Denver, the times between academic terms and the summers are considered active parts of the training period and are not necessarily free times. Students taking courses are expected to attend all classes and take all exams as scheduled. They should not take vacations when classes or exams are scheduled.

Sick Leave and Other Leave

Graduate students may continue to receive stipends for up to 15 calendar days (counting all days Monday through Sunday) of sick leave per annum, with no year-to-year accrual. Under exceptional circumstances, additional sick days may be granted following a written request and approval by the student's Program Director. Sick leave may be used for the medical conditions related to pregnancy and childbirth.

Parental Leave. Graduate students may also receive stipends for up to 60 calendar days (counting all days Monday through Sunday) of parental leave per annum for the adoption or the birth of a child. Either parent is eligible for parental leave. Parental leave must be approved by the student's program director. Sick leave may not be used to supplement parental leave, except as noted above.

Unpaid Leave. Individuals requiring more than 15 calendar days of sick leave or more than 60 calendar days of parental leave, must seek approval from their program for an unpaid leave of absence. Approval for a leave of absence must be requested in advance by the student and approved by the program. The leave period and conditions must be documented, both at the time of leave and at the time of re-entry in the program. A copy of this agreement must be submitted to the Graduate School.

Termination. Upon graduation or termination a graduate student forfeits all unused annual and sick leave; payment may not be made from grant funds (training grants or research grants) for leave not taken.

Appendix 2: Graduate Faculty Appointments

In order to serve as a mentor or primary advisor, on a thesis or examination committee or as a program or course director, a faculty member must be appointed to the faculty of the Graduate School ("Graduate Faculty"). The Graduate Faculty is comprised of individuals who have been nominated by a graduate program on the basis of their research and scholarship, mentoring or teaching, and who demonstrate a commitment to graduate education and students. The Graduate School maintains a directory of Graduate Faculty on their website. Please consult the list and work with the Graduate Program Manager to ensure that all of your committee members have current Graduate Faculty appointments. Please note that Bioengineering may nominate industry partners or researchers from other institutions for special appointments, if necessary.

Appendix 3: Directory of Services

Anschutz Medical Campus Badging Office

Phone: 303.724.0399 · Email: security.badgeoffice@ucdenver.edu · Office: Building 500 First Floor

Go to for: badge replacements, badge holders

Anschutz Medical Campus Parking Office

Phone: 303.724.0399 · Email: security.badgeoffice@ucdenver.edu · Office: Building 500 First Floor

Go to for: parking permits, parking tickets, RTD pass questions

Anschutz Medical Campus University Police Department

Phone: 303.724.4444 (police dispatch or non-emergencies) or 911 · Office: Bldg. U-09, 12454 E. 19th Place

Go to for: campus security, lock-out problems

CARE Team

Phone: 303.352.3579

Go to for: health and safety concerns

Stephanie Puello, Student Progress Coordinator, Graduate School (Downtown)

Phone: 303.315.0074 · Email: stephanie.puello@ucdenver.edu · Office: Lawrence Street Center 1250

1380 Lawrence Street, Denver CO 80204

Go to for: graduate school logistics (e.g. application for admission to candidacy, request exam, transfer credits, transfer programs)

Student Health Insurance Office

Phone: 303.724.7674 · Email: CUAnschutzStudentInsurance@ucdenver.edu · Office: Ed 2 North 3213

Go to for: all things student health insurance

Office of Campus Student Services, Anschutz Medical Campus (Cheryl Gibson, Lia Nelson-James)

Phone: 303.724.2866 · Office: Ed 2 North 3123

Go to for: student housing

Student Mental Health Service

Phone: 303.724.4716 (M-F); 720.848.0000 (On-call psychiatrist for emergencies)

Go to for: Identify yourself as a student so that you get routed properly

Appendix 4: College of Engineering & Applied Sciences Honor Code

College of Engineering and Applied Sciences Honor Code for Students

The Honor Code outlined below is the College of Engineering and Applied Science statement on academic integrity. The Code articulates the College's expectations of its students and faculty in establishing and maintaining the highest standards in academic work.

Honor Code:

The Honor Code of the College of Engineering and Applied Science is a statement of its students, individually and collectively:

- Students will not give or receive aid during examinations.
- Students will not use any prohibited electronic devices during examinations.
- Students will not give or receive unpermitted aid in class work, in the preparation of reports, or in any other work that is to be used by the instructor as the basis of grading.
- Students will uphold the spirit and letter of the Honor Code and they will take an active role to ensure that others uphold the Honor Code and if they observe violations of the Honor Code they must report violations to their Department Chair.
- The Faculty of the College will do its part to ensure its confidence in the honor of its students. Faculty must ensure that precautions are in place to prevent the forms of dishonesty mentioned above. Faculty will also avoid, as far as practical, academic procedures that create temptations to violate the Honor Code. Faculty alone has the right and obligation to set academic requirements. However, the students and faculty will work together to establish optimal conditions for honorable academic work.

Violations of the Honor Code

Examples of conduct that will be regarded as being in violation of the Honor Code include:

- Copying from another's examination paper or allowing another to copy from one's own paper.
 - Plagiarism in any shape or form. Plagiarism is defined as the use, without giving reasonable and appropriate credit to or acknowledging the author or source, of another person's original work, whether such work is made up of code, formulas, ideas, language, research, strategies, writing or other form(s).
 - Giving or receiving unpermitted aid either in person or via electronic devices.
- Engaging in unauthorized collaboration on academic assignments or examinations.
- Representing as one's own work the work of another.

Penalties for Violating the Honor Code

Most student disciplinary cases have involved Honor Code violations. Of these, most cases arise when a student submits another's work as his or her own, gives or receives unpermitted aid, or engages in unauthorized collaboration. If a violation occurs during a quiz or on a homework assignment, the student will receive a zero for that quiz or assignment. If a violation occurs on an examination, the student will receive a failing grade for the course. The standard penalty for a first offense may include suspension from the College of Engineering and Applied Science for a severe infraction of the Honor Code. The penalty for a second violation will be expulsion from the College of Engineering and Applied Science.

It is the responsibility of the student to seek clarification from the instructor when in doubt about these guidelines.

College of Engineering and Applied Sciences Honor Code – Faculty Responsibilities

Academic honesty is one of the foundations of the educational mission of our College and University. Academic dishonesty as outlined in the College of Engineering and Applied Science Student Honor Code is corrosive to the intellectual principles and is inconsistent with the ethical standards of our University.

Academic dishonesty damages the sense of trust and community among students, faculty and administrators. The Faculty of the College must assume responsibility for ensuring academic integrity in their classrooms and develop tools to ensure the success of this mission.

The Student Honor Code sets forth the standards of honesty which student members of the College are expected to follow. Faculty members of the College are bound to adhere to the strictest standards of academic honesty and must enforce the Honor Code when they observe violations. All members of our academic community have an obligation to familiarize themselves with these standards and to conduct themselves in accordance with both their letter and their spirit. Our College has committed to implementing these standards and to educate all faculty, staff and students on the importance of academic honesty and on the application of these standards in a variety of academic settings.

Accompanying this policy are procedures that set forth a system for enforcement of these standards, including the application of sanctions where violations have been found. Sanctions are necessary to demonstrate that the College treats violations of academic honesty seriously and will act aggressively, when necessary, to deter wrongdoing. The effectiveness of the enforcement scheme depends in large measure on the conscientious cooperation of faculty members in the implementation of the standards. Faculty members are therefore charged with the responsibility assuring student compliance with the requirements of the Student Honor Code and initiating enforcement proceedings where appropriate.

Faculty members have the responsibility to:

- Report all incidences of academic dishonesty to the Department Chair.
- Review classroom expectations regarding academic honesty with their students and clearly state the academic consequence of a student's academic dishonesty.
- Describe these expectations clearly in the class syllabus.
- State clearly in the course syllabus that any student seen with an electronic device (cell phone, iPad, etc.) of any kind on their person or within reach during an examination or quiz will be in violation of the Student Honor Code and will be reported to the Department Chair for academic dishonesty.
- Distribute two or three different examinations during testing, particularly in large classes.
- Inform the student immediately and directly of any charges of academic dishonesty.
- Require (for large classes) their Proctor or TA to assist in ensuring academic honesty. If the Proctor or TA observes cheating, they must notify the Instructor of Record immediately.
- Submit separate allegation reports if academic dishonesty is suspected or observed for each suspected student, unless the suspicion is that the students colluded in the incident.
- Keep the suspected student's original examination as well as any students sitting near the student if academic dishonesty occurs during the examination or quiz.
- Report all of the students when multiple students are suspected of academic dishonesty in order to allow the process to unfold fairly. Allegations made against students who are determined not to have been involved can be withdrawn.

Appendix 5: Equal Opportunity and Non-Discrimination

Notice of Non-Discrimination

The University of Colorado Denver | Anschutz Medical Campus does not discriminate on the basis of race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy in admission and access to, and treatment and employment in, its educational programs and activities. The University takes affirmative action to increase ethnic, cultural, and gender diversity; to employ qualified disabled individuals; and to provide equal opportunity to all students and employees.

Students may report allegations of discrimination or harassment to the Employment Rights Compliance and Investigation Manager, 303-724-9694.

Title IX Notice of Non-Discrimination

The University of Colorado does not discriminate on the basis of sex, gender or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by the university (both on and off campus). Title IX protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and sexual assault.

Title IX requires the university to designate a Title IX Coordinator to monitor and oversee overall Title IX compliance. Your campus Title IX Coordinator is available to explain and discuss: your right to file a criminal complaint; the university's complaint process, including the investigation process; how confidentiality is handled; available resources, both on and off campus; and other related matters.

Contact the Campus Title IX Offices:

Phone: 844-288-4853

Email: equity@ucdenver.edu

Anschutz Medical Campus
Education 2 North
13120 E. 19th Ave, Room 5221
Aurora, CO 80045

Denver Campus
Lawrence Street Center
1380 Lawrence Street, Rooms 1238-1226
Denver, CO 80217

Additional information regarding Title IX is available at: <http://equity.ucdenver.edu/>

Disability Resources

It is the policy of the University and the Program to provide reasonable accommodations to qualified students with a disability so they are able to meet their program requirements. Whether an accommodation is reasonable is determined on an individual case-by-case basis. Qualified students in need of accommodations must contact the University's Disability Resources and Services Office for eligibility and accommodation determinations. More information may be found on the Disability Resources and Services website located at: <http://www.ucdenver.edu/student-services/resources/disability-resources-services/Pages/disability-resources-services.aspx>.

Appendix 6: Policy on Change of Academic Advisor

Applicability: This policy applies when graduate students in the Department of Bioengineering PhD program change advisors during their degree program. This policy does not apply when a student completes a degree with one advisor and then starts a new degree with another advisor. This policy does not apply if the change is forced by extreme circumstances, such as the advisor leaving the Bioengineering graduate faculty.

Rationale: Graduate students in the bioengineering PhD program may have personal or professional reasons for needing to change advisors during their degree program. This policy ensures a fair process to both the student and their advisor.

Rules for changing advisors:

1. In general, the student will initiate advisor changes by submitting a petition to the Graduate Affairs Committee (GAC) requesting the change and detailing the new research advisor.
2. If a faculty member wishes to cease serving as advisor to a particular student, he or she must petition the GAC, who will decide to approve or deny the change. The advisor must include an explanation of the reasons for the change along with supporting documentation.
 - a. For changes initiated due to poor student performance in the research environment, the advisor must provide documentation of meetings with the student and evidence of poor performance covering at least three months of observation.
 - b. For changes due to lack of advisor funds for the student stipend and tuition, the advisor should provide documentation of laboratory funding. Because funding difficulties are often predictable months ahead of time, the advisor should contact the committee at least 4 months before the end of funding to attempt to find other possible solutions. The GAC expects advisors to prioritize graduate student funding over teaching buy-downs, summer salary, technician salary and postdoc salary. In these cases, the GAC can choose to limit or prevent the PI from advising future students in the Bioengineering department.
 - c. Changes initiated due to research misconduct, plagiarism, or a blatant breach of ethics, safety, or university policies do not need to have 3 months of documentation and can be initiated immediately. The GAC can then decide whether to allow a lab change or to remove the student from the program.
3. Students may approach a prospective advisor to inquire whether they would be accepted as a student if they do switch laboratories. A prospective advisor is not obliged to inform the student's current advisor. The prospective advisor should consult the Graduate Affairs Committee about funding and stipend levels prior to accepting the student into their lab.
4. The student must inform his/her current advisor of intention to change advisors. The students may do this either before approaching prospective advisors or within one working day after accepting a position with a new advisor.
5. It is the responsibility of the student to inform the Graduate Program Manager when they have changed advisors. The Graduate Program Manager will process the documents necessary to comply with university records. Within three weeks of changing advisors, the student must schedule a meeting with the Graduate Affairs Committee and the new advisor to work out a revised timetable for procedural requirements (e.g., course of study, proposal, comprehensive exam, etc., as appropriate). The timetable for the Ph.D. qualifying or comprehensive exam may be adjusted to accommodate the change in project focus.
6. Note that many offers of student support are conditional upon the student working in a particular research area or for a particular advisor; when a student changes advisors, the original offer becomes void. The new advisor and the Graduate Affairs Committee will provide a new offer of student support according to Graduate School Rules.

