

MEDICAL SCIENTIST TRAINING PROGRAM (MD/ PHD)

Overview

The Medical Scientist Training Program provides rigorous training for students interested in a career in clinical medicine and basic science research.

The MST Program's mission is to provide students with the breadth and depth of training necessary to excel as clinician scientists.

Colorado has strengths in Molecular and Cellular Biology, Immunology, Epidemiology, Mechanical Engineering, Biomedical Engineering, Virology, Neuroscience, Endocrinology, Pharmacology, and Cancer Biology, which provides an exciting spectrum of research opportunities for MSTP students.

The MSTP Admissions Committee is looking for individuals with a demonstrated commitment to medical research and service to community. The committee looks at applicants as whole individuals, equally assessing academic achievement with past experience. Letters of recommendation, substantive bench research experience, test scores, and life experiences are all considered.

As a federally funded program, the University of Colorado MSTP is National in scope. It is open to US citizens and Permanent Residents of all 50 states, the District of Columbia, and Puerto Rico. MSTP actively recruits women and underrepresented students. We are committed to the enrollment of a diverse body of talented students.

Application Process

Application Information

2024 Entering Class

Initial application to the MST Program at the University of Colorado involves the completion of the American Medical College Application Service (AMCAS) On-Line Application and the submission of the SOM secondary application and payment of fee.

The deadline for submission of a complete MSTP application via AMCAS is **November 30, 2023**. A complete application includes the following:

- **AMCAS Application** (must be submitted by October 15, 2023)
- School of Medicine **Secondary Application** and fee (must be received by November 30, 2023)
- **CASPer Exam** and **Altus Suite** Results (received by November 30, 2023). Altus Suite includes the following exams:
 - CASPer: a 60-90 minute online situational judgement test (SJT)
 - Snapshot: a 10-minute one-way interview with standardized questions
 - Duet: a 15-minute value-alignment assessment
- All **Letters of Recommendation**

Recommendation Letters

The MSTP accepts three to five letters of recommendation (or a committee composite letter) submitted through AMCAS (<https://students-residents.aamc.org/applying-medical-school/faq/amcas-faq/>)

- Example letter writers include:
 - previous or current research mentors,
 - instructors, physicians or employers.
- References should come from individuals who know the applicant well enough to comment on their educational background.
- The MST Program has access to letters sent by electronic submission to the CU School of Medicine.

AMCAS Instructions

The deadline for the AMCAS primary application submission is October 15, 2023.

- Applicants must instruct AMCAS to forward their AMCAS application to the University of Colorado.
- Applicants must select the MD/PhD Program Type on their application.

This will permit applicants to submit essays describing their interest in the combined MD/PhD program.

- Primary AMCAS Application Deadline is October 15, 2023
- Secondary Application Deadline is November 30, 2023

Admission Requirements

Degree and Coursework Requirements

The University of Colorado School of Medicine requires that students have a baccalaureate degree from an accredited college or university prior to matriculation.

The University of Colorado School of Medicine recognizes that the experiences and undergraduate academic experience of our applicants varies greatly. We encourage applicants to explore a diverse, interdisciplinary and balanced undergraduate education, encompassing the necessary foundational knowledge in the biomedical sciences and humanities. Students need to be adequately prepared in the scientific underpinnings of modern medicine and also understand the psychosocial elements that are critical to its practice.

Accordingly, we have moved away from traditional, specific course based requirements, and have revised our prerequisites and academic expectations such that students should provide evidence to demonstrate competencies in the life sciences, social sciences, physics and mathematics, based on the AAMC-HHMI Scientific Foundations for Future Physicians (<https://www.aamc.org/download/271072/data/scientificfoundationsforfuturephysicians.pdf>) and AAMC-Behavioral and Social Science (<https://www.aamc.org/download/271020/data/behavioralandsocialsciencefoundationsforfuturephysicians.pdf>) Foundations for Future Physicians. (<https://www.aamc.org/download/271020/data/behavioralandsocialsciencefoundationsforfuturephysicians.pdf>) These competencies, representing the cumulative knowledge, skills and commitment to scholarship needed to undertake training as a future physician, can be met through traditional and/or interdisciplinary courses of study in an accredited institution of higher learning, or by other educational, employment, service or life experiences.

Competitive applicants should demonstrate in-depth competency in each of the following areas of study, as reflected by their academic achievements and letters of recommendation.

Biology: Applicants should demonstrate an understanding of molecular and cellular biology, genetics, and the principles underlying the structure and function of organ systems and the regulation of human physiology.

Chemistry/Biochemistry: Applicants should demonstrate competence in the basic principles of chemistry as it pertains to living systems, and knowledge of how biomolecules contribute to the structure and function of cells and organs.

Mathematics/Statistics and Physics: Applicants should demonstrate competence in the basic principles of physics and mathematics underlying living systems and must be able to apply quantitative reasoning, statistical principles, and appropriate mathematics to describe or explain phenomena in the natural world. A basic understanding of statistics or biostatistics is required to comprehend the quantitative aspects of medicine and biomedical research.

Social Sciences and Communication: It is important that applicants demonstrate competence in the humanistic understanding of patients as individuals and members of a families, communities, and society. Applicants should be aware of factors that influence individual, community, and societal decisions regarding health and health care delivery. Applicants are expected to speak, write, and read English fluently.

Students are encouraged to consider additional coursework in biochemistry, computer sciences, genetics, humanities, and social sciences.

AP and CLEP courses, as well as on-line courses, are viewed with a degree of comparability to college courses, as long as the US accredited degree granting institution includes these credits on their transcript as fulfilling certain institutional requirements. Students who have AP or CLEP credit in the basic sciences are encouraged to take upper level courses in these areas. Courses taken abroad are treated comparably to traditional courses, as long as these credits are included on the transcript of a U.S. accredited degree-granting institution.

MCAT

Students must take the Medical College Admissions Test (MCAT), with the oldest exam accepted no more than three years prior to matriculation year. For example, applicants applying for August 2021 matriculation must have MCAT results from January 2018 - October 2020. If the applicant takes the MCAT multiple times, the Admissions Committee will use the best one time composite score from that sitting.

The CASPer Test - Computer-Based Assessment for Sampling Personal Characteristics

As a part of the supplemental (secondary) application, all applicants to the University of Colorado School of Medicine are required to complete an online assessment (CASPer), to assist with our selection process. Successful completion of CASPer is mandatory in order to maintain admission eligibility. CASPer results need to be sent to CUSOM by the noted distribution date located on the CASPer website (<https://takecasper.com/dates-times/>). Learn more about CASPer here: www.TakeAltus.com (<https://takealtus.com/>)

Letters of Recommendation

Applicants are required to obtain letters to support their candidacy for admission. We require three to five letters; letters can come from a

faculty member, clinical experience, research experience, or a current job as the letter transmits cogent information about the applicant's work. Obtaining a letter from the employer who you are working with during the application year is highly recommended. Evidence of a successful engagement in a post-college experience is considered a valuable addition to other letters that also may be part of your file. Some colleges offer a pre-medical advising system and the committee writes letters for their students. A committee letter is sufficient to meet the medical school letter of recommendation requirements. All letters must be transmitted electronically through AMCAS' application process. We strongly recommend that letters not be from family friends or others who know the student only peripherally.

Secondary Application and the Completion of the Applicant's File

Upon receipt and verification of the AMCAS application, the SOM Office of Admissions will email eligible applicants the link to our Secondary Application that is to be completed online and submitted by November 30th of the application year.

The secondary application consists of:

- Secondary application processing fee – **Fee is Non-refundable**
- CASPer test results

Completed secondary applications are forwarded to the MSTP admissions committee who perform a holistic review of applications and invite select applicants for an interview. Interview invitations are on a rolling basis – October through February.

Application Fee Payments and/or Fee Waivers

Students invited to complete the secondary application must submit an application processing fee of \$100 with the secondary application. The application fee waiver will be granted ONLY to applicants who received approval from the AAMC Fee Assistance Program (FAP). **The secondary application fee is non-refundable.**

Students learn through a sequence of interdisciplinary Blocks and Threads that are designed to gradually build student competency in our mission of education, research, clinical care, and community service. At the University of Colorado, we provide future physicians scientists with the scientific, clinical, and communication skills necessary to develop and effectively deliver state-of-the-art health care to an increasingly diverse population.

Currently, MSTP students complete both required Medical and Graduate School Curricula, USMLE, Preliminary Graduate Exam and lab rotations during their first two years (MS1-2).

Our curriculum Integrates basic science and clinical material throughout all phases; Encourages independent, self-directed learning; Promotes advanced clinical examination and clinical reasoning skills.

MSTP Specific Courses:

(For full course descriptions, please visit the Courses (p. 3) tab.)

- **Thesis Years - Foundations of Doctoring (MSTP 7655)** allows students to work with a physician scientist preceptor of their choosing during the duration of their PhD. This course is designed to allow the MSTP students to continue their clinical training during their thesis years. They will work in the clinic (or inpatient setting) with an academic physician-scientist who specializes in a clinical area of interest to the student. The goals of this course are to maintain and further the clinical skills learned during Phases I and II,

to provide opportunities for MSTPs to engage in clinical/translation scholarly activities, to allow MSTPs to sample potential career choices, and to minimize the anxiety often encountered upon re-entry into the clinics after an extended absence. By interacting at this early stage with a physician-scientist clinical mentor, MSTP students will experience first-hand how academic physicians can effectively and efficiently organize and spend their time. We anticipate that opportunities for establishing collaborations between their research and clinical mentors, involvement in clinical research, and writing of clinical reviews will emerge.

- **Molecules to Medicine** for MSTP pre-clinical students (MSTP 7805) is required for first year MSTP students. One or two students are assigned to a specific topic and are expected to present the background leading up to the paper(s) as well as what was done in the study, the conclusions, and implications of the work. All students in the class are expected to read (and understand) the selected paper(s) and be prepared to ask questions and/or discuss any figure in the paper. MSTP Faculty are selected by the course director, MSTP's Pre-Clinical Associate Director, and asked to lead a 2-hour session with students, providing 2 articles related to a topic of their choice that the student(s) will present on. The faculty member should provide context for the topic and help guide the discussion and presentations.
- **MSTP Seminar** (MSTP 7645) is a required course for first year MSTPs to attend once a week to hear and present summer lab rotation talks, as well as hear the thesis year MSTPs' research update talks. This seminar provides an opportunity for the students to also hear from invited guest speakers on topics such as Mental Health Services, Disability Services, and PhD Programs on both the Anschutz and Boulder Campus.
- **MSTP Reading with a Professor (MSTP 7652)** is intended for MSTP first year students to identify a mentor to meet on a weekly/biweekly basis to discuss papers that have been assigned by the mentor. MSTP students often choose their mentor based on who they will be doing a laboratory rotation allowing the focus of the meetings to be on papers relevant to the summer project with a written proposal at the end regarding the project. The choices of subject and format are up to the student and mentor. The student is expected to show initiative and responsibility in identifying the specific topic.
- **MSTP Clinical Capstone (MSTP 7755)** is a week-long (5-day) clinical immersion course designed to assist MSTP students' transition back to medical school. Students will follow 2-3 patients, present on rounds, call consultants, and discuss care plans with patients and their families. Additional didactic sessions will focus on logistical aspects of functioning on an inpatient team.
- **Summer Research Rotations – MSTPs are required to do a minimum of 2 lab rotations before choosing one to be their thesis lab for their PhD work.** Students begin their first required summer rotation after completion of the first year curriculum. Students complete a second required laboratory rotation after their second/LIC year. The principal purpose of the two rotations is to aid students in selecting a thesis advisor and to provide exposure to a variety of research problems and laboratory techniques. While rotating, students are encouraged to participate in all lab activities to get an idea of what it will be like to be a member of that particular lab. Students may complete a first rotation in the summer prior to starting Medical School. The choice of a research advisor and project is perhaps the most important decision of the student's first two years in the program. The quality of the projects underway in the laboratory, the influence of postdoctoral fellows and other students in the lab, the level of the advisor's

involvement and the character of the advisor's relationship with the student will help to shape the rotation experience.

Legacy Curriculum Diagram (for students currently in their PhD Years)

Hybrid Curriculum Diagram (for the matriculating class of 2020 only)

Trek Curriculum Diagram (beginning 2021)

Courses

MSTP 5017 - Hematologic & Lymphatic Systems (5 Credits)

This course focuses on the basic science and clinical concepts underlying the origin, development, normal function, and related hematologic and immunologic disease states. Integrated Health & Society and Clinical Skills content will develop students' knowledge and skills to provide effective, equitable patient-centered care.

Grading Basis: Letter Grade with IP

Typically Offered: Fall.

MSTP 5022 - Nervous System (8 Credits)

A foundational, interdisciplinary approach to nervous system structure and function in health and disease will include neuroanatomy, pathophysiology, and pharmacology, among others. Integrated Health & Society and Clinical Skills content will develop students' knowledge and skills to provide effective, equitable patient-centered care.

Grading Basis: Letter Grade with IP

Typically Offered: Spring.

MSTP 5025 - Endocrine & Metabolic Systems (7 Credits)

Biochemistry, pathology, physiology, immunology, and pharmacology are combined with the clinical approach to diagnosis and treatment of disorders of the endocrine system. Integrated Health & Society and Clinical Skills content will develop students' knowledge and skills to provide effective, equitable patient-centered care.

Grading Basis: Letter Grade with IP

Typically Offered: Summer.

MSTP 5026 - MSTP Reproductive System & Life Cycle (9 Credits)

Same as course IDPT5026.

Grading Basis: Letter Grade with IP

Typically Offered: Summer.

MSTP 7645 - MSTP Seminar (1.5 Credits)

Designed to expose MSTP and physician scientist students to research programs and opportunities in biomedical sciences at the CU Anschutz Medical campus and selected departments of the CU Boulder campus. Previously offered as IDPT 7645.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

MSTP 7651 - MSTP Lab Research Rotation (1.5-3 Credits)

This course is a 6 week laboratory rotation experience in an MSTP training laboratory. This course allows for MSTP students to rotate in the lab of an MSTP-appointed faculty in advance of selection of their graduate thesis program and lab. MSTP students should use this rotation to learn about the science and dynamics of the lab so that they can assess potential fit for their thesis studies. Prerequisite: Acceptance into the MST Program and signed permission from the MSTP Director.

Grading Basis: Satisfactory/Unsatisfactory w/IP

Repeatable. Max Credits: 3.

A-GRAD Restricted to graduate students only.

Typically Offered: Spring, Summer.

MSTP 7652 - MSTP Advanced Topics (1-5 Credits)

This course is designed for students in the MSTP and consists of in-depth small group (1-7 students) sessions that provide in-depth didactic and/or paper readings on subjects related to research rotations or thesis projects. Prereq: IDPT 7811, 7812, 7813, 7814, 7815 (BIOM Sci core courses); consent of Instructor. Previously offered as IDPT 7652

Grading Basis: Letter Grade

Repeatable. Max Credits: 5.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring.

MSTP 7655 - Thesis Years - Foundations of Doctoring (1-5 Credits)

This course intended for MD or MD-PhD students who have successfully completed all coursework for Phases I and II of SOM curriculum, are on leave of absence from SOM and wish to maintain clinical exposure and training during the leave. Prereq: All Phase I and II SOM courses. Previously offered as IDPT 7655

Grading Basis: Letter Grade

Repeatable. Max Credits: 5.

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring, Summer.

MSTP 7755 - MSTP Clinical Capstone (1 Credit)

This 5-day clinical immersion course designed to acquaint MSTP students with clinical training. Didactics and discussions focus on clinical skills and inpatient medicine teams. In practical activities, students follow 2-3 patients, present on rounds, call consultants, and formulate plans of care. Previously offered as IDPT 7755

Grading Basis: Satisfactory/Unsatisfactory w/IP

Repeatable. Max Credits: 1.

Typically Offered: Spring.

MSTP 7805 - Case Studies: Molecules to Medicine (1 Credit)

This course is targeted for first year MSTP/Physician-Scientist students. Clinical cases will be presented/discussed by faculty and students to provide clinical context for basic science principles taught in the graduate core courses (IDPT 7811-7815). Prereq: IDPT 7811, 7812, 7813, 7814, 7815 (BIOM Sci Core Courses). Crosslisted: IDPT 5002. Previously offered as IDPT 7805.

Grading Basis: Letter Grade

A-GRAD Restricted to graduate students only.

Typically Offered: Fall, Spring.

Expectations of MST Program Students

The key expectation of each student admitted into the CU Anschutz Medical Campus Medical Scientist Training Program is that they take full advantage of all CU Anschutz resources and couple that with personal responsibility to achieve optimal success. During the first two years of combined medical and graduate school training, there are clear and tangible academic and research milestones every MST Program student must meet. In the first two years, it is expected that students

will obtain passing grades in their coursework, successfully complete two research rotations, and pass the MSTP Graduate Preliminary exam and USMLE Step I exam. In the third year, students should begin thesis research and successfully pass the Comprehensive Exam. During this year, students will organize the National M.D./Ph.D. Student Conference. In the subsequent years of thesis research, the milestones become less clear and success relies on a student's own self-motivation, intellectual drive and hard work. Graduate school is not a job – it is training for a challenging career; a student's success at this stage of training and in subsequent steps will depend on the student's own drive, initiative, and effort. The Thesis Advisor and Committee are in place to provide scientific and professional guidance and support. It is the student's responsibility to utilize his/her Thesis Advisor and Committee to lead a successful graduate experience and career.

Ultimately, the student determines their success!

Expectations for Ph.D. Training

The MST Program has the following expectations for a student's thesis career,

1. A student should be self-motivated. Motivation should come from within and not be determined by the mentor or arbitrary deadlines.
2. A student should work the necessary hours in the lab to complete his/her experiments. Graduate school is not a five-day a week, 9-5 job. The effort that students put in will be reflected in their success and the timetable for their graduation.
3. A student should be intellectually engaged in their research project. The mentor often initially conceives the project. However, by the Comprehensive Exam, the student should be actively participating in experimental decisions and research directions. In subsequent years, the student should take progressively more control in the execution and direction of their research. Conversely, a student may design his or her own project and have it critiqued and approved by the advisor.
4. A student must take initiative for his/her career and be accountable for successes and failures in research. If things are not working in the lab, the student should coordinate with the advisor to find a solution. The Thesis Advisor and Committee exist to help students, but students must be proactive.

Expectations for Clinical Training

The MST Program has the following expectations for a student's clinical training.

1. A student should master taking a clinical history, performing a physical exam, and sharpening clinical skills.
2. A student should have working knowledge of all of the clinical data for the patients in his/her care and contribute to the differential diagnosis and management plan.
3. A student should maintain professional behavior at all times. Professionalism includes, but is not limited to, working as part of the team, contributing to all aspects of patient care, and becoming familiar with the current and relevant clinical literature.

Expectations for Professionalism

The Medical Scientist Training Program has the following general expectations for an MSTP student:

1. A student must respond to emails from MSTP, the SOM, the Graduate School, Graduate Programs and mentor(s) in a timely manner (within 4 hrs if urgent and within 24 hrs if not urgent).

2. A student must notify the MSTP and SOM if they travel for any personal reason and expect to be away during class time; and notify MSTP and their PhD mentor if they travel during the research period.
3. Professional behavior is expected at all times. Self-reflection to assess whether the student is behaving in the most appropriate and professional manner will be expected.

Over the past decade, many medical and graduate school curricula have dealt with issues related to student professionalism. We expect that MST Program students will maintain the highest standards of professionalism throughout their training and career years. Failure to meet these expectations can lead to dismissal from MSTP.

What do we mean by the term “professionalism (<http://www.nbme.org/PDF/Publications/Professionalism-Conference-Report-AAMC-NBME.pdf>)”? We expect students to demonstrate:

- *honor and integrity*: being honest and answering questions truthfully
- *excellence and scholarship*: reading papers related to clinical situations while doing clerkships
- *respect*: across the board - of patients, other health care professionals, instructors, other students, and members of a research team
- *leadership*: mentoring those that can benefit from your knowledge and organizing a team or group with which you work; insight
- *accountability*: strong work ethic; timeliness; responding in a timely manner to e-mails sent by administration, advisors, instructors; commitment; dedication; legal/policy compliance
- *responsibility*: motivation; self-evaluation; independence; take the initiative to communicate regularly with faculty advisors, especially in matters related to research and progress within the graduate program
- *caring and compassion*: communication; sensitivity; tolerance; openness
- *altruism*: helping others who are busy; participation in student or school organizations

General Information

Welcome to the Medical Scientist Training Program

At the University of Colorado School of Medicine and Graduate School, the MST Program targets highly motivated students interested in a career in academic medicine. The successful student receives both the M.D. and Ph.D. degrees at the completion of the curriculum. During the first two years, the students take a combined medical and graduate school basic science curriculum designed to provide the scientific basis necessary both to biomedical research and medical practice. Students rotate through at least two research laboratories to obtain substantive research experience prior to the choice of a laboratory for thesis work. During the subsequent two to four years, the students enter a graduate program in one of the basic science departments fulfilling the requirements for the Ph.D., including successful defense of a dissertation and publication of at least two papers in peer reviewed journals. In the last portion of the program, the students return to the medical school curriculum to complete their clinical training.

New Student Information

The successful applicant to the MST Program enters the University of Colorado with dual status as a medical and a graduate student. The School of Medicine (SOM) Admissions Office handles all of the necessary paperwork for admittance to the School of Medicine and plans an orientation week before the MSI fall semester; the SOM Orientation

is REQUIRED. Throughout the summer, students will receive several communications regarding Student Orientation Week. Please notify the School of Medicine of any postal or email address change to avoid a delay in receiving this important information.

The Graduate School Application Part is processed by the MST Program Administrator. Eligibility for admission to the Graduate School cannot be approved without the submission of the following:

- Official Transcript(s) from each College/University attended. Transcripts are not shared between the SOM and Graduate School
- Final Transcript from degree-granting institution documenting receipt of the undergraduate degree
- Tuition Classification for Colorado Residency. You will submit a form for both the SOM and Graduate School

MSTP will host a orientation prior to the SOM orientation to review MSTP specific information for the new students. There the newly matriculated students will meet with key faculty and MSTP Leadership. Representatives from the Medical and Graduate schools are present to outline requirements and answer any questions.

Email Communications

All communication relating to MSTP, Graduate School, School of Medicine, Faculty, and Staff must be with a “@cuanschutz.edu” email address; personal accounts such as gmail or yahoo should not be used. Students on the Boulder campus during their thesis years may use the “@colorado.edu” as a secondary email address, but emails coming from Anschutz Medical Campus will be sent to their “@cuanschutz.edu” email first. A student must respond to emails from MSTP, the SOM, the Graduate School, Graduate Programs and mentor(s) in a timely manner (within 4 hrs if urgent and within 24 hrs if not urgent).

Financial Support

Accepted students receive full funding, including a stipend (currently \$34,000/year, as of August 2021), tuition, health and dental insurance, and fees for the entire period of study. The MST Program provides the financial support during the students’ medical school program years and the PI/thesis mentor and/or graduate program provides support during the students’ thesis years. Continued support is contingent upon satisfactory academic, research, and professional performance by the student. *Deficient performance in any one of these areas can be grounds for dismissal from the MST Program or graduate program in which they are completing their PhD work, and result in termination of financial support (i.e., payment of tuition, fees and stipend) provided by the MST Program or by the PI/mentor.*

When a student enters a thesis lab, the thesis mentor assumes complete responsibility for the student’s stipend, tuition, fees and associated research costs. The Program strongly encourages students to apply for fellowship support during the research years. The student returns to MST Program support upon defending a thesis and returning to medical school, unless other funds have been obtained.

Students who transfer to The University of Colorado Boulder or National Jewish Health for their Ph.D. should check with their Ph.D. Program for details regarding their financial support. These programs may vary slightly in their financial support and supporting medical insurance compared to what is provided on the Anschutz Medical Campus.

Qualification for financial aid may be affected for students assigned to the MSTP NIH T32, an F30 or F31 slots.

Student Health Insurance

All students will receive health and dental insurance coverage. Students will be automatically signed up for the University Student Health Insurance Program when registered for a minimum of 5 credit hours, unless they have alternate health insurance in place and specifically waive the University plan. Before the fall and spring semesters, students will need to fill out a waiver form through the Office of Student Health Promotion (<http://www.ucdenver.edu/life/services/student-health/insurance/Pages/default.aspx>), and follow the office's deadlines. Students must notify the MST Program Office if they plan to waive the student insurance. For more information on the plan and what it covers, contact Student Health Services at (303) 724-7674 or by email at: CUAnschutzStudentInsurance@cuanschutz.edu. **As previously listed, coverage of medical insurance differs at CU Boulder and/or National Jewish Health.**

Tuition Bills

The MST Program Administrator will pay tuition bills for each semester for students in their medical years. That tuition bill will reflect charges for the core courses for which students are pre-registered. It is the student's responsibility to notify the Administrator if a course has been added or dropped during the add/drop period and to return any refund checks from the Bursar's Office to the MST Program Office. Students must also inform the Administrator if they have financial aid or have submitted a waiver for medical and/or dental insurance.

Establishing Colorado Residency

All out-of-state students are required to petition for In-State Tuition Classification within their first year. It takes one year to establish Colorado residency. This process is outlined in a handout entitled "How to Establish Domicile for Tuition Purposes" and found on the Office of the Registrar's website [HERE](https://www.cuanschutz.edu/registrar/residency/current-students/) (<https://www.cuanschutz.edu/registrar/residency/current-students/>). Students need to read this information carefully so that they understand the process. The MST Program will pay out-of-state tuition during the first year ONLY. Each student must begin to establish residency IMMEDIATELY upon his or her arrival in Colorado.

Ways to establish residency:

1. Register your automobile with the State of Colorado
2. Obtain a State of Colorado driver's license (even if you don't have a car)
3. Register to vote (even if you don't plan to vote)
4. Obtain a lease agreement or proof of home ownership with the student's name on the document

The petition form can be found [HERE](https://dm-unityform.prod.cu.edu/UnityForms/UnityForm.aspx?d1=AVIYKgyBpdvZVGfSEuPTC7ceJjtrnARF7sXuyveie5%2b0ltq6NQaNd2Aa8VZn0dn0%2b1xry5sxqfXEYFEMEjz6eWkWA3t2n7elabdkPLMfHbTQoZnAVI46aYhzi1B0tted0s9qvFesce2hndwip04StiPr0wmsStuLs099sB0tmd%2bJYMBpzGw7EV7PnrPc6otPHCCN0LtNrfyqgUbFmWUWcn4RowDvlZV%2bA0HFkGPIQ%3d%3d&_ga=2.57316202.1959570360.1601306411-2124303634.1550261011) (https://dm-unityform.prod.cu.edu/UnityForms/UnityForm.aspx?d1=AVIYKgyBpdvZVGfSEuPTC7ceJjtrnARF7sXuyveie5%2b0ltq6NQaNd2Aa8VZn0dn0%2b1xry5sxqfXEYFEMEjz6eWkWA3t2n7elabdkPLMfHbTQoZnAVI46aYhzi1B0tted0s9qvFesce2hndwip04StiPr0wmsStuLs099sB0tmd%2bJYMBpzGw7EV7PnrPc6otPHCCN0LtNrfyqgUbFmWUWcn4RowDvlZV%2bA0HFkGPIQ%3d%3d&_ga=2.57316202.1959570360.1601306411-2124303634.1550261011).

the first day of the term you are petitioning. Submit early if possible. One year after your driver's license was issued.

Any student failing to meet the residency deadline will be personally responsible for the difference between in-state and out-of-state tuition rates.

Questions about residency should be directed to the Registrar's Office.

Office of the Registrar
University of Colorado | Anschutz Medical Campus Campus Box A-054,
Education II North
13120 E. 19th Avenue, Room 3205
Aurora, CO 80045
Email: TuitionClassification@CUAnschutz.edu
Voice: 303-724-8054
Fax: 303-724-8060

Student Tutoring Assistance

The MST Program and the School of Medicine have tutoring services available. Any student having difficulties in their classes should contact the MST Program Office immediately. With approval from the Director or Associate Directors, the MST Program will assist with tutoring fees and will help pay for additional preparatory courses. Students are encouraged to seek help early, as course remediation can delay student progression through an already tight timetable.

Publications and Acknowledgments

All student publications, including abstracts, journal articles and theses, should acknowledge the MST Program along with other university acknowledgments. Students supported on the MST Program training grant should acknowledge the grant number in all publications (MSTP T32 GM008497).

The MST Program Office has copies of all student theses. Students need to provide one bound copy of the final version of their thesis to the MST Program at the same time they turn it in to their Graduate Program. The MST Program will reimburse (students with itemized receipts) for the Program's copy.

Annual M.D./Ph.D. National Student Conference

CU Anschutz MST Program students organize the Annual National MD/PhD Student Conference during their first laboratory year. A student transferring into the CU MSTP from either another MD/PhD or MST Program or from the SOM MSII year will consult with MSTP leadership to decide the optimal year to participate in organizing this conference. The MST Program covers registration and meeting costs for CU Anschutz MST Program students. However, once CU Anschutz students register for the Conference, they are required to attend, as expenses cannot be refunded. If an emergency occurs, it is important to notify the Administrator and Director or Associate Directors as soon as possible.

Abstracting CU Anschutz MST Program students are expected to attend the conference. In addition, MST Program students are required to attend a minimum of two conferences. MSTP students in their thesis or clinical years are required to present an abstract (oral or poster) in order to attend. In the event of extenuating circumstances that may conflict with these requirements, MST Program students should discuss their situation with the Director or Associate Directors as soon as possible to obtain a formal exception to the requirements stated above.

Students who attend are expected to stay the entire length of the conference. If you need to leave early, this needs prior approval from the Director(s) and/or the Administrator.

Vacations

Students may schedule one-week vacation during the summer. An optimal time for an MSI/II student to take the vacation is before or after the laboratory rotation and/or before re-entry into their academic year. Students need to discuss vacation plans with their rotation/laboratory mentor. Students **MUST** let the MST Program know of their plans. MSI students receive a week-long winter break vacation after Clinical Interlude. Pre-clinical students also receive a one-week spring break vacation in March along with the Medical Students. Depending on the student's choice of spring elective, **the medical and graduate school schedules may not coincide with spring break**. It is the student's responsibility to check this in advance and make appropriate plans.

Office Resources Available to MST Program Students

Books, Test Prep Materials and MST Program Student Theses (Available in the MSTP office) Color Printer (MST Program Office)

Mail Box in MST Program Office (Campus Box C296) Black and White Copier

Mental Health Resources Available to MST Program Students

Campus Mental Health Services—
<http://www.ucdenver.edu/life/services/student-health/mental-wellness/Pages/default.aspx>
 RAVE Campus Emergency Notification Service—
<http://www.ucdenver.edu/about/departments/UniversityPolice/EmergencyPreparedness/EmergencyN> ([http://www.ucdenver.edu/about/departments/UniversityPolice/EmergencyPreparedness/EmergencyNotificationSystem/Pages/UniversityEmergencyNotificationSystemRAVE.aspx](http://www.ucdenver.edu/about/departments/UniversityPolice/EmergencyPreparedness/EmergencyN/otificationSystem/Pages/UniversityEmergencyNotificationSystemRAVE.aspx))
 CARE – Campus Assessment, Response & Evaluation Team (303) 315-7306;
shareaconcern@ucdenver.edu – <http://www.ucdenver.edu/life/services/CARE/Pages/default.aspx>

Refer to the Graduate School Handbook for a full list of services.

MST Program Alumni

Mailing List

University of Colorado MST Program graduates are required to provide a forwarding address, both email and postal, for future correspondence. Alumni will be added to a University of Colorado MSTP distribution list and will continue to receive newsletters and important announcements. Alumni will also be contacted during grant renewals for current positions and recent publications.

Publications, Positions and Funding Support

NIH requires the MST Program to track publications and positions of current and past students, so graduates of the CU Anschutz Medical Campus MST Program must report recent publications and career

progress. The University of Colorado MSTP website will soon have a PubMed link to all alumni publications. Similarly, funding records will also be requested in order to assess overall success as an investigator in academic medicine. **To aid in tracking, we require MSTPs to create a uniform ORCID identifier number and report this number to our office.**

Leave of Absence Requests

Leave of Absence requests that occur during the first two years or the last two years of medical school and during the period between completion of USMLE Step 1 and committing to a PhD- degree-granting graduate program will require that the MSTP student meet with MSTP and SOM leadership to discuss this option. The student will be required to write a letter stating the reason for the request, a plan of action during the LOA, and a plan for return to MSTP and/or the SOM. A copy of this letter should be submitted to the SOM Associate Dean of Students and to the Dean of the Graduate School. The SOM Promotions Committee will review such requests and make final decisions.

If the Leave of Absence occurs during the thesis years, the MSTP student should confer with the MSTP Leadership, his/her PI/mentor and the student advisor of their graduate program (and likely the Program Director as well). Again, the student will be required to write a letter stating the reason for the request, a plan of action during the LOA, and a plan for return to MSTP and/or the thesis laboratory. A copy of this letter should be submitted to the SOM Associate Dean of Students, with the mentor and the graduate program making the final decision.

When students take a Leave of Absence, per University Policy, all financial support, including medical insurance coverage, will be suspended until the student returns to active MSTP, Graduate and/or SOM status. Some arrangements can be made for the student should insurance be necessary for them while on leave. This is determined on a case-by-case situation.

Dismissal and Appeals

As noted in the “Expectations” section of this Student Handbook, there are clear professionalism behaviors and tangible academic and research milestones that every MST Program student must meet in order to remain in good standing as an MSTP student. The MST Program, directors and administrators, including SOM leadership will support students through any and all difficulties at any point during both their medical and graduate school years.

Grounds for dismissal from MSTP include: poor academic performance; subpar performance in the laboratory rotations; professionalism issues; failing the Preliminary Exam; failing the Comprehensive Exam; poor progress in their PhD Thesis work; or dismissal from their Graduate Program and Graduate School.

Students who the program feels are eligible for dismissal will be asked to meet with the Program Director, Associate Directors, and/or SOM Leadership at any point in the program to review their behavior, training progress, and commitment to the program. The student will be given a warning until the program feels the student has remedied their situation.

The MSTP Leadership will schedule regular meetings with the student, as they feel necessary, to continue to review the student's progress. The student can also schedule meetings with any of the Directors at any time during this period.

Dismissing a student from MSTP is done only after very careful review, by the MSTP Executive Committee, of the student's behavior, professionalism,

academic and research training progress, and commitment to a career as a physician-scientist; the MSTP Executive Committee includes MSTP, SOM, and Graduate School leadership faculty. If the decision is to dismiss, by the majority of the MSTP Executive Committee, the student will be notified immediately following review. Finally, upon dismissal from MSTP, the student will no longer receive the financial support (tuition, fees, insurance, or stipend) provided by MSTP.

Dismissal from MSTP does not necessarily mean dismissal from Medical School, but such a result can occur. If dismissal from MSTP occurs, the student will need to submit a formal request in writing to the SOM Associate Dean of Students and the SOM Promotions Committee to continue in medical school. The request to continue as a medical student must be approved by either the SOM Associate Dean of Students and/or the SOM Promotions Committee. See SOM Policies and Procedures [HERE](http://www.ucdenver.edu/academics/colleges/medicalschoo/education/studentaffairs/studentresources/Documents/StudentHandbook.pdf) (<http://www.ucdenver.edu/academics/colleges/medicalschoo/education/studentaffairs/studentresources/Documents/StudentHandbook.pdf>).

Below are the basis in which a MSTP student could be dismissed from the MST Program:

1. Failure to pass the preliminary exam.
2. The inability to match into a thesis lab due to professionalism issues or because the MSTP student has accumulated subpar performance in the previous rotations such that PIs are not willing to accept that student
3. Failure to pass the Comprehensive Examination. The student's Graduate Program can dismiss the student from that Program at that point. Dismissal from the Graduate Program results in dismissal from Graduate School and dismissal from MSTP.
4. Poor academic performance while in medical school and/or graduate school.

Below is the outline of the procedure for Appeal of MSTP Dismissal decisions during distinct periods of the MD/PhD training plan:

During MSI or MSII – If dismissal from MSTP occurs within the first two years of medical school, appeals must be submitted in writing to the SOM Associate Dean of Students, the SOM Promotions Committee, and the MSTP Director, stipulating the basis for the appeal.

During Graduate School/Thesis Years – If dismissal from MSTP occurs at any point after the MSTP student has committed to a graduate program and/or is on a Leave of Absence from the SOM, appeals regarding the dismissal from their graduate program (and thus from the Graduate School) must be submitted in writing to the to the Dean of the Graduate School stipulating the basis for the appeal; with copies to the Graduate Program Director, the MSTP Director, and the SOM Associate Dean of Students,

During MSIII or MSIV – If dismissal from MSTP occurs during the last two years of medical school, appeals regarding the dismissal from MSTP at this point in the training must be submitted in writing to the to the Associate Dean of Students, the SOM Promotions Committee and the MSTP Director, stipulating the basis for the appeal.

For a complete listing of all MSTP affiliated faculty across CU Anschutz, CU Boulder, and National Jewish Health campuses, please [click here](https://medschool.cuanschutz.edu/mstp/people/faculty/) (<https://medschool.cuanschutz.edu/mstp/people/faculty/>).

Program Learning Outcomes:

MSTP does not confer either the MD or PhD degree, but rather we recruit students who seek to complete both degrees. We have a highly integrated

curriculum combining medical and graduate courses in the first year, complete of the Graduate Preliminary Exam at the end of the first year, medical courses in the second year, and the students then enter a degree-granting graduate program. Once they complete all of the requirements for the PhD, they return to medical school to complete the last two years of clinical training.

The MST Program trains combined degree students to become proficient and successful clinicians and investigators who are able to:

- Demonstrate advanced knowledge of central concepts in the biomedical sciences
- Understand the current concepts in medicine and their chosen PhD field
- Read and critically evaluate the scientific literature
- Communicate effectively through oral presentations at seminars, conferences, and venues
- Write a competitive application for research funding
- Develop ancillary skills to obtain positions in a wide range of biomedical venues
- Become innovators and leaders in their respective fields and careers

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