Case Western Reserve University (CWRU)
Medical Scientist Training Program (MSTP)
Student Guidelines

Medical Scientist Training Program
Est. 1956
"Ex Scientia Rememdium"

MSTP Student Guidelines

Contents

Welcome 4
Overview 4
Course Planning & Academic Support 6
MSTP Administration 11
Advising System 12
  Logistical Support for the First Two Years (Phase 1) 12
  Logistical Support for the PhD Phase (Phase 2) 12
  Logistical Support for the Last Two Years 12
  General Resources 12
Academic Requirements 13
Calendar/Vacations/Leave 13
  Overview 13
  Vacation, Sick Leave and Parental Leave (per the School of Graduate Studies) 14
Entering the Program 15
Research Rotations 15
Choosing a Thesis Research Mentor 17
  MSTP Mentors 17
  Placement with a Mentor 17
Individual Development Plans (IDP) 18
The First Two Years (M1/M2) 18
  Year 1, Summer Semester 18
  Year 1, Fall and Spring Semesters 18
  Year 2, Summer Semester 19
  Year 2, Fall Semester 19
  Year 2, Spring Semester: Completion of M2 and Transition to PhD phase 19
  Timing of Events in Spring of Year 2 (including USMLE Step 1) 20
  PPOS 20
  Grading of IBIS Courses 21
  Expectations for Academic Progress 21
The PhD Phase 21
  Curricular components of the PhD phase 21
  Graduate Programs 22
  PhD Thesis Work and Thesis Committee 23
  Expectations for Student Progress in the PhD Phase 23

Timeline for the PhD Phase 24
Completion of the PhD Phase 24
Health Care Coverage 25
Training Grant Support in the PhD Phase 25
Citing the Training Grant 25
Grant Applications and other fellowships 26
F30/31 Grants 26
Translational Fellows Program 26
Clinical Tutorial 27
M4 Clinical Elective Credit 27
Selection of a Clinical Preceptor 28
Spring Refresher Course 28
M3 and M4 Years 28
When Do MSTP Students Start the M3 Curriculum? 28
How to Schedule M3 28
What M4 looks like 29
Career Planning and Residency Applications 29
MSPE 29
Letters of Recommendation from Faculty 29
Materials to Provide 30
Other Hints for Residency Application and Interviewing 30
The Residency Application Process 31
MSTP Support and Benefits 31
Activities 33
Annual Retreat 33
Research Symposia 33
MSTP Council 33
Non-Research Activities 34
Outside Activities and Compensation 35
Appendix 36
A. Advising Schedule 36
B. MSTP Council Office Descriptions 37
C. MSTP M2 STEP1 Preparation and G1 Start Guidelines and Policies 39
D. MSTP Student PhD Thesis Lab Placement and Mentor Capacity Policy 40

Welcome

Welcome to the CWRU MSTP!

In 1956, we proudly pioneered the MD-PhD training model as the first of its kind in our nation. We are thrilled today to continue celebrating the extraordinary achievements of our alumni and the innovative spirit of our students, who continue to make important advances in science and medicine.

This guide is designed to support your journey through our MSTP. Should you need further information, please contact us at mstp@case.edu or connect directly with any team member listed below.

We are here to help and eager to welcome you into our vibrant community of medical science.

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Overview

The MSTP is structured around three integrated phases, each designed to foster excellence in both research and clinical training. Our goal in each phase is to help you discover and refine your research and clinical passions while building a seamless bridge between medicine and science that will optimally prepare you for a future career as a leading physician-scientist.

PHASE 1: Foundational Medical Training and Research Explorations

During your first two years (M1 and M2), you'll build a robust foundation in medical science and explore diverse research opportunities.

- **M1 Summer:** Begin medical coursework and complete the *Introduction to MSTP* course.
- **M1 Fall Semester:** Complete your first laboratory research rotation.
- **Research Rotation Guidelines:** Complete research rotations in two or more labs across semesters (M1 Fall, M1 Spring, M2 Fall) and summers (up to 2 rotations can be completed in the summer between M1 and M2).

  Rotations during the academic year require a minimum of 120 hours (i.e., 12-15 hours per week for 8-12 weeks).

  Rotations during the summer require at least 40 hours per week for a minimum of 10 weeks (full rotation) or two consecutive 5-week short in-lab rotations. Exceptions to the 40-hour-per-week requirement can be made if students have official, pre-arranged medical school activities (*e.g.*, Physical Diagnosis, Field Experiences) during the afternoon; or if the student must be absent for another reason (e.g., medical appointment). Exceptions should be discussed in advance with the mentor.

We encourage exceeding these minimums to maximize your learning experience.

Until you have finalized your selection of a lab for your thesis, you are only allowed to rotate in labs that have space and funds to support you should that end up being the lab for your thesis.

- **Graduate Coursework:** If you are not actively rotating in a lab in M1 Spring semester or M2 Fall semester, you must use this time to complete graduate coursework in areas that align with your interests. It is advised to take a required graduate course in your prospective graduate program in the spring semester of M1. These programs generally offer the foundation course that starts their graduate program sequence in the spring semester.
- **Mentorship:** You may rotate only with approved MSTP mentors, which can be found on the website: https://case.edu/medicine/mstp/about/mstp-mentors. If you desire to rotate with a mentor who has not been approved by the MSTP, meet early with your advisor to discuss this matter and, if warranted, to initiate the new mentor approval process, which requires 4-8 weeks.
- **Lab Selection:** To ensure equitable distribution of students across MSTP-laboratories, Initial Mentors are limited to one MSTP student in the lab at a time and Senior Mentors are allowed two MSTP students at a time. The MSTP Steering Committee may approve three students to work with a particular Senor Mentor, based on what year their current students are in, their training track record, and their funding status.

PHASE 2: Doctoral Research & Clinical Integration

In this phase (G1 to typically G4 or G5, but flexible based on project scope), you will immerse yourself in PhD training while maintaining clinical connections.

- **Coursework:** Complete the remainder of your graduate coursework, along with MSTP Clinical Tutorial (G2 and above) to maintain your connection to patient care through longitudinal clinical experiences that are integrated with your research schedule.
- **PhD Requirements:** Complete all requirements of your PhD program.
- **Publication Requirement:** Transition to Phase 3 requires acceptance of at least one first-author publication in a peer-reviewed medical / scientific journal. The MSTP accepts co-first authorship, listed anywhere in the author sequence, as satisfying this requirement. A second significant body of work must also be completed before being conferred the PhD. If a manuscript is in revision and nearing acceptance at this time, and if your thesis committee and the graduate program support your return to M3 in advance of the publication being accepted, then you may petition the MSTP Steering committee to allow an early return to M3 (Please note that not all PhD programs will support an M3 return without a formal publication acceptance and not all petitions are automatically approve by the Steering Committee). Your PI must provide a statement of commitment to ensure final publication as expeditiously as possible with retention of your first-author status in the final accepted publication. Your PhD will not be awarded until you have fulfilled all graduate program requirements, and it is strongly encouraged that your first author manuscript be published by the end of your M3 in order to strengthen your applications to residency programs.)

PHASE 3: Advanced Clinical Training & Continued Scholarship

In this phase, you return to medical school for the final 2 years (M3 and M4).

- **Clinical Rotations:** Here you will hone your patient care skills across diverse specialties.
- **Research Electives:** Part of M4 can be used for research, typically to explore new areas and collaborations, or to finish additional publications.

Course Planning & Academic Support

We are committed to helping you craft a balanced and purposeful academic journey. Our structured yet flexible approach ensures you will build a strong foundation in both medicine and research, while nurturing your unique interests. By integrating PhD credits into your MD training early, we empower you to transition seamlessly into your doctoral work, with dedicated guidance along the way.

Course Registration

- **Advisor Partnership:** Before registering each semester, all Phase 1 students will meet with their MSTP advisor to review and finalize course selection and research rotations. The goal is to collaboratively design a plan that aligns with your interests and goals.
- **Approval Process for Phase 2 (G-phase) students:** Finalize your academic schedule each semester with approval from the Graduate Program Director (GPD).

Balancing Core and Exploratory Learning

- **Focus on Dual Expertise:** During M1 fall and spring semesters and M2 fall semester, you will take core graduate courses integrated into the MD curriculum (IBIS 401, 402, 403, 411, 412 and 413). These provide graded credits towards your PhD, and not factored into your medical school transcript.
- **Elective Opportunities:** In all phases, to take non-core graduate courses, you must gain approval from the Steering Committee and your graduate advisor, if in Phase 2, which will base their decision in part on how these courses complement your core requirements. The MSTP will not provide tuition support for classes that will not be used as graduate credits toward graduation.

Credit Requirements

- **Semester Goals:** During Phase 1, you will enroll in at least 9 credits per semester. These include:
  - The integrated IBIS courses
  - One graduate course (3-4 credits) or the MSTP 400 Research Rotation (3 credits).
  - Additional credits from approved electives.

A summary of a typical course sequence is provided in the following table.

Table 1. Graduate School Course Components of the Case MSTP: A Typical Course Schedule

Semester	Course	Graduate School Credit Hours	Graded (G) or Pass/Fail (P/F)
Year 1 Summer	MSTP 401 Intro to MSTP	0	P/F
Year 1 Fall (M1)	IBIS 401	4	G
Year 1 Fall	IBIS 411	2	G
Year 1 Fall- CHOOSE ONE	Grad course	3-4	G
	MSTP 400 (Lab rotation)	3	P/F

Year 1 Fall	**Total**	**9**	
Year 1 Spring	IBIS 402	4	G
Year 1 Spring	IBIS 412	2	G
Year 1 Spring- CHOOSE ONE	Grad course *OR*	3-4	G
	MSTP 400	3	P/F
Year 1 Spring	**Total**	**9-10**	
Summer	MSTP 400	0	P/F
Summer	**Total**	**0**	
Year 2 Fall (M2)	IBIS 403	4	G
Year 2 Fall	IBIS 413	2	G
Year 2 Fall- CHOOSE ONE	Grad course *OR*	3-4	G
	MSTP 400	3 (Start in PhD lab if possible)	P/F
Year 2 Fall	**Total**	**9-10**	

Year 2 Spring Semester Timeline

Your Spring Semester is designed to transition from classroom learning to focused research.

Mid-January: Begin your graduate coursework, aligning with your PhD program goals.

Early March: Complete all M2 medical school coursework.

March-April: Dedicate up to 6 weeks, to prepare and take the USMLE Step 1 Exam. If you are enrolled in a full semester graduate course, 8 weeks of Step 1 study time is allowed.

You must take the USMLE Step 1 Exam before being allowed to proceed to full-time laboratory research around May 1. If you need to repeat the USMLE Step 1 Exam, you should coordinate the timing with your graduate advisor, MSTP Advisor, Society Dean and MSTP Steering Committee.

Year 2 Spring	Grad course	3-4 (as indicated by graduate program)	G
Year 2 Spring	**** 601	5-6 (as indicated by graduate program)	P/F
Year 2 Spring	**Total**	**9**	
Summer	**Total**	**0**	
Year 3 Fall (G1)	Grad course(s)	(as indicated by graduate program)	G
Year 3 Fall	**** 601	(as indicated by graduate program)	P/F
Year 3 Fall	IBMS 450 Biostatistics	1	G
Year 3 Fall	**Total**	**9**	
Year 3 Spring	Grad course(s)	(as indicated by graduate program)	G

Year 3 Spring	**** 601	(as indicated by graduate program)	P/F
Year 3 Spring	IBMS 500 On Being a Professional Scientist	1	P/F
Year 3 Spring	**Total**	**9**	
Complete qualifying examinations and thesis proposal by summer following year 3/G1 (BME requirements different, see graduate program guidelines)			
Summer	**Total**	**0**	
Year 4 Fall (G2)	Grad course(s)	(as indicated by graduate program)	G
Year 4 Fall	**** 701	(as indicated by graduate program)	P/F
Year 4 Fall (take at least 1 year in a patient- based specialty)	MSTP Clinical Tutorial	0 (2 weeks credit for 4th year MD clinical elective if entire year is completed)	Not graded for Clinical Tutorial
Year 4 Fall	Total	9	
Year 4 Spring	Grad course(s)	(as indicated by graduate program)	G
Year 4 Spring	**** 701	(as indicated by graduate program)	P/F
Year 4 Spring (take at least 1 year in a patient-based specialty)	MSTP Clinical Tutorial	0 (2 weeks credit for 4th year MD clinical elective if entire year is completed)	Not graded for Clinical Tutorial;
Year 4 Spring	**Total**	**9**	
Year 5 Fall (G3)	Grad course(s)	(as indicated by graduate program)	G
Year 5 Fall	**** 701	(as indicated by graduate program)	P/F
Year 5 Fall (at least 1 year in a patient- based specialty)	MSTP Clinical Tutorial	0 (2 weeks credit for 4th year MD clinical elective if entire year is completed)	Not graded
Year 5 Fall	Meet with Society Dean, PI, and MSTP Advisor	Starting in PhD year 3, if students are within a year of re-entry to medical school, students should meet with their Society Dean, PI, and an MSTP Advisor to plan the PhD to M3/M4 transition	

Year 5 Fall	**Total**	**9**	
Year 5 Spring	Grad course(s)	(as indicated by graduate program)	G
Year 5 Spring	**** 701	(as indicated by graduate program)	P/F
Year 5 Spring (take at least 1 year in a patient-based specialty)	MSTP Clinical Tutorial	0 (2 weeks credit for 4th year MD clinical elective if entire year is completed). Note: only 2 CTs can be taken for M4 credit	Not graded
Year 5 Spring	IBMS 501 RCR + 4	0 credits. The Spring semester before beginning M3, MSTP students are required to take additional training in Responsible Conduct of Research designed to meet NIH requirements	P/F
Year 5 Spring	**Total**	**9**	
Additional PhD phase year if necessary- schedule as for Year 5			
All PhD requirements, including publication requirement and thesis dissertation defense, must be completed before starting M3.			
Year 6 (M3) Begin early July or early October	3rd year medical curriculum (registered as MD student, no graduate school credit)		MD program clerkship evaluations
Year 7 (M4) End in early May	4th year medical curriculum (registered as MD student, no graduate school credit)		MD program clerkship evaluations

Important Notes:

1) Schedule Flexibility:

Program timelines may vary based on graduate program requirements and individual circumstances.

2) Student Registration Status:

MSTP students are registered as graduate students throughout Phase 1 (along with medical student status) and Phase 2. During Phase 3 M3-M4 years, they are registered with medical student status.

3) Research Rotations (MSTP 400):

MSTP 400 is the course number for Research Rotations. These must be completed in at least two different laboratories by the end of the fall semester of M2.

4) Graduate Coursework Integration:

Each semester through Fall of M2, you must enroll in either a research rotation or a graduate-level course, alongside your medical school curriculum.

In addition to coursework for the MD program, students must take a rotation or graduate course each semester through Fall semester of year 2.

IBIS 401-403: core biomedical sciences courses for M1 and M2.

IBIS 411-413: foundational clinical training during M1 and M2.

5) PhD Phase and Transition to M3:

To advance to PhD Candidacy, you must have completed all coursework, qualifying examinations, and thesis proposal requirements of your graduate program.

Upon advancing to candidacy, you will start registering for 701 credits. 18 credits of 701 are required for graduation, so when possible, students should spread out these credits throughout their remaining semesters to avoid taking and paying for a total of more than 18 total credits of 701. Your graduate program can help you with deciding how many credits you need to register for.

6) Thesis Defense Planning:

Schedule your thesis defense at least three weeks in advance to meet the School of Graduate Studies requirements. Refer to their website for additional graduation requirements. More information can be found in the section “Completion of the PhD phase”.

7) Pre-M3 Requirements:

In the Fall prior to M3, you must meet with your Society Dean, graduate mentor, and MSTP advisor to discuss readiness for return to M3. The MSTP office will help with the scheduling of that meeting. Refer to the Return to M3 Checklist on the website, for any updated policy.

PhD Completion – All requirements, including dissertation defense and publication, must be finalized before starting M3. All paperwork must be submitted to Graduate Studies unless an exception has been made to allow for starting M3 before a manuscript has been accepted for publication. The School of Medicine Registrar will confirm with the MSTP the completion of requirements prior to clinical rotation enrollment.

You must complete at least one year of Clinical Tutorial, which will be credited as 2 weeks of Clinical Elective credit for medical school. You can receive up to 4 weeks of Clinical Elective credit for two years of Clinical Tutorial. Additional clinical tutorial years are encouraged, but do not accrue further course credits.

8) M3 Core Curriculum Options:

You will begin M3 clinical training at the start of the core clinical curriculum in early May. A later start date (8 weeks after the May start date, approximately late June) may be available for those unable to start in May, although those dates are limited. If a later date is needed, a request must be made to the Curriculum office in MedEd for special consideration.

Due to scheduling and funding issues, MSTP students are not permitted to start M3 prior to the official start of the M3 clinical curriculum. Rare exceptions may be permitted but must be approved by MSTP and MedEd.

9) Clinical Training Duration:

With X being designated as the year you enter M3, you will graduate in May of Year X+2.

10) Responsible Conduct of Research (RCR):

All NIH-funded trainees, MSTP students, and BSTP students must complete IBMS500: On being a professional scientist, also known as RCR. This is usually completed during G1. Trainees who are greater than four years beyond successful completion of RCR are required by NIH to complete additional hours of advanced RCR training, known as RCR+4. MSTP students must complete RCR+4 in the Spring prior to M3. Maintaining compliance is required for continued financial support from the NIH.

Failure to meet this requirement will result in removal from the MSTP, and personal responsibility for all subsequent funding of your education.

MSTP Administration

The MSTP thrives through a dedicated partnership of students, faculty, and staff. Our collaborative structure ensures seamless guidance, advocacy, and support at every stage of your training. Below is an overview of the teams and roles dedicated to your success.

1) **MSTP Council:** A student-led body that actively shapes program initiatives, organizes events, and advises the Director on student concerns and priorities.
2) **Administrative Team:** Composed of the **Director of Administrative Operations** (currently Diane Dowd, PhD)*,* the **Program Specialist** (currently Crista Moeller), and the **Program Manager** (currently Katie Rockocy)**,** this team provides day-to-day operational support. You are encouraged to contact this team first for logistical questions, scheduling, and resource navigation.
3) **Associate Directors:** These are your primary mentors during M1 and M2, offering tailored guidance on coursework, research rotations, and thoughtful transition into your PhD phase. They also serve as resources and advisors during Phase 2 and 3. You will be assigned to one of the following faculty for this role: Heather Broihier, PhD; Agata Exner, PhD; Chris Flask, PhD; Andrew A. Pieper, MD, PhD; Arne Rietsch, PhD;
4) **Associate Clinical Director:**: This Director who manages the Clinical Tutorial and preparation for return to M3 (currently Kimberly McBennett, MD, PhD).
5) **Program Director:** Alex Y. Huang, MD, PhD, oversees the program's strategic vision and collaborates with the Associate Directors to support students at all stages. He maintains an open-door policy to ensure that you always have timely access to MSTP leadership.
6) **MSTP Steering Committee:** This group governs program policies, student admissions, mentor approval, and student progress evaluations. Its membership is solely determined by the Director and includes representatives of major training programs affiliated with the MSTP.
7) **Advisory Board:** This group works with the Dean of the School of Medicine to provide external expertise and strategic oversight to the Program Director to ensure that the MSTP remains innovative and student-centered. The Advisory Board is composed of faculty at CWRU and at other institutions. Its membership is solely determined by the Dean of the School of Medicine.

Advising System

The Case MSTP is committed to fostering your success through a supportive network of advisors. You will be supported by your MSTP advisor, your Society Dean, and your research mentor ensuring comprehensive support at every stage of your journey.

Logistical Support for Arrival Planning

Approximately 1-2 months before your move to Cleveland, our administrative team will reach out to you to begin your onboarding process. We are here to assist with relocation planning, answer questions, and ensure a seamless transition into the program.

Logistical Support for the First Two Years (Phase 1)

You will meet with your Associate Director Advisor and the MSTP Program Director at the annual MSTP retreat in the summer. They will introduce you to the program and provide an overview of the tailored guidance you will receive on research rotations, coursework, and academic planning in alignment with your interests and goals.

For detailed, field-specific questions, they may direct you to other MSTP Steering Committee members or faculty with the relevant expertise. You are encouraged to proactively engage, at any time, with MSTP Steering Committee members having experience in your areas of interest.

Your designated Society Dean will serve as your advisor for medical school-related questions.

The MSTP Director is available at any time to advise all students on all matters.

In M1 year, you will be paired with an upper-class peer through the near-peer mentoring system that is run by a committee in the Student Council.

Logistical Support for the PhD Phase (Phase 2)

Your thesis advisor (the principal investigator leading your lab) will serve as your primary advisor during this phase. The Graduate Program Director can also answer specific questions regarding your PhD program requirements.

Your thesis committee must meet the graduate program requirements and additionally include one MSTP Steering Committee member and one MD. This ensures timely progression through the MSTP by making sure the committee is attentive to the unique requirements and expectations of MSTP students.

The Associate Clinical Director and your Society Dean will advise you on Clinical Tutorial planning and M3 preparation.

Your MSTP Associate Director Advisor will follow your progress and is available to help. You will meet with them at least one time each year.

In the fall of the final year of graduate training, students must meet with their Society Dean, their MSTP advisor, and their graduate mentor to plan progress toward the start of M3.

Logistical Support for the Last Two Years

The primary advisor is the MD program Society Dean, who will advise on matters concerning the clinical curriculum and residency planning. The Director and Associate Directors are additional sources of advice on these topics for MSTP students and will provide a paragraph from the MSTP to be used for your MSPE.

General Resources

The MSTP staff can provide contact information for all advisors. This information is also available on

the MSTP website. The Medical School Registrar can provide valuable logistical advice and help to MSTP students, particularly as they plan their M3 and M4 curriculum.

Academic Requirements

The Case MSTP strives to cultivate your interests and support your immediate and long-term success. If you are having difficulties with any aspects of the program, you are encouraged to consult any of the directors as soon as possible for guidance and support.

You must fulfill the academic requirements of the medical and graduate schools, as well as certain requirements specific to the MSTP. All MSTP students are expected to achieve superior performance in medical school and graduate school. If progress is unsatisfactory, you must meet with your assigned Associate Director advisor to discuss the situation and make plans for improvement. The Associate Directors can help with referral to counseling, advice on academic strategies, and considerations for special circumstances. Persisting substandard academic performance will necessitate review and regular monitoring by the MSTP Steering Committee, with the student in attendance at the committee meeting. If the situation cannot be remediated, students may be removed from the MSTP by a majority vote of the Steering Committee. In this event, the student may remain in medical school and/or graduate school upon petition and if requirements for these schools are met, but they are no longer financially supported by the MSTP.

Calendar/Vacations/Leave

Overview

Since students in the first two years are full members of the medical school class and take graduate classes, they follow both the medical school and the graduate school calendars, which are not synchronized. This is a somewhat disorienting and often changing landscape, and the MSTP seeks to clarify direction in this arena. School of Medicine M1 classes start in early July and M2 classess start in August, at which time students are registered for the summer semester in the graduate school. Fall semester for the graduate school starts in late August. For the spring semester, the MD curriculum commences in early January, and the graduate school semester begins in mid-January.

Policies for vacation, sick leave and parental leave for graduate students are governed by CWRU School of Graduate Studies and School of Medicine policies, regardless of the location of their training (e.g. UH, CCF, VA, MetroHealth, CWRU). Trainees who receive full-support stipends from PhD programs are required to pursue their graduate 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. To retain productivity and academic progress, it is strongly recommended that trainees enrolled in classes do not take vacation while class is in session.

Since the graduate and MD program calendars provide different options for vacation and holiday, MSTP students may select time for vacation based on these options, in consideration of their individual academic commitments and requirement. Vacation time cannot exceed 2 weeks per year (10 traditional work days, as described below), outside of the 10 university and floating personal vacation days (see text below). Requests for additional vacation or leave must be approved by the MSTP Director and the Steering Committee, as well as the PhD mentor during the PhD research years or the Office of Medical Education during the MD years. In some cases, the approving bodies may determine that this necessitates a leave of absence with suspended stipend and health care benefits.
For the full text of policies, see the School of Graduate Studies Policies and Procedures, and the School of Medicine Student Handbook.

Vacation, Sick Leave and Parental Leave (per the School of Graduate Studies)

Holidays: Graduate students are entitled to observe all University closings.

Weekends: Graduate students are not required to work on weekends but are encouraged to do so as developing this work ethic represents the typical lifestyle of a successful academic scientist. The mentor is responsible for monitoring the student work days.

Work Hours: Students are expected to work traditional workday hours (8 am to 5 pm) with one hour for lunch. Students are encouraged to work much longer hours, however, as developing this work ethic represents the typical lifestyle of a successful academic scientist. Work hours can be adjusted in accordance with the lab's schedule and the mentor's permission, and the MSTP will not monitor work hours.

Vacations: Graduate students are allowed 10 traditional work days (Monday, Tuesday, Wednesday, Thursday, and Friday) per calendar year. The dates of vacations must be approved in advance by the student's research mentor. Vacation days can be accrued from one year to the next only with the prior written approval of the Program and only up to a maximum of 20 traditional work days. Times between academic terms and the summer are considered part of the active training period and are not vacation.

Terminal Leave: There is no terminal leave.

Sick Leave: Graduate students are allowed 10 traditional work days (Monday, Tuesday, Wednesday, Thursday, and Friday) of sick leave per calendar year. There is no year-to-year accrual of sick leave. Sick leave may be used for any medical condition or for childbirth. Under exceptional circumstances, additional sick leave days may be granted following receipt of a written request from a physician and written approval from the MSTP Director. Students in Phase 1 of the Program (M1 and M2) must follow the sick leave guidelines of the Office of Medical Education.

Personal health issues are confidential and the details do not need to be disclosed to the MSTP administration. In cases where the student feels comfortable to do so, it can be a smoother process when students who anticipate a health leave or maternity or paternity leave discuss plans with the MSTP Director in advance to facilitate planning. This is designed to be maximally supportive of the students physical and mental health while also minimizing the impact of leave on progression through their curriculum.

Parental Leave: The policy on Parental Leave is set by the CWRU School of Graduate Studies. Students are allowed 8 weeks (40 traditional work days (Monday, Tuesday, Wednesday, Thursday, and Friday)) of paid parental leave at 100% of the stipend and is for the birth, adoption, or foster placement to care for a child. This time can also be used for childcare, recovery from childbirth, and medical conditions related to pregnancy and childbirth.

When two graduate students become parents to the same child, they are collectively entitled to a total of eleven (11) weeks of leave to be allocated between them, with neither graduate student permitted to take more than eight (8) weeks of paid parental leave. The graduate students may take leave consecutively, concurrently, or as a combination of overlapping and non-overlapping leave.

During the paid leave period, graduate students may postpone teaching assistant or research assistant responsibilities, course assignments, examinations, and other academic requirements while remaining active full-time students, with access to university facilities (including student health insurance, library privileges, etc.) and to university faculty and staff.

All paid parental leave must be completed within twelve months (12) of the date of birth, adoption, or foster placement of a child. Parental Leave does not count toward the University's time limit for degree completion.

To request a pregnancy accommodation or to discuss Paid Parental Leave, contact the **Office for**

Equity. An Equity Specialist will review the accommodation process and address any questions or concerns. After meeting with the student, the Office for Equity will contact the MSTP Director and the Director of Graduate Studies to identify appropriate accommodations and arrangements.

The Kirschstein NRSA grants policy allows stipend for up to 60 calendar days of parental leave (~8 weeks), "when individuals in comparable training positions at the sponsoring institutions have access to this level of paid leave for this purpose." Accordingly, training grants and fellowships will cover the same period of parental leave allowed by CWRU.

Unpaid leave: Students who require additional leave beyond what is allowed above can petition to do so without pay. This requires written approval of the MSTP Director, the PI and GPD of their graduate program if applicable, and the School of Graduate Studies or Office of Medical Education if in M3/4. If approved, they will be eligible for an unpaid leave of absence. Continued coverage of health insurance may be allowable as permitted within the guidelines of University Health Services and with written approval by the MSTP and School of Graduate Studies.

Unused Leave: There is no compensation for unused holidays, vacation days, sick leave, parental leave, or other accrued time off.

Entering the Program

Incoming MSTP students are expected to enter the program on or about July 1, with the exact date varying by a few days every year in accordance with MSTP planning. Incoming students are encouraged to move to Cleveland 1-2 weeks before their start date to be ready to begin on time.

All students (except M3 and M4) must attend the MSTP annual retreat every year, which immediately precedes the start of medical school classes in early July. Failure to attend the retreat in M1, M2, or any of the Graduate years will result in disciplinary action determined on a case-by-case basis by the MSTP Steering Committee.

MSTP office staff are available to facilitate transition to the program, including help with navigating administrative requirements, summer and fall registration, training grant appointments, and payroll enrollment. Information about other practical necessities, such as housing, parking, laptop computer ordering, and health insurance coverage is available on the School of Medicine Accepted Central page (link provided to admitted students). Students are encouraged to contact MSTP office staff for help with any of these items.

All students must take safety training classes provided by the Environmental Health and Safety Department, including but not limited to Laboratory Standard Training, Biosafety, and others that may apply (e.g., Radiation Safety). These courses are in addition to the training received during medical school orientation. In some cases, immunizations will be required for students who will be working with pathogens or human tissues or blood and/or when required by the medical school. Students using radioactive isotopes will need to obtain a radiation safety badge. Students cannot participate in lab work until all relevant training is obtained, and they must check with their rotation mentors to determine what safety training is required for that lab. Annual updates to training can be obtained online through the EHS website.

Research Rotations

The principal goals for the research rotations are to provide a foundation for selection of a PhD thesis mentor and to provide exposure to a variety of research problems and laboratory techniques. While rotating, students should participate in all lab activities (research, lab meetings, journal clubs, seminars, etc.) to get an idea of what it will be like to be a member of the lab. During a research rotation, a student should work on a substantive project and should aspire to generate publishable

data. The student and rotation mentor should discuss the student's time commitment before beginning the rotation and design a rotation project of appropriate scope.

All students must complete research rotations with two to three different MSTP-approved mentors by the fall semester of the second year and submit rotation reports and rotation evaluations for each to the MSTP office. The time requirements for rotations are described above in the section on PHASE 1 of the overview of the MSTP. Students may do longer rotations if they and the mentor agree.

Choosing a rotation mentor: The mentors list on the MSTP website provides links to faculty web pages. Students are encouraged to use this list as a starting point for rotation selection. Until a student has committed to a lab for their PhD, they are only allowed to conduct research rotations with MSTP-approved mentors who confirm availability and funding in their laboratory for a thesis student at the time when that student will begin their G1 year.

Instructions for pursuing a rotation in a lab of a non-approved MSTP mentor are detailed above. If the MSTP Steering Committee does not approve a given mentor, then the student is not allowed to work in their laboratory.

Sources of information for choosing a rotation mentor include MSTP Leadership, MSTP Steering Committee members, other graduate students, the MSTP website, faculty websites, student and faculty presentations at MSTP retreats, Medical and Graduate Student Research Day, and graduate program orientation sessions in the fall of M1.

If a student identifies their PhD thesis mentor after one rotation, they must complete at least one more rotation to obtain additional research and technical expertise. If a student identifies their PhD thesis mentor after two rotations, they may conduct a 3rd research rotation if they wish. In all cases, students must satisfy the rotation requirements of the graduate program that they join.

The MSTP Advisor must approve student rotations, but arrangements for research rotations are made between the student and the faculty mentor. Students are encouraged to discuss potential rotation placements with their MSTP advisor and to seek additional advice from the Director or appropriate MSTP Steering Committee members. A Research Rotation Mentorship Agreement (found on the MSTP Website under Student Resources) must be signed and submitted to mstp@case.edu before starting a rotation.

Rotation reports and evaluations: At the end of each rotation, students are required to write a rotation report and meet with the mentor to complete the rotation evaluation form. The report and evaluation must be submitted to the MSTP office (mstp@case.edu) within two weeks of the end of the rotation. The rotation report should be at least 2-3 double-spaced pages and should include the following:

- Abstract: Summarize the project in 100-200 words.
- Rationale: Outline the problem under investigation and describe the content and utility of any new information generated by the research.
- Methods and Results: Indicate the experimental approach, outline the procedures, present data and figures, and describe data analysis with respect to standard for rigor in research.
- Discussion: Relate the results to the problem under study, placed into the context of existing literature, and project future directions.
- Literature citations.

If the laboratory has a lab meeting in which the laboratory personnel present their work, it is expected that the rotating MSTP student will present their work in this forum at the end of their rotation.

MSTP 400 is the research rotation course. MSTP students must register for zero credits of MSTP 400 for the summer term at the end of year 1, and for 3-4 credits of MSTP 400 in the fall and spring semesters in which they do a research rotation. It is graded as Pass/Fail. Failure to meet any of the above requirements, including the end of rotation report, will result in Fail.

Choosing a Thesis Research Mentor

The choice of a research mentor is critically important and you should consider a variety of factors. These include, for example, the quality of the projects underway in the laboratory, the level of the mentor's involvement, the character of the mentor's relationship with the student, the influence of postdoctoral fellows and other students in the lab, and the history of supportive mentoring of students in the lab. These factors, combined with the innate characteristics and qualities of the student, will determine the success of the student's graduate education. There is no formula for ranking these various factors, and students are encouraged to discuss their decision process with their Advisor, the Program Director, and any faculty or senior students with whom the student feels comfortable. While it is possible to change research mentors in the graduate years, this is considered a last resort due to the disruption of a student's timing of completion of their education.

MSTP Mentors

MSTP-approved mentors are on the Mentors List on the MSTP website. This website lists the MSTP students in the mentor's lab, as well as the names of MSTP students who have rotated in the lab. There are two categories of MSTP mentors, senior mentors and initial mentors. Senior members can have no more than 2 MSTP students at any time, except in cases where a student is close to graduating and for whom the Steering Committee has approved a 3rd student. Initial mentors are only allowed one MSTP student at a time, with no exception. The website does not distinguish between initial and senior mentors. Students wishing to rotate in a lab that already has an MSTP student need to inquire directly with the PI of the lab as to whether they have initial or senior MSTP mentor status.

Senior mentors must be approved trainers in one of the MSTP-affiliated PhD training programs (see MSTP website), and have a dynamic, high quality research program as evidenced by multiple factors, including grant funding and a significant record of high-quality senior author publications. They should be a principal investigator on one or more NIH research grants (R01 or equivalent) or other similar externally-funded peer-reviewed grants of comparable magnitude. Senior mentors must also have a solid record of successfully training prior PhD students, and of leadership roles within the academic community.

Initial mentors are faculty with strong research track records who have not previously trained a PhD student. Initial mentors must identify a senior mentor who will serve as a co-mentor for the MSTP student, taking significant responsibility for the student's training. At the time of placement of a student, it will be possible to designate a new MSTP-approved co-mentor if existing co-mentors are not optimal matches for the student and project. When initial mentors achieve the requirements for senior mentor status, their status will be changed to senior mentor.

Senior mentors may have up to 2 MSTP students doing work in their lab. Initial mentors may have one MSTP student doing PhD work in their lab. Mentors may appeal to the MSTP Steering Committee for permission to exceed these numbers if the existing students are nearing PhD completion. To prevent wasted rotation time, students should be aware of these rules and check to make sure that a slot is available in rotation labs.

Placement with a Mentor

Students should do a rotation with a prospective thesis mentor before making a commitment for PhD thesis placement. At the exit interview near the end of each rotation, the student and faculty member should have a frank discussion about the prospects for joining the lab. How interested is the student in the work in the lab? How willing is the advisor to have the student? These discussions may be tentative in character because the MSTP requires the student to continue with other rotations and the

faculty member may want to remain available to supervise other rotating students. The student and mentor should openly maintain communication as either of their views evolve over time. Final placement with a PhD mentor is subject to review by the MSTP Advisor and the MSTP Steering Committee. This approval should be sought as early as possible. The MSTP will request updated funding, CV, and training information from the PI, as well as completion of the mentor approval form.

Individual Development Plans (IDP)

Students must prepare and submit an Individual Development Plan (IDP) each year. This is an NIH requirement for students supported on training grants. Students must work on their first IDP during the spring semester of M1. The IDP must be updated by the student and approved by the advisor or mentor each year while in the program.

The First Two Years (M1/M2)

MSTP students are registered as graduate students and as medical students in the first two years. Each semester, students must register for their graduate courses by the School of Graduate Studies registration deadline. While the Administrative Director may send registration reminders and instructions, responsibility for registration, including any late registration fees, are the sole responsibility of the student.

MSTP advisors will assist students in choosing appropriate graduate school courses. In addition, some afternoon activities for the MD curriculum are required of MSTP students. This necessitates careful planning so as not to preclude graduate coursework or lab activities. A partial list of these afternoon activities is provided here.

- ***Clinical Immersion.*** This is one week during Block 4, usually scheduled in half day segments (some may take only a couple of hours), and not all half days in the week may be utilized. An administrator in the Office of Curricular Affairs facilitates customized scheduling for dual degree students, including MSTPs.
- ***Foundations of Clinical Medicine***. This is approximately one afternoon per week during Block 8. The Block 8 organizers will work with MSTP students before the block to schedule them in cohorts that do not conflict with graduate courses. and can be self-scheduled in coordination with the Block 8 Director in the Office of Curricular Affairs.
- ***Afternoon reviews for the MD curriculum***. As these are generally recorded, if there is a schedule conflict with a graduate course, students should attend the graduate course and view the recorded video later.
- ***SOM Graduate and Medical Student Research Day.*** *MSTP students in all phases are encouraged to present their work at and/or attend this day.*

Year 1, Summer Semester
In the first summer, students begin the MD curriculum in early July. They must also register for MSTP 401, Introduction to MSTP (0 credits), which will present a series of topics designed to help launch a successful MSTP research training trajectory leading to successful selection of a mentor and graduate program.

Year 1, Fall and Spring Semesters
In the fall and spring semesters of M1, MSTP students register for 9 graduate credit hours/semester. See Table 1. The School of Medicine Registrar will register MSTP students for

the appropriate medical school courses. Students are responsible for registering themselves in SIS for the graduate courses.

Graduate Credits for Fall Semester, M1

***IBIS 401*:** 4 credits (MD core curriculum blocks 1 and 2). Because the medical and graduate school calendars do not synchronize, the content for IBIS 401, for which students register in the fall semester, includes parts of the MD curriculum in both the summer and fall.

***IBIS 411*:** 2 credits (MD clinical curriculum (FCM/block 8) blocks 1 and 2)

***MSTP 400 Research Rotation*:** (3 credits)

Students in Biomedical Engineering, Population and Quantitative Health Sciences (Epidemiology) or Clinical Translational Science may have a different order of rotations / courses and should consult their MSTP advisor, Graduate Program Director, or a Steering Committee member in their program of interest.

Graduate Credits for Spring Semester, M1:

IBIS 402: 4 credits (MD core curriculum blocks 3 and 4)

IBIS 412: 2 credits (MD clinical curriculum (FCM/Block 8) in blocks 3 and 4)

A grad course (3 or 4 credits). Note: If a 4-credit grad course is taken, the student will be registered for 10 total hours for the semester.

Year 2, Summer Semester

Students register for MSTP 400 (0 credits) for Research Rotations. Students may spend the entire summer in one lab or may do two shorter rotations.

Students should identify their PhD mentor by the end of this summer semester.

Year 2, Fall Semester

MSTP students register for 9 graduate credit hours in addition to the registration through the medical school.

Graduate Credits for Fall Semester, M2

IBIS 403: 4 credits (MD core curriculum blocks 5 and 6)

IBIS 413: 2 credits (MD clinical curriculum (FCM/block 8) in blocks 5 and 6)

MSTP 400 Research Rotation in the lab of their PhD advisor (3 credits). Students should aim to define and launch their PhD project, setting the foundation for rapid progress the following spring semester. Alternatively, students may take a graduate course that is strategically important for advancement in their PhD curriculum.

In the event that a lab placement is not achieved in the Fall Semester of Y2, this time should be devoted to MSTP 400 for an additional research rotation to determine PhD lab placement.

Year 2, Spring Semester: Completion of M2 and Transition to PhD phase

A grad course in the PhD program selected by the student (3-4 credits).

601 Research Course in the student's chosen PhD program to complete 9 graduate credits.

USMLE Boards Step I (with 6 weeks off for studying and taking the boards).

Students are advised to take a graduate course in their prospective graduate program this semester, especially if they have not already completed the core courses for their PhD program.

If a student has already taken this course in year 1, an advanced requirement or elective should be taken.

Timing of Events in Spring of Year 2 (including USMLE Step 1)

- Start graduate course in January
- Finish MD classes by early March
- USMLE Board Step I: maximum of 6 weeks off to study and take the exam.
- Within the MSTP, passing USMLE Step 1 is required for transition from M2 to the PhD phase.
- Register by December 15 with the NBME for taking the USMLE Step 1. Use your current Med School class year when registering.
- Your USMLE Step 1 exam date and location need to be specified for no later than February 1. The Step 1 exam should be taken within 6 weeks of the end of Block 6. The latest allowable exam date is eight weeks after the end of Block 6 under certain circumstances (see Policy in the Appendix). Changing the exam date requires approval from the MSTP Leadership and PhD mentor.
- In addition to these time frames, the following policies are in place to ensure timely passing of the examination:
  - Failure to register for the exam on time will result in a reduced stipend to the level supported by NIH predoctoral training grants (about $700 less per month) for the months of February to April.
  - If the exam is not completed on time as described above, the same reduction in stipend will be imposed until the exam has been completed.
  - Should the examination date be pushed past May 31, the student will take an unpaid leave of absence from graduate school until the examination is passed.
  - Exceptions may be granted to allow timeline extensions without stipend penalty if approved by the MSTP Leadership or Steering Committee, in consideration of emergency, personal concerns, or illness.
- Start full-time in graduate laboratory research by the first Monday in May.

Students must discuss timing of transition with their PhD mentor. To clarify these issues, the student, mentor and department chair/financial authority must sign the MSTP Mentor Agreement form. A sample form is on the Resources, Links, and Forms page on the MSTP website.

Administrative acceptance of MSTP students into the PhD programs and their mentor's home departments will occur effective January. The tuition for this semester is shared by the PhD home department and the MSTP. The MSTP will cover the stipend of students until the end of April, at which point the mentor supports the student's stipend.

PPOS

The School of Graduate Studies requires that students in their second year complete a Planned Program of Study (PPOS) in SIS. Until students complete the PPOS, they will have a Grad Records hold on their SIS account and will not be able to register for spring semester. Only the student's mentor or Graduate Program Director can have the hold lifted.

An example of a completed PPOS is on the Student Resources page on the MSTP website. A few things to note:

- You must include courses you've already taken, including the IBIS courses, and the correct number of credit hours. You can see these in your Course History, which is in the Academic pull-down list in SIS.
- You must include courses you plan to take. This course list is not binding.

- Include 601 research credits, but not 701. When you log into SIS, the screen defaults to your medical school “career”. On this page, the tab for "My program" does NOT appear. You must go to "My planner" and change the "Institution/Career" from medicine to graduate. Then the "My program" tab appears so that you can complete the PPOS.
- Your MSTP advisor will approve the PPOS in the spring semester of year 2.

Grading of IBIS Courses

IBIS courses comprising the MD curriculum are graded to provide graded graduate school credits that can count toward the PhD.

For IBIS 401-403, grades will be based on performance in the following categories:

- Summative Synthesis Essay Questions (SSEQs) at the end of each block.
- NBME Formative Multiple-Choice Question Examinations at the end of each block.
- Case Inquiry Group (IQ Group) Assessment. Facilitators are required to complete assessments of small group participants during the midpoint and at the end of each block. Students will be assessed on behaviors such as teamwork, preparation, quality of questions and contributions, group dynamics/peer interaction, leadership, professionalism, attendance, etc. The Case Inquiry Group (IQ Group) facilitator assessment for each student’s performance during the block will be factored into the judgment of whether students meet expectations for performance in the block.

IBIS 411-413 courses will cover Foundations of Clinical Medicine. Components include Block 8/Foundations of Clinical Medicine components, including Tuesday Seminars, Patient Based Programs (Physical Diagnosis and Doctor Patient Communication), and the Clinical Immersion Week in Block 4. At regular intervals during the year, preceptors complete clinical evaluations charting students’ performance and competence in core clinical skills. From the MD curriculum evaluation, students will receive an evaluation of “meets” or “does not meet expectation” for each element, as well as for professionalism. MSTP Leadership will assign IBIS 411-413 grades based on the MD program assessment and in consultation with the clinical instructors. Students who meet expectations in all areas will receive an "A".

Expectations for Academic Progress

Students are expected to perform well in MD curriculum components and the related IBIS courses, as well as other graduate courses and research rotations. If a student fails to satisfactorily complete one of the blocks, remediation opportunities and advising will be provided by the Office of Medical Education. Repeated block failures, inability to sufficiently remediate, or other instances that are not consistent with MD curriculum performance standards may require review in the MSTP Steering Committee. In some cases, this could result in a leave of absence from the MSTP until expectations are met, or dismissal from the program. If a student withdraws or is dismissed from the MSTP, either through the student's decision or that of the MSTP, admission into the MD degree only program requires presentation to the Committee on Students. The student should be prepared to petition in person to the Committee for admission.

The PhD Phase

Curricular components of the PhD phase

Students transition into the PhD phase in the spring semester of year 2. Subsequent semesters are devoted fully to PhD studies and one or two years of the longitudinal MSTP Clinical Tutorial, which can be taken after completing at least one year in the PhD phase. Students register for courses to fulfill their PhD program requirements. As for all PhD students, MSTP students are required to maintain a “B” average in graduate courses.

IBMS 450: MSTP students are required to take a biostatistics course (IBMS 450 – Fundamental Biostatistics to Enhance Research Rigor & Reproducibility, 1 credit) in the fall semester of their G1 year. MSTP students in Epidemiology & Biostatistics or in Clinical Translational Science, students with a Masters degree in statistics, or students who have taken PQHS431/432 may be exempted from this requirement, however they need to attend the final session (which should be arranged with the instructor at the beginning of the semester). Occasionally, students who have taken only PQHS 431 can be exempted from taking IBMS 450, if they did well in the class. This is determined by the instructor and the Vice Dean of Graduate Education in the Graduate Education Office, who should report this to the MSTP office. If you approach these individuals for the exemption, you must provide the reason for requesting exemption and your final grade in PQHS 431.

IBMS 500. All MSTP students are *required* to take this ethics course (IBMS 500 - Being a Professional Scientist, 1 credit) in the spring semester of the G1 year. This course is designed to fulfill the NIH requirement for all PhD and MSTP training programs and is taught by faculty from the Center of Bioethics at CWRU. Students may defer taking this course to a later semester if there are irreconcilable conflicts, and such deferral requires permission from the Program Director and a firm commitment on the part of the student to take IBMS 500 during the next spring semester. This is an NIH requirement.

IBMS 501. RCR+4: Responsible Conduct of Research for Advanced Trainees. All MSTP students are required to take an ethics course the Spring semester before entering M3. This course is designed to fulfill the NIH requirement for all PhD and MSTP training programs and is taught by faculty from the Center of Bioethics at CWRU. It must be attended in person.

MSTP Clinical Tutorial. MSTP students are required to participate in clinical training integrated into the PhD phase. Students are strongly encouraged to do this through the MSTP Clinical Tutorial, but they can alternatively arrange for a clinical experience themselves and report it to the Associate Clinical Director for approval (See “Clinical Tutorial” below for detailed information).

PhD program requirements: Students should be aware that specific requirements for obtaining the PhD degree (e.g. required coursework, preliminary examination or thesis proposal format) vary between different graduate programs. It is the student’s responsibility to become familiar with these requirements. A maximum of 18 graded credits from the IBIS courses (MD curriculum) may be counted toward the PhD degree.

Graduate Programs

The following programs or program tracks are affiliated with the MSTP.

- Biochemistry
- Biomedical & Health Informatics
- Biomedical Engineering (BME)
- Cancer Biology Training Program (through the Pathology PhD program)
- Cell Biology
- Clinical Translational Science
- Epidemiology and Biostatistics
- Genetics and Genome Sciences
- Immunology Training Program (through the Pathology PhD program)
- Molecular Biology and Microbiology
- Molecular Virology
- Neurosciences
- Nutrition
- Pathology (Molecular and Cellular Basis of Disease)
- Pharmacology
- Physiology and Biophysics
- Systems Biology and Bioinformatics

PhD Thesis Work and Thesis Committee

In spring of year 2, the student will enter a PhD program with which the mentor is affiliated and follow the academic requirements of that program. Some advisors may hold appointments in more than one program. In this instance the student may choose which program to join, in consultation with the thesis advisor.

A thesis committee should be assembled as soon as possible, since it provides an important resource for advising. The thesis committee must contain at least one of the basic science representatives to the MSTP Steering Committee, and one member with an MD degree (a single committee member can serve both roles). If the student's PhD advisor is a member of the Steering Committee, a second Steering Committee member must be selected to fill this role on the thesis committee. The mentor can also serve as the MD member. The student should inform the MSTP office of the members and chair of the committee. The MSTP Steering Committee member and the chair of the thesis committee will serve as liaisons to the MSTP.

Students are expected to assemble their committee and complete the first thesis committee meeting no later than December of G1, even if their PhD program allows a later date for convening of the thesis committee. The main objective should be a review of thesis research plans, project design and student progress. A copy of the thesis committee report must be emailed to the MSTP office by January of G1 to be available for MSTP Steering Committee review.

Students should pass their qualifying examination and/or thesis proposal within 12 months of entering the PhD phase. A 6-month extension may be granted if progress is otherwise satisfactory.

The student should have a thesis committee meeting at least once every 6 months. This MSTP requirement overrides PhD program requirements if the PhD program requires meetings less frequently. The student must inform the MSTP when they schedule a committee meeting and a copy of each thesis committee report should be sent by email to the MSTP office. The MSTP office will track the timely and satisfactory completion of thesis committee meetings and will contact the student and Director if a thesis committee meeting is overdue.

The thesis project should be research-based and not a survey or descriptive analysis. The PhD mentor and thesis committee are encouraged to help the student develop a project that has a realistic time frame for completion within 4 years and no longer than 5 years. The project must have significant goals and meet the requirements for a PhD in the graduate program.

Expectations for Student Progress in the PhD Phase

By completion of the PhD phase, students generally have 2 or more first-authored primary research publications in peer-reviewed scientific journals. The minimum publication requirement for the MSTP is detailed above in **Phase 2**. Students are expected to strive for higher levels of achievement and are urged to organize their research to result in publications prior to the last PhD year.

It is important to focus on quality and impact of publications. Publication requirements and timetables should not compromise the tackling of ambitious and significant research goals. Evaluation of students will be individualized with consideration of unique aspects of the thesis project, and the Steering Committee will consider the time barriers of well-conceived ambitious projects in formulating expectations for progress so that students will not be penalized for pursuing important and complex scientific goals. All students should tackle scientific problems of substantial significance in their PhD research.

Timeline for the PhD Phase

Students will be reviewed regularly for progress with the following expectations:

- PhD year 1 (G1): Completion of qualifying examination and/or thesis proposal or substantial progress to achieve such completion within the next 6 months.
- PhD year 2 (G2): Qualifying examination and/or thesis proposal must be completed before or during the first half of this year. By the end of the year, coursework should be complete except for 701.
- PhD year 3 (G3): Substantial progress toward PhD dissertation and publication of papers must be evidenced. By the end of year 3, students should have at least one first- authored paper published, submitted, or very close to submission.

Students should aim for completion of the PhD in 4-5 years. Most students take 4 years, but some complete the work in 3 and others in 5. After students enter the G5 year they must have a thesis committee meeting every 3 months. Extension of the PhD phase beyond 5 years requires approval of the MSTP Steering Committee, which is based on a convincing argument from the student and their mentor that the PhD will be fully completed by the end of the 6th year. If the PhD is not completed by the end of the 6th year, the student will be removed from the MSTP, and the mentor's standing as an MSTP mentor will be re-evaluated by the Steering Committee.

If a student must change his/her PhD mentor in the PhD phase, this should be done as early in the program as possible, generally within the first year of the PhD phase. After completion of the first year of the PhD phase, any change in PhD mentor will require approval by the Steering Committee as a special exception. After completion of G2, it is difficult to switch PhD mentors. The Steering Committee will consider special circumstances for appropriate exceptions.All student-mentor separations must proceed through the Office of Graduate Education in the SOM.

Completion of the PhD Phase

PhD requirements including the dissertation defense must be completed before starting M3. The publication requirement is subject to determination, as detailed above.

1. By 5 weeks prior to M3 start:
    a. Complete all requirements for the PhD except the actual dissertation defense. These requirements include publication requirements, approval by the thesis committee that the dissertation defense can be scheduled, completion of the written dissertation document, and delivery to the thesis committee.
    b. Complete scheduling of the dissertation defense, filing the form "Notification for Scheduling of the Final Oral Exam for the PhD" with Grad Studies and public posting of the defense. The defense date must be at least 2 weeks prior to M3 start.
2. By two weeks prior to M3 start:
    a. Dissertation defense must be done.
3. By the last business day prior to M3 start:
    a. Complete all revisions of the thesis and obtain final approval of the committee/mentor with signatures on the forms. PhD completion materials and forms must be delivered to Graduate Studies before the start of M3.

Students should check the School of Graduate Studies calendar for relevant deadlines and requirements.

The PhD mentor is responsible for the student stipend until the start of the first clinical rotation in

M3. Students should remain active in the laboratory until the end of this period, even if that period extends beyond successful completion of the PhD. This can be a very productive period when students complete experiments indicated by the reviews of the manuscripts they submit prior to their defense, complete additional projects and papers, or help with collaborative projects that result in co-authored manuscripts.

Some MSTP students don't make the deadline for completion of their PhD thesis defense in time to receive the PhD at May commencement ceremonies. In these cases, the official conferral of the PhD will be the summer or fall commencement date. Students should keep in mind that the May date provides ceremonial events that are not recapitulated on other graduation dates.

Unlike straight PhD students, MSTP students do not have to register for graduate credit in the summer semester if their official PhD graduation is in August and they return to medical school in May or June. Likewise, MSTP students who will have their PhDs conferred in January do not have to register for graduate credit in the fall semester if they return to medical school by June. However, they must submit a waiver of registration form to Grad Studies per Graduate Studies requirements.

Health Care Coverage

MSTP will provide student health insurance for students in M1-M4. Students in the PhD phase are covered by their individual departments. Students can waive the insurance if they are covered under another plan. Students on the CWRU health insurance plan must register for the spring and fall semesters to be covered during the intervening summer months. MSTP will not cover the health insurance of family members. Students should contact Student Health with any questions. M4 student coverage extends to June 30 of the graduating year.

Training Grant Support in the PhD Phase

All MSTP students have up to five years of NIH pre-doc funding from NIH T32/TL1/etc. training grants or fellowships (NRSA/F30/etc.). A 6th year of training grant / fellowship support can be granted to MD-PhD students upon petition to the NIH. The MSTP T32 typically supports students for M1 and M2, as well as M3 and M4. Therefore, support on other training grants or fellowships during the PhD phase must be limited to no more than two years. Further, the MSTP office must be notified immediately by the student of the exact period of such training grant or fellowship support so that a 6th year extension can be applied for if necessary). Also, F30 training grant applications should be budgeted to cover M3 and M4 support in addition to the 2-year PhD training phase. Failure to follow these rules could compromise the MSTP's ability to cover costs for the student during their M3 and M4 years.

Citing the Training Grant

It is important for our training grant reporting that student publications acknowledge support from the CWRU MSTP. Check your personal information in eRA Commons if you don't know to which training grant you've been appointed. Students may also use this information on posters or other communications and displays.

The MSTP grant is T32 GM007250 (prior to 2024) or T32 GM152319 (2024 or later).

Always cite the MSTP T32s in your publications. (M2s and above, cite both T32s; M1s, cite the new T32).

Please use text similar to the following: "Research reported in this publication was supported in part by the NIH under the award(s) T32 GM007250 and T32 GM152319, if appropriate)." Alternatively, you

can include T32 GM007250 and T32 GM152319 (if appropriate) in your list of grants providing support. They should also be included when submitting publications to PubMed Central.

When listing your affiliation in publications, be sure to list CWRU, your program/department, and MSTP.

Failure of mentors to allow listing of MSTP training grant support on their published manuscripts will results in re-evaluation by the Steering Committee of their MSTP mentor eligibility.

Grant Applications and other fellowships

F30/31 Grants

Students are strongly encouraged to apply for an individual NRSA F30/F31 PhD or MD/PhD fellowship award. Our hope is that all students will do so. Students benefit from the prestige of the award (important for residency and fellowship applications), additional budget for training-related expenses and travel, a possible bonus to their stipend, and in some cases, support for the MD phase. The mentor and research program also benefit from the additional support. *The maximum allowable period of support should be requested to cover both PhD and MD training.*

Students with F30/31 support will receive an annual $2,500 stipend bonus while they are supported by the MSTP (years M3 and M4). Many, but not all, School of Medicine departments also give the stipend bonus in the PhD phase. Students should check with their PhD mentor's department administrator. While in years M3 and M4, the MSTP will charge $1000/semester of student health insurance fees to the F30/31. The health fees come under the Institutional Allowance budget line as outlined by the NIH. Students are permitted to use the remainder of the Institutional Allowance for training related expenses.

All students applying for individual NIH awards (e.g. F30 or F31) must notify the MSTP Director and Administrative Director prior to application.

Usually, the department where your mentor has their primary appointment will administer the grant application. In cases where the mentor is at the CCF, the grant will be administered by the PhD program. Contact the administrators in the department(s) to coordinate the submission of your grant. These departments are generally unfamiliar with budgets for both MD and PhD training phases, so it is essential to involve the MSTP in the budget planning. Please contact the Administrative Director regarding budget planning. The MSTP Leadership are also available to review and advise.

F30/31 applications must be submitted within 48 months from the time of matriculation as an MD-PhD student. Applications are accepted in three cycles per year, in April, August, and December. Because CWRU MSTP students matriculate in July, the latest possible application cycle for the initial submission is April of G2. If the initial application is not funded, resubmission can be after the 48-month window.

See Information for F30/F31 applications, on the Student Resources page on the MSTP website.

Many MSTP students who have had F30/31 proposals funded have contributed valuable advice and made their applications available for other students to see. Ask the MSTP office for access to the shared Google grants folder. Students also hold a discussion panel at least once yearly to allow students with grant application experience to advise students who are planning to apply.

Translational Fellows Program

The CWRU Translational Fellow Program (TFP) seeks to train individuals in entrepreneurship and the translation of innovation into commercial ventures by connecting them to programs and

workshops around campus while protecting time for entrepreneurial activities.

This is a remarkable opportunity, but because this fellowship requires a 20% effort for one full year, interested candidates in the MSTP *must seek approval* from the MSTP Steering Committee prior to application. This is also discussed in "Non-research Activities" below.

Clinical Tutorial

M4 Clinical Elective Credit

Guidelines and forms for the MSTP Clinical Tutorial are included in the Student Resources section on the MSTP website.

The MSTP Clinical Tutorial is a longitudinal pre-clinical experience for MSTP students in the PhD phase. It is taken after the first year of the PhD phase and requires 2-3 hours per week. Students are required to take the MSTP Clinical Tutorial for one academic year in a patient contact-based clinical specialty (not Radiology or Pathology). Students can get 2 weeks of clinical elective credit for this one-year experience. Students may take a second year of MSTP Clinical Tutorial in any clinical specialty, including Pathology and Radiology, for two additional weeks of clinical elective credit. The credit will occur on your transcript as MEDS4010M when you return to the M3 curriculum.

The Tutorial is designed to meet unique needs of MSTP students and addresses two distinct goals. First, the Tutorial enhances clinical skills to promote successful entrance into M3. The second goal is to provide a longitudinal opportunity to go back and forth between the research and clinical worlds to explore connections between basic biomedical research and clinical problems. This career development experience may clarify which clinical field meshes best with a student's scientific interests. Thus, the Tutorial may ease the choice of and transition into clinical residency as well as the entrance into M3.

The MSTP Clinical Tutorial can be tailored to the individual student's interests. Many students choose a general clinical experience, e.g. an internal medicine service, but others choose to work in a specialized clinical field related to their research interest. For example, a BME student doing research on imaging has worked with a radiology team, a student interested in shock and related pharmacology has worked in an ICU, and a student with cardiovascular interests has worked with a cardiologist. This flexibility provides a unique chance to explore related clinical and research work simultaneously, providing a glimpse of future possibilities for students who want to combine these activities later in their careers. The MSTP Clinical Associate Director holds an informational meeting each fall to explain the requirements and help arrange clinical placements for students.

If a student is not making appropriate progress toward completion of the PhD degree, the MSTP Steering Committee will recommend and may require that the student defer participation in the MSTP Clinical Tutorial, particularly a second year of Clinical Tutorial. Mentors should communicate such reservations to the MSTP Director or Steering Committee. Otherwise, PhD mentors are expected to accommodate participation of their MSTP students in the MSTP Clinical Tutorial.

Students are expected to spend 60 hours during one academic year to obtain 2 weeks of clinical elective credit for the M4 year. This translates to 2-3 hours per week in clinic over two semesters. The student does not need to spend a full 12 months on the Tutorial each year. There must be a balance between the Tutorial and the compelling need to concentrate primarily on PhD thesis research. Accordingly, students should not substantially exceed the recommended time commitment to the MSTP Clinical Tutorial. It is not possible to get more than 2 weeks clinical elective credit for the Tutorial in a single academic year. Please note that a 2-week elective = 1.5 credits on the transcript.

Students start the Tutorial in early fall. Under some circumstances, it may be possible for a student to shift the timing (start early or late to finish early or late), but this should be discussed and approved ahead of time with the Clinical Associate Director.

Selection of a Clinical Preceptor

Students can either identify a preceptor on their own and then notify the Clinical Associate Director, or ask them for help in identifying a preceptor in their area of clinical interest. The key to a successful clinical tutorial is selecting a mentor who has enthusiasm for clinical teaching, an appropriate environment (e.g., clinic or office practice), and sufficient time.

Spring Refresher Course

In addition to the MSTP Clinical Tutorial, an MSTP Spring Refresher Course is offered in the spring semester. The MSTP Spring Refresher Course serves as a timely means to enhance students' clinical skills shortly before they start M3. This weeklong experience is run by the Clinical Associate Director.

M3 and M4 Years

During M3 and M4, MSTP students are responsible for the same academic requirements as all other medical students.

When Do MSTP Students Start the M3 Curriculum?

MSTP students can start the core M3 clinical clerkships from early May through late June. See the clinical rotations calendar.

Each fall, the SOM Registrar meets with MSTP students planning to return to med school in the following summer, to discuss the timing and options. A May start will allow ample time for electives and travel for residency interviews in M4, but all requirements can still be completed with a start in late June. Because the number of schedules allowing for a late June return to M3 are limited, students must get permission from MSTP and the Office of Medical Education.

Students should consult their Society Dean advisor, Curricular Affairs, and the Medical School Registrar concerning the scheduling of M3 Core Blocks. Students must inform these parties and the MSTP Administrative Director of their plans for returning to med school, and they must keep everyone informed if their plans change.

Students often have questions about the relative advantages and disadvantages of starting M3 at different times. Early May is the "traditional" return date. It is also possible to start the M3 core blocks in June. NOTE: Starting in June gives the same amount of clinical training time as straight MD students. Thus, starting on the June date will not put MSTP students in a time crunch for clinical training. However, a June start will place MSTP students slightly behind their MD classmates since they will be a rotation behind, they should catch up quickly.

How to Schedule M3

Medical School Communications: The student must check to make sure that the medical school advisors and registrar have the student's correct current address and contact information (including email address).

- Meet with your Society Dean, PI, and MSTP advisor in the summer/fall of the anticipated year of PhD defense to discuss planning for PhD completion and transition to M3. Complete the MSTP Re-entry Checklist on the Society Deans Advising Portal and upload the form 48 hours prior to the meeting. (https://med-ed.case.edu/SocietyDeanAdvising/Mw%3d%3d)

- Attend M3 entry meetings held by MedEd and by the MSTP in the summer and fall prior to your expected return to medical school.
- The MSTP office will Contact Curricular Affairs and the Medical School Registrar if you expect to return to M3 the following summer. They will inform you of the schedule and procedures for choosing the order and hospital location of your clinical rotations.

What M4 looks like

M4 includes Step 2, acting internships, clinical electives and research electives (if M3 is started by July or earlier). You may also have the opportunity for away rotations. Time should be allotted for residency interviews.

Career Planning and Residency Applications

All MD students in the University Program, including MSTP students, are assigned to one of six Societies headed by a Society Dean, who will provide advising for medical school, career planning and residency application. The Society Dean will become familiar with the records of all students in their society and will be in a good position to advise students on many aspects of career planning, including the best strategies to use in applying to residencies and who to consult for more information on residencies in specific fields. Students should contact their Society Dean with any questions about planning for residency applications or other career planning decisions.

It should be recognized that the Society Deans are mostly involved in advising MD students and may not emphasize the particular aspects of research-oriented residency training that are desired by most MSTP students. Students should explicitly raise the issue of research track residency if they wish to explore this option (research careers can also be pursued with traditional residency programs). The MSTP Advisor and the MSTP Director are additional sources of advice on these topics. In addition, each spring the MSTP hosts a reception for graduating students, and these students are assembled into a panel to discuss their experiences and knowledge concerning residency application from the MSTP viewpoint. All students are encouraged to attend.

MSPE

- The student's Society Dean will compile a Medical Student Performance Evaluation (MSPE) for each student's residency applications. Students meet with their Society Dean to review and revise this evaluation and should spend significant effort to do so. The Society Dean will compose an account of the student's accomplishments and the student is allowed considerable opportunity to influence the composition of the letter. Especially since the letters for MSTP students include content that goes beyond that of the typical MD student, it is important for students to actively review the dean's letter and suggest revisions. More than one meeting with the Society Dean may be needed.
- The MSTP Advisor will write an MSTP letter of support to the Society Dean. This document will provide information on the student's MSTP progress up to completion of the PhD phase and will be incorporated into the MSPE. The MSTP letter of support will not constitute a separate letter of recommendation, will not be mailed to any other institution, and therefore will not limit the student's number of letters of recommendation from other faculty.
- The student will need to obtain several letters of recommendation from faculty members. Suggestions for this process are indicated below.

Letters of Recommendation from Faculty

Students will need several letters of recommendation for residency application. The choice of

who to ask for these letters is personal. The exact requirements for letters of recommendation vary with the type of residency, and each student will need to determine the number and types of recommendations to obtain.

Students will provide their faculty letter writers with a completed ERAS Request for Letter of Recommendation/ Cover Sheet, and writers will submit letters to the Medical School Registrar. Most students waive the right to see their letters. Students will need to designate the letters to be sent to each residency to which they are applying. Different letters can be sent to different residency programs.

Most students will want two or more strong letters from clinical rotations, preferably 1-2 from the field of proposed residency. When selecting clinical mentors to write your letter, it is best to choose a mentor who gave you a very good evaluation and can be expected to write a strong letter for you. Make sure that the mentor knows you well enough.

MSTP students usually request a letter from their PhD thesis advisor.

Materials to Provide

Each letter writer may have specific requests for information, but the following are recommended items to provide to those who will write letters:

1. CV including the following information, which should be precise, complete and accurate. A template of the CV can be found in the Student Resource section of the website.
    - All degrees awarded and universities that awarded them.
    - All awards or honors, including baccalaureate distinctions (cum laude, magna cum laude, summa cum laude, CWRU events (e.g. School of Medicine Student Research Day, Departmental honors are awards), awards at national or regional scientific meetings, etc. List any fellowships or grants, etc. Give dates and make clear which awards were earned during your time as an MSTP student.
    - Thesis title, thesis advisor(s) and field (graduate program) in which you received your PhD, as well as the home department if different from the PhD program name.
    - All publications (including any from prior to your matriculation in the program).
    - A separate list of abstracts and meeting presentations (include journal citations for any published abstracts).
    - A list of any other honors or distinctions.
2. Personal statement that indicates what type of program you are applying to and why you chose that field (indicate research connections). Provide a description of your clinical and scientific interests, and your career goals.
3. Research summary (1-3 pages) and the title of your thesis.

Some faculty may request that you write a draft. If so, anticipate that they will revise it to reflect their viewpoint, but writing a draft, if requested, may provide information that will help them write a more complete letter in the time they have available for this. Many faculty have limited time for this and may be asked to write multiple letters – help them do a good job for you!

Other Hints for Residency Application and Interviewing

Write your residency application to separate yourself from the crowd. Emphasize your research and academic accomplishments and goals. Since some materials may not fit in the ERAS application, mail any research summaries or other materials you want considered with your application directly to the residencies. Do this before visiting programs.

Bring materials with you to your interviews. The short version of your research summary will

suffice for most interviews, since the interviewer will probably not be in your exact scientific field. However, you should offer your interviewers the long version if they are particularly interested in you and your work.

The Residency Application Process

The Society Deans and Medical School Registrar schedule several meetings during M3 to describe the residency application process and help prepare students for this process. You will want to plan your M4 schedule with your residency plans in mind (this may dictate the selection and timing of acting internships or other rotations in fields of interest). Most students find it best to schedule an acting internship for some time in July, August, or September of M4. All medical students (including MSTP students) should meet with their Society Dean late in M3 (preferred) or early in M4 to discuss residency plans and the MSPE.

Many students also make appointments early in M4 to meet with the chair of the department or chief of the clinical service division in the field they will enter for residency. The chair can give an evaluation of strong residency programs. If he/she knows the student well enough, he/she may also provide a letter of recommendation.

Older students are often the most helpful source of information in planning the residency application process. The Case MSTP has a tradition of having a graduation party with a panel discussion featuring graduating students who field questions from their junior colleagues about strategies and planning for the clinical year, residency applications, and career planning. MSTP students should also consider contacting other fourth year medical students or former students who are already in a residency program in their area of interest.

See the SOM Registrar page and the AAMC web page for ERAS deadlines and FAQs.

MSTP Support and Benefits

The Case MSTP provides the following benefits.

- Full tuition support for both MD and PhD training.
- Stipend $38,000 annually, as of 7/1/2025.
- Laptop Computer (up to $1700)

  The MSTP will subsidize the purchase of one laptop computer for each student during his/her tenure in the program, subject to certain limitations. The computer must be purchased by March of G2 and must meet School of Medicine requirements. Students may combine MSTP support with their own funds to purchase a more expensive computer.

  Computers purchased with MSTP funds are considered property of CWRU. A student who does not complete the program may be required to return the computer or reimburse the program. Students who complete the program can keep their computers.

  Students are responsible for maintenance and repair of their computers, and they are responsible for purchasing additional computers if needed.
- Health Insurance

  The MSTP pays the annual health insurance fee for all students. Students have the option to waive health coverage if they are covered under another plan. The MSTP does not provide coverage for spouses or dependents and does not cover the cost of co-pays or any additional fees.
- Student Activity Fees

The MSTP pays the annual student activity fees but does not pay for the One-to-One Fitness Center student membership. Students must waive this fee each semester in the Student Information System (SIS) if they do not want the membership or must pay the fee themselves. The MSTP does NOT pay for the RTA fee; the student is responsible for paying this fee.

- Scientific Meetings

  To encourage students to present their research at national and international meetings, the MSTP provides up to $300 per year for meeting and travel expenses. The presentation can be either a poster or a talk, and it must be on research done while in the program. Documentation of acceptance of a poster abstract or invitation to give a talk should be provided when requesting reimbursement for expenses. The funds are primarily for students in the PhD phase but can sometimes be provided for students in other phases provide the same requirements are met (i.e., presenting research performed while in the program). To request travel funds, students should fill out the reimbursement form found on the website and send to mstp@case.edu. Please provide the name of the departmental admin that you are working with for the reimbursement of the remainder of the expenses. Contact the MSTP office if more information is needed regarding allowable expenses and reimbursement policies.

  Also, Graduate Studies may provide matching travel funds of up to $500 for travel to meetings in the US or $1,000 for international travel. A few things to note about the matching funds (*these notes apply only to the Grad Studies matching funds, not the MSTP travel allowance*):

  1. They are not always available. Grad Studies has an annual budget for this, and when the funds are used up, they're gone for the year. (The budget year is July 1 to June 30.)
  2. You can use them only once in your graduate career. If you think you may have an international meeting coming up, or a more expensive US meeting, you might want to save this option for later.
  3. You need to apply for the funds at least two weeks before you travel. It's best to apply as early as possible, as soon as your abstract is accepted. The application form can be found on their website: https://case.edu/gradstudies/index.php/current-students/forms
  4. If you're approved for the matching funds, all payments, including the MSTP share, will be processed through the Grad Studies office. You'll need to turn all receipts in to them and give copies of receipts to the MSTP office as well.

- National Student Meetings
  Each year, the Steering Committee supports one or two students in academic good standing from the G years to attend the National MD-PhD Student Meeting in Colorado, and the American Physician Scientists Association meeting in Chicago, and the annual ABRCMS meeting. Because there are far more students than meeting slots, students can only attend one of these meetings during their tenure.

- Poster printing
  Posters can be printed through the Department of Physiology and Biophysics for $75, paid with cash, check, or speedtype. The link for the poster printing request form with guidelines can be found here: https://physiology.case.edu/media/uploads/DPB_Poster_Printing_Request.pdf

  Posters can also be printed at FedEx located at Thwing, and can be paid for with cash, check, or a speedtype.

- Funds for Return to M3
  Up to $500 is available to purchase study materials the year before returning to M3 in order for students to refresh their clinical knowledge **prior** to starting M3. The funds are not for you to prepare for Step 2 exams, although there may be overlap with study materials such as might

occur with a UWorld purchase. The funds are available only one time in a student's career, and must be used by March 15 of the year prior to returning to M3.

Activities

The Case MSTP is a vibrant program with numerous rewarding program activities. Attendance at the Annual Retreat is required for all MSTP students. Other activities are optional, but students are strongly encouraged to participate in MSTP Council and MSTP programmatic events. Such participation provides significant opportunity for professional development and recognition. MSTP provides some funds for social events for all students.

Annual Retreat

All students must attend the Annual MSTP Retreat (for students in M3 and M4, attendance is encouraged but optional). If a student needs to miss the retreat, they must obtain permission from their MSTP advisor. This retreat is a two-day event focusing on professional development and program planning for the upcoming academic year. The retreat features include:

- Scientific presentations by faculty (a featured outside keynote speaker and Case faculty)
- Scientific presentations by students
- Workshops to enhance professional skills (e.g. grant writing, preparation of scientific manuscripts, developing presentation skills) or educate students in common technical approaches (proteomics, microarray gene expression analysis, generation and use of transgenic mice, etc.).
- Discussion of Case MSTP programmatic issues and planning of MSTP events in the coming year. This includes discussion of the organization and activities of MSTP Council.
- Recreation and conviviality

Research Symposia

MSTP students are encouraged to present their research at two annual CWRU student-sponsored symposia. The annual Biomedical Graduate Student Symposium is organized by students of the biomedical graduate programs and features poster or oral presentations by PhD students, including MSTP students. The Graduate and Medical Student Research Day is held each year for medical students and MSTPs to present their research. Both meetings are open to attendance by all students and faculty in the School of Medicine. These symposia feature a nationally recognized keynote speaker, and students can interact extensively with the noted scientist. Prizes are awarded by a faculty committee for outstanding student presentations. The prizes provide both monetary motivation and an honor that can be cited on a student's CV and residency recommendation letter, so MSTP students are urged to participate in these events. Students in their first two years of the MSTP program are encouraged to attend, since these venues provide an excellent opportunity for students to explore the diversity of our training environment and observe the work that is ongoing in the labs of different MSTP mentors.

MSTP Council

MSTP Council meets monthly and coordinates many activities of the program. The overall goals are to identify objectives for the program, to enhance the MSTP, to encourage increased student involvement, and to develop leadership skills. The president, vice president and secretary are elected for a one-year period. Committees are led by one to three committee chairs. All students are welcome and encouraged to participate. The MSTP Council Charter is on the Student Resources page on the MSTP website.

Council Officer Descriptions are listed in the appendix.

Recent Council committees have included the following:

- Annual Retreat Committee: Plans the agenda and invites speakers, in collaboration with the MSTP Directors and Administrative Staff.
- Intro to MSTP: Helps first year students adjust to the program and CWRU. First year students have a budget of about $50- $75 per person, to be spent on group activities. Class members must agree on how to spend the funds. Check with the MSTP Admin for allowable expenses.
- Communications and Webpage Committee
- Community Service Committee: Plans various activities in the City of Cleveland
- Social Committee: Plans the holiday party and other events throughout the year
- Monthly Dinner Seminar Series: Coordinated by MSTP Council Vice President. Students schedule the meetings and invite the speakers.
- MSTP Representative to Faculty Council
- MSTP Representative to the Committee on Medical Education
- MSTP Representative to the CWRU Graduate Student Senate
- MSTP Representative to the Biomedical Graduate Student Organization (BGSO)
- MSTP Women's Committee: Organizes Women's Group activities*.
- Recruiting Liaisons: Work with the MSTP staff to plan and organize interview days
- Other committees may be formed at the discretion of Council.

*Women students in the MSTP get together to support and mentor each other, and sometimes invite alumni and faculty to discuss career development. These activities may be coordinated through MSTP Council or independently and may be partially funded by the MSTP.

Non-Research Activities

Students are expected to devote full time effort to expectations of the MSTP. We strongly encourage students to participate in programmatic events and to take student leadership roles. These roles can provide valuable professional development and professional community contribution opportunities but are feasible only if students are making good academic progress. Students interested in taking on time-consuming leadership roles in extracurricular or professional activities should first get approval from the MSTP Leadership, as well as the PhD thesis advisor (for students in the PhD phase).

Students should self-assess and tune their level of extracurricular participation to their trajectory in progress on academic expectations. If progress is good, participation and leadership in worthy program activities is strongly encouraged. If progress is lagging, students may still participate in program activities but should avoid major time- consuming leadership commitments. The same considerations apply for participation in national student organizations.

Examples of time intensive activities requiring MSTP steering committee approval would include, but are not limited to, i) Serving as an IQ group facilitator, ii) Partaking in the CWRU Translational Fellows Program, iii) partaking in the Harrington -MSTP at CWRU program, iv) serving as a Teaching Assistant outside of required activities in the students graduate program.

Evaluation for participation in time-intensive activities will include:

- The student must have advanced to candidacy for the PhD degree (completed thesis proposal and qualifying examination). Exceptions to this will be rare and will be evaluated on a case-by-case basis.
- The student must justify how the activity relates to their scientific field or professional goals and how time to degree will not be affected by participation in the activity.
- The student must first request approval from their thesis committee and then request that the MSTP Director or Advisor to bring the request before the MSTP steering committee. The MSTP will include the PhD mentor in the decision process and will give much weight to PI recommendation.
- For IQ teaching, the period of teaching is limited to ½ Block for one year, and students should participate in one year only. Exception: Participation on BME teaching requirements is expected for students in the BME PhD program*.
- MSTP students should not take on the role of Director for Doc Opera. The MSTP supports participation in Doc Opera and other extracurricular activities at less demanding levels.

*Please note: MSTP students in the BME program are required to do a one semester Teaching Assistantship. Because it is a requirement of BME, no approval by MSTP is needed and the student receives no compensation.

Outside Activities and Compensation

MSTP students are expected to devote full-time attention to their studies, for which a full-time stipend is awarded. Outside employment is discouraged and must not detract from the time and attention needed for the medical and graduate programs. Employment or payment for activities outside of the MSTP must be approved by the MSTP and the research/thesis mentor (if in the graduate phase of training). Occasionally, students will have the opportunity to serve as a Teaching Assistant (TA), for which some additional compensation may be offered, but placement into such a position also requires the approval of the Research/Thesis Mentor, the graduate program, and the MSTP. Students and faculty involved in such placements need to be aware that NIH training support (e.g.,T32, TL1, F30, F31) precludes payment for such services under the category of supplementation of stipend, but does allow payment under the category of compensation contingent upon the requirements that the activity will be limited in time, is not one of the normal training activities of the program, and will not detract from or prolong the training program.

Appendix

A. **Advising Schedule**

July	M1 meeting 1
	Rising M3 meeting
August	M1 meeting 1 (cont'd)
	M2 meeting 1
	Rising M3 meeting (cont'd)
September	Rising M3 meeting (cont'd)
	G meetings
October	G meetings (cont'd)
November	M1 meeting 2
December	
January	M2 meeting 2 (SD/AD/PI/M2?)
February	
March	M1 meeting 3
April	Rising M4/MSPE meeting
May	
June	

B. MSTP Council Office Descriptions

1. Class Officers for the following classes: M1, M2, P1, P2, P3, P4/5. The Class Officer will be responsible for communicating, coordinating and encouraging participation of his/her classmatesin MSTP events, including planning of the Monthly Meeting activity assigned to the class.
2. AAPI Committee
3. Advocacy Committee
4. Alumni Committee : This committee interfaces with medical school alumni office and our own MSTP administration to engage our alumni and keep our students informed of alumni coming back to campus, who are often available to meet and share their experiences as physician-scientists.
5. Community Service Committee: Organizes community service activities for the MSTP. Recentexamples include academic tutoring, serving meals at a men's shelter, mentoring high schoolstudents in the laboratory, and serving dinner at the Hope Lodge.
6. M1 Bonding Committee: Plans social activities for first year students to get together and get to know each other. The MSTP office will provide financial support (need to request approval). This committee may be led by the first-year class officer and/or other first year student(s).
7. Mental Health and Wellness Committee (2 people): Assesses and seeks solutions to student mental health and wellness needs. This committee organizes and assists with programming andresources to support student self-care, resilience-skill building, and social connectedness.
8. MSTPride Committee
9. Near Peer Mentoring
10. Recruiting Committee: Focuses on making each interview session as smooth as possible. Some responsibilities for remote recruiting included leading discussions about Cleveland and CWRU, and leading lunch and dinner question and answer virtual sessions and an introduction to Cleveland session for each interview period.
11. Representative to BGSO: BGSO is the biomedical graduate student organization, which in contrastto GSC, focuses on social interactions of graduate students. Updates the MSTP Council on BGSO events.
12. Representative to CME: CME is the Committee for Medical Education. The MSTP representativemust engage in monthly meetings. The representative is a voting member on the non-executiveCME. The representative will keep the MSTP Council up to date on items discussed at CME meetings and will add a student voice to the CME, as appropriate, to ensure the CME works in the MSTP's interest. MSTP representatives may also engage with faculty leaders on the CME onspecific projects that may interest them.
13. Representative to Graduate Student Council (GSC): GSC is the student council for the graduate students at Case Western. MSTP will have at least one voting member and one alternate selectedfrom the first- or second-year classes. Any additional participation and attendance to GSC meetings by other MSTP members is also encouraged. Updates the MSTP on GSC events.
14. Social Committee (2 people): Organizes social events including the Holiday Party and fun social events each semester and during interview and recruitment visits that can include current students and applicants. Semester events can have some cost subsidized by the MSTP (previousactivities include go-karts, a Friendsgiving, and a Great Lakes Brewing Co. brewery tour).
15. Social Media Committee: This committee controls and updates the social media accounts

including Twitter and Instagram. Students can submit updates or photos of MSTPs doing social activities. The committee can also post links to student papers and accomplishments.

16. Student Representative to the Dean's Council
17. Student Representative to Faculty Council: Faculty Council oversees all faculty affairs and serves as the liaison between the faculty and the administration of the University and the School of Medicine. It is composed of elected faculty representatives from each department in the School of Medicine. The MSTP Representative attends Faculty Council Meetings that occur every other month and reports to the MSTP on any discussions that may affect the MSTP program or students.
18. Summer Retreat Committee (2 people): Plans the Summer Retreat (plans the agenda, invites speakers, coordinates choice of venue, etc.) in consultation with Council, the Director and Administrative Director. The burden of logistical arrangements such as reservations (venue, lodging, meals) is taken care of by the Administrative Director. Typically, a first-year student works together with an upperclassman for this committee.
19. URiM Committee
20. Website Committee: Updates and maintains the CWRU MSTP webpage. Develops content and implements changes in consultation with Council, MSTP Director and Administrative Director. This position will evolve as the MSTP website is updated throughout the year.
21. Women's Group Leader (2 people): Organize bimonthly Women's Group events for MSTP students. Past events include a BBQ to introduce new students to older years in August/September and a luncheon in the spring with female faculty members and physician scientists.
22. Works in Progress

C. MSTP M2 STEP1 Preparation and G1 Start Guidelines and Policies

Rationale: Changes in the timing of M1 and M2 in the UP curriculum require MSTP to modify the current recommended USMLE Step 1 dedicated preparation time. In general, the guideline for AY23-24 going forward is to allot 6 weeks of dedicated study time to the MSTP trainees, in line with the study time offered to UP students.

Guidelines and Policies: Due to the complexities of the dual degree program, some exceptions to this timeline (STEP1 taken by May 1) will be allowed. Specifically, 2 additional weeks of dedicated study time will be available to MSTP students who:

1) are registered for a full-length graduate course during the Spring semester of M2 that ends later than March 15th;
   or
2) have a documented learning disability or medical condition requiring accommodation;
   or
3) are required to remediate a portion of the UP curriculum.

Students should consult with their MSTP advisor if any of the above situations apply to them. Other requests for additional study time will be evaluated by the MSTP Leadership on a case-by-case basis. Students should consult with their MSTP advisors if issues arise which might necessitate an extension of the dedicated study period.

D. MSTP Student PhD Thesis Lab Placement and Mentor Capacity Policy

Goals and Rationale: We propose the following guidelines and policies to mitigate the concentration of MSTP trainees within a few mentor labs and thus undermining the diverse mentor pool as a strength of our MSTP. The overall goal is to limit the maximum numbers of PhD trainees per mentor to **two** for each senior mentor or **one** for each initial mentor. While there are incidences where **three** (per senior mentor) or **two** (per initial mentor) students may co-occupy a mentor's laboratory due to variable timing of G1 entry, thesis defense or M3 start-date, such overlap must be brief (<4 months) thereby fulfilling the spirit of the **two** (per senior mentor) or **one** (per initial mentor) student rule.

Guidelines and policies:

1) Maximum numbers of trainees per mentor: a) **Two** per senior mentor; b) **One** per initial mentor.

2) For mentors desiring to file a petition beyond the maximum number (**third** student in a senior mentor lab; **second** student in an initial mentor lab):

a) The requesting trainee is an M2, and:

i. The mentor has at least one senior G-phase MSTP student scheduled for "Return-to-M3-meeting" or already has 1 first-author publication accepted -> **SC** to discuss and vote on the petition for rotation or PhD placement.

ii. The mentor has not had at least one senior G-phase MSTP scheduled for "Return-to-M3-meeting" or already has 1 first-author publication -> PhD placement will not be allowed.

b) The requesting trainee is an M1, and:

i. The mentor has at least one G-phase MSTP student who has successfully passed the qualifying examination – **Directors Group** will discuss and vote on the petition for rotation or PhD placement without the need a formal SC vote.

ii. The mentor has not had at least one G-phase MSTP student who has successfully passed the qualifying examination – **SC** will discuss and vote on the petition for rotation or PhD placement.

3) Mentor will be designated as **"Not currently accepting MSTP Students for rotation or PhD placement"** if there are 3 MSTP students either actively pursuing or committed to pursue thesis work.

4) MSTP students in M1/M2 phase may request to rotate in **any** laboratory for the purposes of learning techniques or subject / expertise exposure once the student has chosen a PhD thesis laboratory and executed a mentor agreement according to above guidelines and policies. Such rotation requests should be discussed with individual AD advisor and will not be subjected to the same guidelines and policies above.

***** This policy will be enforced starting with the 2024-2025 matriculating class *****