JOHNS HOPKINS
SCHOOL of MEDICINE

Medical Physics PhD Program Policy Document

Medical Physics Ph.D. Program
Johns Hopkins University, School of Medicine

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1. Program Governance

1.1 Program Leadership

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1.2 Program Administration

The organization chart is presented in Fig. 1.1.

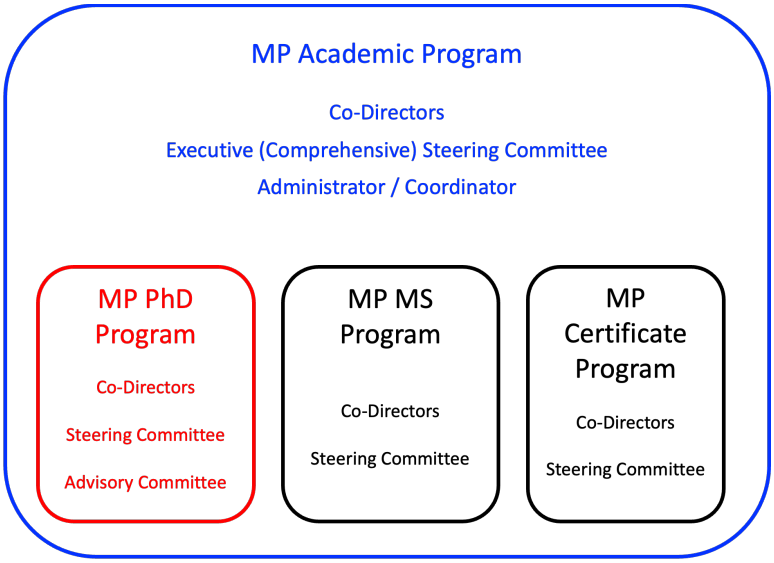

Figure 1.1. Organizational chart of the Medical Physics (MP) Academic Program

1.2.1 MP Academic Program Directors

The academic program directors oversee the three degree programs—PhD, MS, and Certificate programs—and provide leadership on matters that either concern the overall MP program or involve multiple degree programs.

1.2.2 MP Executive (Comprehensive) Steering Committee

The MP executive steering committee consists of directors of the three degree programs and discusses matters that either concern the overall MP program or involve multiple degree programs.

1.2.3 MP PhD Program Directors

The MP PhD program directors oversee the PhD program and provide leadership on scientific and administrative aspects of the program. They server as the chairs of the MP PhD program steering sub-committee meetings.

1.2.4 MP PhD Program Steering Committee

The MP PhD program steering committee is composed of the MP PhD program directors along with the three faculty (see below). This steering committee considers every aspect of the PhD program including rules, regulations, procedures, admissions, and curriculum of the program.

Faculty Member	Department / Division	Email
Yong Du, Ph.D.	Nuclear Medicine	duyong@jhu.edu
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Students may contact the program directors and other steering committee members (email is preferred initially) and can ask the program administrator (see below) to schedule meetings with the committee.

1.2.5 MP PhD Program Advisory Committee

The MP PhD program Advisory committee is composed of the MP PhD program steering committee members along with the faculty shown below. This PhD program advisory committee provides advice and suggestions on scientific and administrative aspects of the program to MP PhD program steering committee.

Program Faculty Member	Department / Division	Email
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1.2.6 Program Administrator

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1.2.7 School of Medicine Leadership for Graduate Biomedical Education (GBE)

Dr. Peter Espenshade is the Associate Dean for GBE and currently serves as the Interim Vice Dean for Education at the School of Medicine. Dr. Andrea Young is the Assistant Dean for GBE.. Their role is to facilitate discussions among all graduate programs and to implement school-wide support for graduate students at the SOM. Among their visible contributions is a monthly meeting, the Master's and PhD committee meeting, that discusses school-wide issues related to graduate training. Dr. Peter Espenshade leads the Office of Graduate Biomedical Education (OGBE) . Students can use the OGBE Graduate Student Affairs SharePoint Site for information on events and opportunities.

Acronyms used in this document:

CAMPEP	Commission on Accreditation of Medical Physics Education Programs
EN	Engineering

JHU	Johns Hopkins University
ME	Medicine
MP	Medical Physics
PhD	Doctor of Philosophy
PH	Public Health
PI	Principal Investigator
SOM	School of Medicine

2. Goals of the Medical Physics (MP) PhD Program

2.1 Johns Hopkins University and Johns Hopkins University School of Medicine (JHU SOM)

The mission of John Hopkins University (JHU) is to educate its students and cultivate their capacity for lifelong learning, to foster independent and original research, and to bring the benefits of discovery to the world.

The Medical Physics (MP) PhD is supported by the Johns Hopkins University School of Medicine (JHUSOM). The JHUSOM is committed to advancing biomedical education by creating an exemplary and collaborative learning environment for graduate students.

2.2. The Medical Physics (MP) Program

Within JHU and JHUSOM, the Medical Physics program is a joint program between the Department of Radiology and Radiological Science and Department of Radiation Oncology and Molecular Radiation Sciences, and the Medical Physics PhD program is one of the three degree-programs—PhD, MS, and Certificate programs. See Fig. 1.1 for the organizational chart.

2.3 The PhD in Medical Physics

The mission of the MP PhD program is to train the next generation of PhD medical physicists in both basic and translational research applied to medicine and human health. The program will provide aspiring students with the knowledge and skills that they will need in their future profession as medical physicists.

Our program leads to the PhD degree with emphasis on preparation for careers in academia, industry, and/or clinical service roles. The PhD program consists of two tracks, “CAMPEP Track” and “Non-CAMPEP Track.” Clinical–CAMPEP Track is under CAMPEP accreditation and non-CAMPEP Track is outside the accreditation. See Sec. 3.1.2 for more information on the tracks.

The objective of the MP PhD program regardless of the tracks is to provide students with the breadth of knowledge, critical thinking, and technical and analytical research training that will prepare them for their own successful, independent careers in Medical Physics.

2.3.1 MP PhD Learning Goals

Learning goal 1 (Years 1–2): Students will acquire literacy in medicine and physics.

- Objective 1: Students will be able to demonstrate knowledge of current literature and the state of the field in course exams, thesis proposals, and independently written paper drafts.

- Objective 2: Students will gain the ability to critically assess medical physics research and identify gaps in the field.

- Objective 3: Students will be able to design research that closes gaps in knowledge or fills a critical need in their field. They will propose thesis research that addresses identified open questions. In addition, they will write fellowship proposals with coherent plans to address these questions.

Learning goal 2 (Years 3–5): Students will learn to do rigorous research, using appropriate analytical and statistical methods, as well as designing experiments that lead to discernible outcomes.

- Objective 4: Students in CAMPEP track will pass ABR Part 1 exam and be able to demonstrate knowledge and understanding of performing tasks as medical physicists.

- Objective 5: Students will acquire technical and analytical skills to perform research. They can conduct experiments in their field and acquire the data needed for those experiments. They can analyze data quantitatively and synthesize it into meaningful conclusions.

- Objective 6: Students will learn how to design experiments with appropriate controls and sufficient statistical power.

- Objective 7: Students will learn how to discuss with others the research plans, experimental designs, results, and interpretations, including other relevant issues.

- Objective 8: Students will write a thesis proposal that outlines where novel contributions are needed. They will be able to critically read and evaluate primary literature and identify open questions as participants in journal clubs and at conferences.

Learning goal 3 (Years 1–5): Students will learn how to be professional scientists.

- Objective 9: Students will acquire communication skills to effectively work in a diverse professional team setting, respecting cultural sensitivities.

- Objective 10: Students will learn professional presentation and writing skills through participating in conferences and publishing papers.

- Objective 11: Students will gain the ability to lead a team professionally by setting goals and fostering team coherence. Leadership in student groups shared projects, and mentoring undergraduates and junior PhD students in thesis lab.

- Objective 12: Students will learn project management skills.

- Objective 13: Students will learn how to integrate ethical thinking and behavior into the practice of science.

2.3.2 MP PhD Graduate profile

Based on the learning goals outlined above, the expected outcomes for our graduate is as follows:

1. (For students in CAMPEP track) Be able to enroll to a CAMPEP-accredited residency training program for medical physicists.

2. Desire for lifelong learning, with equal access to gaining a deep understanding of the medical physics in two key areas: Medicine and Physics.

3. Conduct independent and original research: Graduates have the academic skills to design, execute, communicate, and critique medical physics research and identify gaps in the field to pursue their own creative ideas, demonstrating originality, critical thinking, and problem-solving skills.

4. Develop high standards for ethical and responsible conduct, scientific rigor, and reproducibility. Graduates are able to conduct ethical and rigorous research, using appropriate analytical and statistical methods, as well as design experiments that lead to discernible, reproducible outcomes. They can maintain high standards for rigor and reproducibility in all areas, from experimental design to critical review of published data.

5. Develop advanced skills for communication and teamwork. Graduates are able to communicate their research findings to both specialists and broad audiences and cooperate in and lead diverse, international, and multidisciplinary teams, working closely with researchers, engineers, clinicians, and other health, academic, and industry professionals.

6. Contribute to scientific discovery: Graduates can develop novel broad-impact approaches and techniques, and publish their discoveries and results in high-impact research journals.

7. Advance the field of medical physics. Graduates can identify unmet clinical needs, novel challenges, and gaps of knowledge, as well as develop innovative solutions.

3. MP PhD Requirements

The Medical Physics (MP) PhD training program follows SOM guidelines and policies, including:

- University Requirements for PhD
- SOM Procedures for the Award of the Doctor of Philosophy Degree
- SOM Guidelines for Programs to Support Timely Completion of PhD

The list of current school-wide policies can be found on the OGBE Policy Finder page.

Students must register each semester from matriculation through graduation. A student's departure from the SOM without an approved leave of absence will be deemed a permanent withdrawal from the MP PhD program. Read SOM policy, Sec. II.A.1.

Leave of absence (LOA). Students must obtain a prior approval for a leave of absence from the program directors (MedPhysPhD@jh.edu). International students must obtain approval by the Office of

International Services (OIS) before submitting a request. Please refer to the *JHU Student Leave of Absence Policy* and the *SOM Procedures for Student Leave and Leave of Absence*.

3.1 Prior to Matriculation

3.1.1 Offers and Primary Advisors

All of the offers from the MP PhD program will be a direct match, which means the student will be admitted to the primary advisor's (or the principal investigator or PI) laboratory on Day 1. There is no general admission to the program (with lab rotation in Year 1). See Sec. 5 for the rules on the primary advisors.

In exceptional cases, an offer may be made jointly by multiple PIs to a student. When the student matriculates at the PhD program, they will complete lab rotations with the PIs who made the offer in the first year. The financial support will be jointly provided by the PIs either until the student chooses the lab or until the end of Year 1, whichever comes first. By the end of Year 1, all of students must have the primary advisors. It is an SOM policy that students must have a primary advisor by the program deadline and throughout their studies.

If a student cannot identify their primary advisor, the student and the program directors will meet and discuss the situation. The program will provide the financial support for three months or until the student finds the primary advisor. If the student cannot find the primary advisor by the end of the three months period, the student will be terminated.

It is your opportunity to plan your academic career and track your academic progress under the guidance of the advisor. You should meet with your advisor at least once a week, to plan your courses and research.

3.1.2 Required background

The MP PhD program at Johns Hopkins is a five-year, dual-track program. It offers two tracks: the CAMPEP track (or Clinical–Research track) and the non-CAMPEP track (or Research track). The CAMPEP track will be accredited by CAMPEP1[*1], and the graduates will be able to start at a CAMPEP-accredited clinical medical physics residency program.

The following is the required background for incoming students.

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*1. CAMPEP = "Commission for Accreditation of Medical Physics Education Programs, Inc. CAMPEP is a nonprofit organization, independent of its Sponsoring Organizations, whose objectives are the review and accreditation of educational programs in medical physics. Its mission is to promote consistent quality education of medical physicists by evaluating and accrediting Graduate, Residency, Professional Doctorate in Medical Physics (DMP), Certificate, and Continuing Education programs that meet high standards established by CAMPEP in collaboration with its sponsoring organizations." (https://campep.org) It is our expectation that the MP PhD program will be accredited within a few years.

- For students entering CAMPEP track, CAMPEP requires the following background to start a CAMPEP-accredited Medical Physics program. “Students entering a medical physics graduate educational program shall have a strong foundation in basic physics. This shall be demonstrated either by an undergraduate or graduate degree in physics, or by a degree in an engineering discipline or another of the physical sciences and with coursework that is the equivalent of a minor in physics (i.e., one that includes at least three upper-level undergraduate physics courses that would be required for a physics major).” (Sec. 3.1, https://campep.org/GraduateStandards.pdf).
- Students entering non-CAMPEP track of Medical Physics PhD program shall have a bachelor of science degree or a bachelor of arts degree.

Students who do not fulfill the above requirement for CAMPEP track may apply for and be admitted to non-CAMPEP track. A student may request permission to switch from one track to the other by following the process outlined in Sec. 4.2.

3.1.3 Required training courses prior to matriculation

All incoming students are required to complete school-wide online training and any other requirements as communicated by the School of Medicine (SOM) Registrar's Office prior to the fall orientation day. Information will be sent from the Registrar’s Office during the summer before matriculation.

At the completion of each course, a certificate of completion is generated for your records.

The Registrar's Office will be notified of the completion of the training. Students cannot matriculate if ALL training is not completed prior to orientation day.

3.2 Summary of Degree Requirements and Timeline for PhD training

3.2.1 Degree Requirement

The program will require successful completion of the following requirements. Full-time PhD students are expected to complete the program in 5–6 years. The overall limit is 9 years.

- Successful completion of all 6 CAMPEP Core courses, 2 required Medical Physics Courses, 2 semester of Seminar in Medical Physics, SOM require research ethic course (26 credits) by the end of Year 2.6
- No course with grade less than or equal to C may be counted. For courses not offering a letter grade, a grade of S or Pass is required.
- A grade of C or lower will result in academic probation until the student retakes the course and receives a grade of B- or higher; a second C or lower grade would be cause for termination from the program.
- Successfully completing the Doctoral Board Oral (DBO) exam by the end of Year 2
- Completing a TA-ship by the end of Year 3 (see Sec. 3.5)
- Presenting a dissertation proposal by the end of Year 3 and obtaining the approval from the dissertation committee (aka thesis committee).

- Completing annual meetings with the dissertation advisor on the student's Individual Development Plan (IDP)
- Completing progress review meetings with a dissertation committee every 6–12 months
- Writing the dissertation and getting approved by the Dissertation Committee
- Passing the Dissertation Defense Exam and giving a Public Dissertation Seminar

The below will be necessary for PhD students in the Clinical-Research Medical Physics track:

- Passing the ABR Part 1 exam

3.2.2 Example Timeline

Year 1 Taking academic courses and SOM training courses, Research, Completing the IDP
Year 2 Taking academic courses, Research, Passing the DBO Exam, TA-ing, Completing the IDP
Year 3 Research, Completing the IDP, Forming Thesis Committee, Getting thesis proposal approved,
Year 4 Research, Completing the IDP,Passing progress review of thesis committee meeting
Year 5 Research, Completing the IDP, Passing progress review of thesis committee meeting, Getting permission to write thesis, Writing thesis, Getting thesis reviewed and approved, Passing thesis defense exam, Giving Public thesis seminar, Submitting dissertation to library

3.3 Curriculum

3.3.1 MP core Courses and electives

Core Medical Physics Courses (20 Cr)

All MP students are required to take the following courses (per CAMPEP).

- ME.420.702 Radiological Physics and Dosimetry (3 cr)
- ME.420.703 Radiation Therapy Physics (3 cr)
- ME.420.704 Radiation Protection and MR Safety (3 cr)
- ME.420.706 Radiation Biology (3 cr)
- ME.420.710 Medical Imaging Systems (3 cr)
- ME.420.711 Human Anatomy & Physiology (3 Cr)
- ME.800.811 Introduction to Responsible Conduct of Research (SOM) (1 cr)[*1]. See Sec. 3.3.3
- ME.420.705 Medical Physics Seminar *must be taken first two semesters for a total of 1 credit.* See Sec. 3.3.2.

*1. School of Medicine Requirement for Year 1 students.

Other Required Courses (6 Cr)

All MP students are required to take the following additional courses.

- ME.420.707 Nuclear Medicine Imaging (3 cr). Recommended for fall Yr 2

- ME.420.709 Radiopharmaceutical Imaging and Therapy (3 cr). Recommended for spring Yr 2
- ME.420.71X Teaching Assistance in Medical Physics Yr 2

Research Project (up to 18 Cr)

Students are required to take up to 18 Cr for PhD thesis research per semester (12 Cr for summer semester).

- ME.420.712 Research in Medical Physics. See Sec. 3.3.4

Elective Courses (6 Cr)

Student shall take 6 (or more) additional credit hours from the following list of courses or other courses as approved by the Program Director. Students shall discuss other courses with the primary advisor and the Program Director and obtain their approval prior to the course registration.

PH Biostatistics (East Baltimore campus)

- PH.140.615 Statistics for Laboratory Scientists I (4 cr)

Biomedical Engineering (Homewood or East Baltimore campus)

- EN.580.640 Systems Pharmacology and Personalized Medicine (4 cr)
- EN.580.668 Practical Human Neuroimaging (3 cr)
- EN.580.674 Introduction to Neuro-Image Processing (3 cr)
- EN.580.679 Principles and Applications of Modern X-ray Imaging and Computed Tomography (3 cr)
- EN.580.693 Imaging Instrumentation (4 cr)

Electrical and Computer Engineering (Homewood campus)

- EN.520.623 Medical Image Analysis (3 cr)
- EN.520.631 Ultrasound and Photoacoustic Beamforming (3 cr)
- EN.520.659 Machine Learning for Medical Applications (3 cr)

Table 1. Recommended course schedules

Year 1 Fall Semester	Year 1 Spring Semester
Orientation	
ME.420.702 Radiological Physics and Dosimetry (3 cr)	ME.420.703 Radiation Therapy Physics (3 cr)
ME.420.710 Medical Imaging Systems (3 cr)	ME.420.711 Human Anatomy & Physiology (3 Cr)
ME.420.706 Radiation Biology (3 cr)	ME.420.704 Radiation Protection and MR Safety (3 cr)
ME.800.811 Introduction to Responsible Conduct of Research (SOM) (1 cr)	
ME.420.705 Medical Physics Seminar	
ME.420.712 Research in Medical Physics (variable credit depending on course load)	
	IDP

Year 2 Fall Semester	Year 2 Spring Semester
ME.420.707 Nuclear Medicine Imaging (3 cr)	ME.420.709 Radiopharmaceutical Imaging and Therapy (3 cr)

Electives	Electives
ME.420.705 Medical Physics Seminar	
ME.420.712 Research in Medical Physics (variable credit, depending on course load)	
ME.420.71x Teaching Assistance in Medical Physics (3 cr, new course)	
DBO Exam	
	IDP

Year 3+ Fall Semester	Year 3+ Spring Semester
Coating ceremony	
ABR Part 1 exam (by the end of Year 3. CAMPEP track only)	
ME.420.705 Medical Physics Seminar	
ME.420.712 Research in Medical Physics (18 cr for fall/spring semester, 12 cr for summer)	
IDP	
Thesis committee meetings (Years 3–4, once a year minimum. ≥Year 5, every 6 months minimum)	
Thesis proposal (by the end of Year 3)	
Thesis proposal approval	
Permission to write thesis	
Thesis writing	
Thesis approval	
Thesis defense exam (thesis defense)	
Public thesis seminar	
Dissertation submission to library	

3.3.2 MP Seminars

Students are expected to attend 1-hr seminars (every other week) or relevant journal club sessions including ME.420.705 Medical Physics Seminar (.5 cr) during the first two semesters. A total of 1 credit can be counted toward degree requirement. Students are highly recommended to continuously attend the seminars after the first two semester as they provide a great way to survey different area of research, as well as build an appreciation for the Medical Physics as a field.

3.3.3 Ethics and the Responsible Conduct of Research (RCR)

All SOM PhD students are required to take training in Ethics and the Responsible Conduct of Research (RCR). Students must register for ME.800.811 ("Introduction to Responsible Conduct in Research (RCR)") in their first year (fall semester).

A refresher of this training is needed every 4 years, therefore students in year 5 must take an RCR workshop typically scheduled at the end of May every year (consult the MP PhD Team (MedPhysPhD@jh.edu) for the date).

3.3.4 PhD Thesis Research

All MP PhD students must be registered for research year-round through the research course numbers, ME.420.712 ("Research in Medical Physics"). This gives all students full-time status, even when not taking other classes. The SOM policy on Full-time academic load states that Graduate students in the SOM must

be enrolled in at least 18 credits to maintain full-time status (in fall/spring semesters), and 12 credits to maintain full-time status in a summer term. Moreover, the SOM policy on Procedures for the Award of the Doctor of Philosophy Degree states that to be classified as a Ph.D. student in the SOM, the student must be registered full-time. Students must register each semester from matriculation through graduation.

3.3.6 Course Registration

All MP PhD students are graduate students in the SOM. Course registration for SOM courses is direct via the university-wide Student Information System (SIS), while registration for classes outside the SOM (e.g., in the Whiting School of Engineering) might involve 'interdivisional registration' (IDR). Follow these guidelines.

Registration dates. Graduate registration for the subsequent semester opens on a different date each year, although typically in mid-April (for fall courses) and mid-November (for spring courses). Students are responsible for checking these dates in advance and completing the registration in time. It is particularly important for courses at Homewood campus, as some of the courses tend to fill up shortly after registration opens.

Identify courses you are interested in. Courses are listed in and found by JHU Public Course search. Some information on the first year medical students can be found here and here.

For courses in the MP program, students can register electronically via SIS self-service.

For courses outside the MP program but within SOM, students can register electronically via SIS self-service. For first-year Medical School curriculum, contact the MP PhD team (MedPhysPhD@jh.edu) to sign up for available slots. Seats to non-medical students are limited, and the SOM works directly with the program to facilitate registration of MP students. Some courses may require a letter from the primary advisor to support the registration. Students may be chosen for such courses by the program or course directors based on their academic background, research interest, and a lottery. Note also that some SOM courses use quarterly (not semester) schedules.

For courses outside the SOM, students must obtain course director's permission to enroll. This is an important part of the interdivisional registration (IDR) process. Students are responsible for emailing course directors well in advance of the registration deadline to request their permission to register. In case of difficulty getting a permission, students must contact the program director for assistance (MedPhysPhD@jh.edu).

IDR registration request will be made via SEAM, the Office of Student Enrollment and Account Management. The instruction for submitting an IDR request to SEAM is available here (see "School of Medicine Graduate Students" section). Students are required to fill out the SOM (electronically fillable) Change of Schedule Form which can be found on the Regsitrar's Office Forms for Graduate Students page, and submit to the program for signature. Once the completed form has been returned to you, students must "Request Support" on SEAM to open a student case and submit their form along with instructor approvals from Step 2. If needed, Director's signature can be obtained by emailing: MedPhysPhD@jh.edu.

3.4 Academic Progress: Individual Development Plans (IDPs)

All students must formally meet with their primary advisor once a year and discuss Individual Development Plan (IDP). This is a program requirement and is also part of JHU policy which requires every PhD program to have a process in place whereby PhD students and their advisors discuss, at least annually, (a) the student's academic progress, future requirements, and next steps, (b) the student's professional development goals and any next steps, and (c) how the advisor can be helpful regarding each. IDPs can be updated more frequently but must be revisited at least once each academic year.

An IDP is a tool that facilitates discussion between a student and their primary advisor regarding the status of their project, the effectiveness of mentoring, the organization of the lab environment, and their long-term career goals. Instructions to complete annual IDPs can be found here: https://jhu.instructure.com/courses/57122/pages/idp.

Annual IDPs are a graduation requirement and are also a mentorship requirement for participation in the MP program.

For advisors, failure to provide the student with annual IDPs can result in participation restrictions in the MP program (e.g., inability to recruit students) being placed on the advisor.

Johns Hopkins University (JHU) requires all PhD programs to have a policy in place for an annual discussion between each PhD student and their advisor(s) that covers the student's academic progress and professional development goals. This is also known as an Individual Development Plan or IDP.

At the SOM, PhD students and advisors follow the process described below and shown in **Figure 3.1 through the PhD Student Academic Progress Tools online interface**. This system allows students and their primary advisor to complete their forms online, offers a combined view of responses (useful during their meeting), and allows students to submit a confirmation that the meeting took place (easier for the program to monitor).

Students and advisors follow this process once a year, and at *any* time during the academic year, usually before the students' annual thesis committee meeting (as applicable).

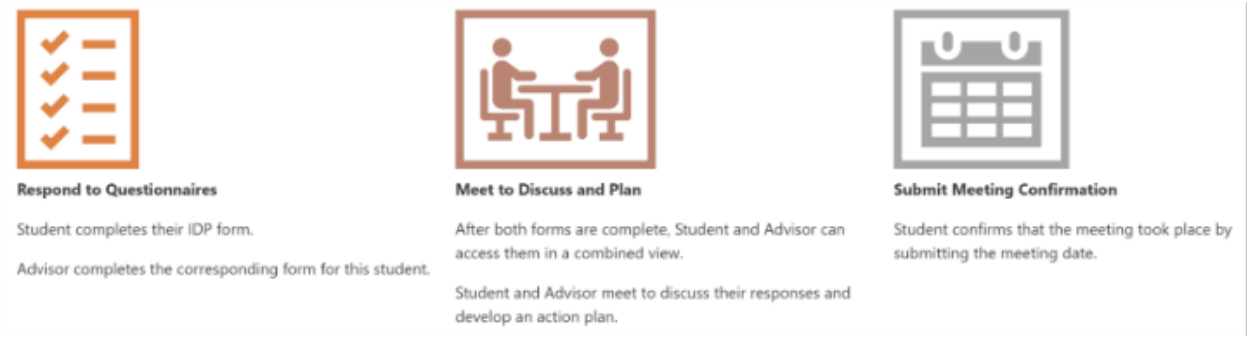

Figure 3.1: Annual IDP Process

SOM process for annual IDP meetings

The MP PhD program informs their students and advisors of the annual requirement, including any deadlines specific to a program or a cohort.

- Students who have thesis advisors should complete this annually and before the thesis committee meeting (as applicable).
- Students who have two thesis advisors may complete this process with one or with both advisors.

Note that formal thesis (dissertation) advisors must have valid JHU credentials (JHED ID).

Step 1: Student and advisor complete separate IDP forms through the PhD Student Academic Progress Tools online interface. After you log in with your JHED ID, click on the "IDP Forms" link (see screenshot below):

- **Before you begin, please visit the How-To Page and watch the short video describing the view for your role. You can also refer to the PDF Guide linked on the same page.**
- Only ONE form is completed each academic year: the IDP for Academic Year 2024–25 will be available until August 31, 2025. The form includes questions on the student's research project and progress, their professional development, the mentoring relationship with the advisor, the overall lab/research team environment, and an evaluation of competencies.

Step 2: Meet to discuss. It is a JHU requirement that student and advisor meet to discuss their responses. As soon as they both submit their forms, they can access a *combined view* with their responses to facilitate their discussion. Based on this discussion, the student can finalize/refine their action plan for the year, and then share with their thesis committee.

Step 3: Submit Meeting Confirmation: After the meeting, the student comes back to the online interface to complete the "Meeting Confirmation" by adding the date they met with the advisor.

3.5 Teaching Assistance

All MP PhD students will devote one semester (equivalent to a minimum of three credits) as a teaching assistant (TA) in one of MP courses. It is a course (ME.420.71X); and we strongly recommend that the requirement will be fulfilled in the second year; the deadline is the end of third year. Students who plan to fulfill the requirement during the third year must contact the program and the primary advisor during the second year. Simultaneously taking a course and TAing the same course is not permitted.

MP PhD program will consider the first TA activity the student's academic requirement. TAing to fulfill an academic requirement falls under the 20 h a week work cap for baseline funding. Students may voluntarily TA for extra supplementation in alignment with their funding sources and visa guidelines (for

international students). The students and their primary advisors must contact the program (MedPhysPhD@jh.edu) for a prior approval.

Note. The number of TAs per course is limited to one for 3-Cr courses and two for courses with more than 3 credits.

Learning objectives

By the end of the TA-ship,

- TAs will be able to explain key concepts and theories from the course material, demonstrating deep understanding of the subject materials
- TAs will be able to guide students in understanding course materials and facilitate their academic progress by answering questions and addressing concerns during office hours
- TAs will be able to communicate effectively with students and faculty, both in written and verbal forms, by participating in lectures and class meetings, and conducting office hours
- TAs will demonstrate professional behavior, including punctuality, reliability, and ethical conduct in all teaching-related activities
- TAs will develop leadership and mentorship skills that are applicable in both academic, clinical, and non-academic careers.

Procedures

- The student should complete the following training: xx, xx, xx.
- Students will contact the course director of the course they wish to TA for.
- The course director will choose TAs (see the Note in Sec. 3.5 for the number of TAs per course).
- The course director will email the program (MedPhysPhD@jh.edu) with the name(s) of the TAs, and course IDs.
- The program will register the TA to the course.

3.6 DBO Policy

The purpose of the Doctoral Board Oral (DBO) exam is to evaluate the student's knowledge and the readiness for independent thesis research work as a PhD candidate. The MP PhD program uses the "preliminary exam" type of DBO exams (see SOM policy). See also "University Requirements for PhD" issued by JHU Doctor of Philosophy Board.

3.6.1 Time and deadline

Students are required to take the Doctoral Board Oral qualification (DBO) examination **no later than the end of the second year**. An extension of the DBO exam deadline might be granted under special circumstances, e.g., if a student is transferring between advisors. The student must submit an extension request to the program directors, which will prompt a meeting between the directors, the student, and the primary advisor to discuss the progression plan.

Students will be place on probation, if (a) a student has not received approval for an extension and does not complete the DBO exam by the deadline of 24 months post-matriculation, or (b) an extension is approved, but the student does not complete the DBO exam before the end of the extension period.

3.6.2 DBO Committee

A DBO exam is administered by a DBO committee for the student. Students will contact and obtain confirmation of participation from potential DBO committee members.

The following faculty member will be qualified to serve on a DBO exam for MP PhD program.

- A faculty who holds a PhD degree.
- A faculty who holds an appointment as a Professor, Associate Professor, or Assistant Professor (including Emeritus) in a University department / program. Such appointments may be regular or visiting, full-time or part-time. (Sec. III.F.1.a, SOM policy). There are exceptions (Sec. III.F.1.b, SOM policy). A faculty at a rank of Research Associate or Instructor does not qualify and cannot be approved. Adjunct Professors require special approval from the Associate Dean of Graduate Biomedical Education.

DBO Committee members

- Students shall contact and obtain confirmation from seven candidate faculty members as their DBO exam committee (five members and two alternate members, which is one inside alternate and one outside alternate. See below). The students then propose a list of the members (with brief description on their expertise) to the MP PhD program, and the program approves or disapproves the proposed members.

  SOM policy states (in Secs. III.G.1 and III.G.2): "Members of the DBO exam committee are selected by the program director and approved by the Registrar. The chair of the committee is selected by the Registrar, based on rank and seniority at rank. Only JHU full-time tenure track faculty, holding the rank of Professor, Associate Professor, or Emeritus Professor, from outside the student's department are eligible to serve as Chair of the DBO committee. Although consultation between the student and the faculty primary advisors regarding possible exam committee members is appropriate, selection of committee members is the responsibility of the graduate program director."
- DBO exam committees will consist of five faculty examiners (with two alternates). Three of the five members must be inside either Department of Radiology or Department of Radiation Oncology, and two members must be from outside the two departments. One of the two alternates is from inside and the other is from outside. Including alternates, at least two members must be qualified as chair. Alternates reserve the time for the exam, but they are only called on if one of the five members cannot attend. An outside committee can be replaced only by the outside alternate, and an inside by the inside alternate.

3.6.3 Scheduling DBO exam

- Once the program approves the list of DBO committee members, the student shall contact the members and schedule an examination date and time with them.
- The student shall reserve a room for the exam.

- The student must submit the date, time, room, and the final committee members to the Program Administrators **at least three weeks** prior to the scheduled exam date. The Program Administrators then complete and submit the form entitled *Oral Examination for the PhD Degree for School of Medicine Programs* to the SOM Registrar's Office.
- Once the DBO is scheduled, the program should request the cell phone number of the committee members, in case they need to be contacted on the exam day. The student should remind the faculty a week before, then a day before the exam via email. Note that the exam cannot proceed without all of the faculty being present.

3.6.4 DBO Procedures and Format

The DBO committee consists of five faculty members. This selection is highly individualized, usually comprising instructors from the student's course roster. While the examination predominantly focuses on coursework, it distinctly allows for the inclusion of a broader spectrum of academic and research-related material, encompassing knowledge from earlier academic pursuits to current research engagements.

On the length of the overall exam, the SOM policy states (in Sec. III.J.1, policy): "The DBO exam should be long enough for the committee to learn as much as it needs to judge the student's qualification as a PhD candidate. Ordinarily, examinations should be under two hours, but committees are free to set their own time limits." The use of virtual participation is allowed but strongly discouraged.

- The chair of the DBO exam committee will begin the meeting by identifying those present, stating that the present members satisfy the DBO committee requirement. The chair will ask the student to leave the room.
- While the student is outside the room, the primary advisor or the faculty serving as a proxy will advise the examiners and answer their questions regarding following aspects. The committee will also decide the order in which the committee will take turns to examine the student.
    - The student's formal course record (transcript) (provided by the program)
    - The student's overall performance and quality in thesis research activities
- The student will enter the room and might choose to present their research work in 5–10 min (although it is not required nor will not be graded).
- Taking a turn, each committee will conduct an examination for 10–15 min.
- The student will leave the room again, and the committee decides the outcome of the exam, typically by consensus, by vote if necessary. The chair will record the outcome (and conditions, if necessary)
- The student will re-enter the room and the chair informs him/her of the outcome and discuss next steps if necessary.
- The chair will complete the DBO form with outcome and conditions, if necessary, and either physically sign or e-sign the form. The program administrator will forward the (e-)form to each committee member to (e-)sign.
- Each committee member will take a turn and (e-)sign the form.
- The program administrator is responsible for sending the (e-)form to the Registrar's Office within one week of the exam date.

3.6.5 Outcome

Students can fail the DBO exam once. A second failure will result in dismissal. There are three possible outcomes of the exam.

- Unconditional pass (e.g., by a majority of favorable votes). The DBO exam committee will be discharged.
- Conditional pass. The exact terms of the condition have to be reported on the examination form. For example, what course(s), if any, need to be taken; in what time frame the conditions should be met; and any other information that will clearly outline to both the student and the faculty how to satisfy the condition(s).
    - As soon as all conditions have been met, the chair must report the removal of the condition in writing to the program administrator, who will notify the program director and the original correspondence to the Registrar. The committee will then be discharged.
    - If the student cannot meet the conditions before the determined deadline, the chair will call a DBO committee meeting to discuss the course of further action.
        - Extension. The deadline to meet the conditions will be extended. The chair will notify the program administrator, who will notify the program director and the Registrar.
        - Fail. The committee will recommend one of the three possible actions outlined below. The chair will notify the program administrator in writing, who will notify the program director and the Registrar.
- Fail. The committee should recommend a course of further action:
    - No further examination.
    - Re-examine the student by the same committee at a later date. The student must receive a Pass or Conditional Pass on the second attempt. A second failure will result in dismissal.
    - Re-examine the student by a different committee at a later date. Reasons for the change should be given. The newly formed committee must have representation from the previous committee. The student must receive a Pass or Conditional Pass on the second attempt. A second failure will result in dismissal.

3.7 Dissertation (Thesis) Policy

See SOM policy and "University Requirements for PhD" issued by JHU Doctor of Philosophy Board. The MP PhD program will use Thesis Tracker system.

3.7.1 Dissertation Committee

Students choose and ask faculty, who are expected to be experts in the area(s) of the student's research, to serve on their thesis committee. The committee consists of at least three JHU faculty members with a PhD degree including the primary advisor and may include one faculty member with an MD degree with no PhD degree. The committee includes at least two faculty members who have the primary appointment at either Department of Radiology or Department of Radiation Oncology. Faculty allowed to be on the

committee holds the rank of Professor, Associate Professor, Assistant Professor, including Emeritus Professor or other institutions. Such appointments may be full-time or part-time, regular or visiting. The SOM policy is here.

Chair of the committee. The committee must be chaired by a committee member who has a PhD degree and is not the primary advisor.

Readers of the Dissertation. Two of the committee members (typically the primary advisor and one other member of the student's choice) are designated as Readers; they will give the final review and sign a letter to the Graduate Board attesting to the significance of the dissertation work. The Readers are faculty at Johns Hopkins University at a rank of Assistant Professor, Associate Professor or Professor including Emeritus. Such appointments may be full-time or part-time, regular or visiting.

The committee must be constituted by the end of the third year. The primary advisor is responsible for vetting the qualification of the members whom the student has chosen and asked to get on board. Members are expected to advise and support the student throughout their thesis research, but the student may also change the composition of the committee over time. If the student is on academic probation the composition of the committee should not be changed until the end of the probationary period. This is to ensure the integrity of the probationary process.

Students are responsible for scheduling their thesis committee meeting. The committee and student must meet at least once a year to discuss the progress for Years 3–4 and at least once in every six months for Year 5 and beyond. The chair is responsible for completing the thesis committee (progress) report form with clear action plans and milestones, with consultation from and signed by all committee members.

3.7.2 The first Dissertation Committee Meeting

The first Thesis Committee meeting should take place **before the end of third year.**

3.7.3 The Dissertation Proposal and the Approval

This is typically done at the first Thesis Committee meeting but can be done at a separate Thesis Committee meeting. The proposal has to be presented **by the end of the third year**.

Two weeks before the Thesis Proposal oral presentation, the student must provide a written Thesis Proposal document to all their thesis committee members. The proposal should follow the NIH format, consisting of Significance, Innovation, Research Strategy and Preliminary Data, and Timeline. The proposal should not be long and must be within 4 pages.

An oral presentation of the student's Dissertation Proposal will be conducted, open for attendance by the entire Hopkins community, with lab members and fellow students particularly encouraged to participate. Following the presentation and a subsequent question session open to the audience, a confidential discussion with student's committee will ensue. During this session, the committee will review and deliberate on the student's proposal, ultimately deciding on between two possible outcomes of the exam.

- Approve. The thesis proposal is approved.

- Reject. The thesis proposal is rejected. The student must propose a new or revised Dissertation Proposal to the thesis committee at a later date.

The Dissertation Proposal must be approved **at least 1 year before the Dissertation Defense Exam.**

3.7.4 Subsequent Dissertation Committee Meetings

Students are required to meet with the Dissertation committee at least once a year for Years 3–4 and once every 6 months for Year 5 and beyond. Students will have to take an initiative.

- The program administrator will enter a deadline for the student meeting.
- At least two weeks before each meeting, the student must schedule a meeting, designate thesis committee members on the Thesis Committee tracker, and enter the meeting date.
- At least one week before each meeting, the student must provide each member with a written summary, typically 2–3 pages in length, of the progresses.
- At the beginning of the meeting, the chair will ask the student to leave the room, and the primary advisor will give the committee members thoughts on the student progress.
- The student will come back and give a research update by oral presentation, with slides, including the summary of the status up to the previous meeting, the progress made since then, and plans and timeline moving forward.
- The committee chair is encouraged to bring in their laptop and take notes on the Thesis Committee Tracker Form directly. All committee members, the advisor, and the student can view the form and any notes that the Chair saved before the chair finalizes and signs below.
- The student will be asked to step out of the room, and the committee will discuss their recommendations with the primary advisor and complete the committee report. The report should summarize the student's progress and the recommendations of the committee.
- The student returns and the committee chair explains the recommendations to the student.
- The primary advisor leaves the room, and the student has an opportunity to discuss any issues with the other committee members.
- The primary advisor comes back, and the committee members, the chair, and the student discuss the issues raised.
- The student, advisor, and all thesis committee members must discuss and find a date for the following thesis committee meeting. This would make it easier for students to schedule the next meeting.
- The chair of the committee will complete the meting report on the Thesis Committee tracker. Once the chair signs the form on the tracker, an email will be generated and sent to all committee members to review and sign.
- Once all members signed, an email will be sent to the student and advisor to review and sign.

3.7.5 Dissertation Committee Meeting Initiating the Final Phase

At a Thesis Committee Meeting, after reporting their progress, students may ask the Dissertation Committee a permission to write the Dissertation. The student is expected to complete all of the experiments, write the thesis, have it reviewed and approved by the committee, and pass a thesis defense exam by the committee **within six months**. The final phase (i.e. permission to write) should NOT be

initiated if the student has significant experimental work to complete. While the student is outside the room, the committee will discuss whether or not to grant the permission. The committee chair indicates on the thesis committee form whether final phase has been granted.

Shown below is an example of the final phase outlined in the following sub-sections.

Start of Month 1	The final phase is initiated. The committee grants the permission to start writing the Dissertation
End of Month 3	The student submits the Dissertation to the Dissertation Committee
End of Month 4	The Dissertation Committee (led by Readers) requests any major revisions of the Dissertation
Middle of Month 5	The student submits the revised Dissertation to the Dissertation Committee
End of Month 5	The Dissertation Committee (led by Readers) approves the Dissertation with minor revisions required
End of Month 6	The student passes the Dissertation Defense Exam
End of Month 7	The student completes the final form of the Dissertation; the Readers review and sign a letter of approval
End of Month 8	The student present at Public Dissertation Seminar

3.7.6 Writing and Approval of the Dissertation

After the approval of the Dissertation Committee, the student will be permitted to start writing the dissertation. Upon the completion of the student's fully prepared Dissertation, inclusive of all figures and in its final guise, the Dissertation will be submitted to the Dissertation Committee. The Dissertation Committee led by the two Readers will review the submitted Dissertation **within a month** and recommend one of the following actions.

- Approve. The Dissertation is approved (pending minor revisions) and the student will be able to take the Dissertation Defense Exam.
- Revise. The Dissertation requires major revisions. The student will revise the Dissertation based on comments and suggestions made by the Dissertation Committee and submit to the Dissertation Committee for another round of review cycle.

3.7.7 Dissertation Defense Exam

At least one month but less than three months after the Dissertation approval date, students will be able to take the Dissertation Defense Exam. In the Dissertation Defense, the student will be tasked with delivering an oral exposition of the research work, followed by a rigorous questioning on the technical aspects of the student's dissertation methodologies, data analyses, and the conclusions drawn from research. Additionally, discussions will extend to the novelty and implications of research findings within the broader scientific community.

While the student is outside the room, the committee will discuss the outcome of the exam.

- Pass. The student can revise the Dissertation based on the Committees comments. See Sec. 3.7.8
- Fail. The student will take the Dissertation Defense Exam again at least one month after.

3.7.8 Dissertation Completion and Submission

At least one week before the Public Dissertation Seminar, students will complete the final form of the Dissertation. It must be submitted to the program with the signed Readers' letter.

3.7.9 Public Dissertation Seminar

At least two weeks but less than three months after the Dissertation Defense Exam, students will present a **Public Dissertation Seminar**. The student shall not schedule the Public Dissertation Seminar prior to passing the Dissertation Defense Exam. The date of the seminar must be after either (a) at least two weeks after the Dissertation Defense Exam or (b) one week after the Readers complete the final review of the Dissertation, whichever comes later. At least three committee members should be in attendance. Attendance can be virtual.

This is the student's final oral presentation of the PhD program. It is an open and public meeting, and often students will invite their family members, friends, and the broader JHU community to join. Because of the audience, it is common for the oral presentation to be more broadly accessible than that for the Dissertation Defense Exam, but the student is still expected to present both a summary of all their work and a more detailed description of a portion of their work.

The Thesis Committee uses the presentation, along with the written dissertation, to make the determination as to whether the work completed, and the written dissertation are appropriate for submission to the Graduate Board. If the Dissertation is not approved at this meeting, specific written instructions will be given on the points that must be addressed to render it acceptable.

3.8 Other

3.8.1 Lab rotation (or Clinical rotation?)

There is no lab rotation as all students will be admitted via a direct match. See Sec. 3.1.1.

3.8.2 MP PhD Annual Research Day

This will be integrated to Annual Radiology Research Day (November) and Annual Radiation Oncology Research Day (May). Students are encouraged to present and discuss their work with other faculty members, postdocs, and fellow students.

3.8.3 SOM and MP Surveys

When the survey opens, you will be notified. This includes information about courses you have taken and other required program milestones.

3.8.4 JHU MD/PhD Student requirements

Students are required to:

- Annually, complete the MP PhD survey.
- Annually, complete IDPs (see Sec. 3.4)
- Annually, complete the SOM Advancement Checklist. The SOM sends an "Advancement Checklist" shared with you through New Innovation. All MP PhD students are required to complete this information.
- Within the first 24 months in the program (by the end of Year 2), pass the DBO (see Sec. 3.6)
- Within the first 36 months in the program (by the end of Year 3), complete the TA (see Sec. 3.5)
- Within the first 36 months in the program (by the end of Year 3), present the Dissertation (Thesis) Proposal (see Sec. 3.7)
- Annually for Years 3–4 and semi-annually for Year 5 and beyond, have thesis committee meetings (see Sec. 3.7)
- Complete the final phase of Dissertation (Thesis) work (see Sec. 3.7)

3.8.5 Internships

Internship gives students a glimpse of post-PhD work in industry and new perspectives of the academic life and roles. The program wishes to provide such valuable experiences to students.

Students who express interest may apply for an internship, either through a Johns Hopkins internship program or directly to a host organization in some case via the primary advisor's professional network. The policies and procedures for internship, full-time or part-time, have been revised recently and are expected to be revised in coming years. The current SOM policies and forms can be found at *Procedures to Request and Complete Student Internship*.

3.8.6 Fellowships

There are many external fellowship opportunities available for graduate students. Students are encouraged to look for external fellowships, identify suitable ones for you, prepare for and improve your qualification and apply for ones at appropriate times. Some fellowships are open for US citizens only, whereas some are open for everyone. Some fellowships target 1st or 2nd year PhD students, whereas some target senior PhD students. Applying for and obtaining fellowships provides valuable training for the students and enhances their future career prospects.

Here are some links for the opportunities. JHU opportunity list, National Science Foundation (NSF) fellowship, American Association of Physicists in Medicine (AAPM) grants and fellowship (MS and PhD), Graduate fellowship for Entrepreneurship in Medicine (GEM).

4. Academic Policies

Please read through all of the policies. It is students' responsibility to adhere to all requirements and policies.

4.1 Academic Performance Requirements

All programs follow the School of Medicine's standard for minimum grade requirements as outlined in the "Grading Policy" below, and include core and elective coursework, a weekly seminar, and a thesis project.

- No course with grades lower than or equal to C may be counted towards the coursework requirements. The overall grade point average (GPA) of the courses counted towards the coursework requirements must be a 3.00 or higher (B average).
- No courses with grades of S or Pass/Fail can be counted towards the coursework requirement unless that course is not offered for a letter grade. Be sure to consult your advisor or the program director before registering for a Pass/Fail course. Courses with grades of S or Pass/Fail will not be included in the GPA calculation.
- A grade of C or lower will result in probation; a second C or lower would be cause for being dropped from the program.

4.2 PhD Track Switching

The process is outlined below:

(1) The students apply for the track switch and submit the following materials to the program director: (a) a written statement, (b) transcripts of undergrad and/or graduate studies, and (c) the primary advisor's letter of support.
(2) The program steering committee will review the submitted materials, interview the students, and discuss whether or not to approve the switch.
(3) The switch from Research Track to Clinical–Research Track will be approved if the students satisfy and present
    a. CAMPEP requirements specified in Sec. 3.1.2, such as a BS in Physics, BS in engineering or physical sciences with course work equivalent to a minor in Physics (e.g., at least 3 upper-level undergraduate physics courses);
    b. Strong motivation and commitment to clinical work;
    c. Suitable personality for clinical Medical Physicists such as being respectful, accountable, and collaborative.
(4) The switch from CAMPEP Track to non-CAMPEP Track will be approved if the students present
    a. Strong motivation and commitment to research

The switch has to be completed by the end of Year 3. It is the time that students will receive career advice and research suggestion by the thesis committee.

4.3 Switching the Primary Advisors

The student will contact either the PhD program Administrator or Co-Directors. The PhD program will talk to both the student and the primary advisor. If the gap is too large, the student will enter a 2-month transition phase. The student will talk to other potential advisors, while the current primary advisor provides funding to support the student. If the student cannot find a new advisor by the end of 2-month transition phase, the transition phase will be extended for another 2 months. The funding for the extended period will be provided by the Medical Physics program. When the student find a new primary advisor, the new advisor starts supporting the students. If the student cannot find a new advisor by the end of the extended transition phase (i.e., by the end of 4 months in total), the student will be terminated.

4.4 Credit Waiver

Students must request credit waiver to the program (MedPhysPhD@jh.edu). All requests should include a copy of the degree transcript, a copy of the course syllabi and copy of course assessments. Ensure the syllabi describe learning outcomes and alignment of course assessments with learning outcomes, otherwise, include separate documents such as an instructor email. Include a strong rationale for the waiver request. Submit a list of courses offered at JHU that are equivalent to those under consideration from the outside institution for comparison. Note that regardless of waived credits, students must always register as full-time students. Refer to the SOM policy on the course waiver policy.

- **A degree from a CAMPEP-accredited MP program:** If students have an MS (or a PhD) degree from a CAMPEP-accredited program, **all of CAMPEP core credits will be waived**, and other credits may also be waived including 6 other required course credits, 9 research project credits, and 6 elective course credits. Upon matriculation, the program directors will review transcripts and syllabus to determine which credits be counted against the required credits.
- **Courses from a CAMPEP-accredited MP program:** If students have an MS or PhD degree from a non-CAMPEP-accredited program but taken courses offered by CAMPEP-accredited program, the program may waive **up to 6 CAMPEP core credits** if they were taken from a CAMPEP certified program. The program may also waive some credits including 6 other required course credits, 9 research project credits, and 6 elective course credits. Upon matriculation, the program directors will review transcripts and syllabus to determine which credits be counted against the required credits.
- **Courses from non-CAMPEP-accredited MP program:** If students have taken Medical Physics courses offered by non-CAMPEP-accredited program, **no CAMPEP core credits will be waived**. CAMPEP core credit courses have to be taught by a CAMPEP certified program. The program may waive some credits including 6 other required course credits, 9 research project credits, and 6 elective course credits. Upon matriculation, the program directors will review transcripts and syllabus to determine which credits be counted against the required credits.
- **Electives and other courses:** A maximum of 6 credits* can be waived from an outside institution if: (1) There is a compelling reason as to why a waiver is appropriate and necessary; and (2) the rigor of the external course is evaluated by the program director or other program faculty to determine the

appropriate number of credits. Submit classes at the equivalent of 600-level or above for consideration.

- **Undergraduate**. Classes taken as part of an undergraduate program are not eligible for a waiver, even if those classes were graduate level.

*The number of credits granted for waivers (out of the maximum possible) is evaluated on a case-by-case basis.

4.5 Ethics

Graduate students are expected to be aware of academic ethics and of actions that constitute unethical behavior. In brief, students must submit work that represents their own efforts. When ideas and/or results are drawn from other sources, those sources must be cited in the submitted work. Students may not collaborate or discuss solutions of any assignment prior to submission without explicit prior permission from the instructor.

Use of artificial intelligence (AI) is prohibited without explicit prior permission from the instructor. When permitted, the students must clarify the sources and how and where the AIs were used.

Use of email is to be strictly professional in nature. Unprofessional or inappropriate email will be considered a violation of university ethical policies.

Violations of academic ethics can have a severe impact on a student's program beyond the penalties described below.

Faculty members will usually deal directly with students suspected of unethical behavior in their courses and will assign an appropriate penalty. The penalty may be failure in the assignment or examination or failure in the course. Faculty and students may seek the assistance of the division director when agreement on the charges and penalties cannot be reached. In all cases, a summary of the charges and penalties will be placed in the student's permanent file.

The SOM policy for the academic integrity can be found here: Please read.

4.6 Student Conduct

All MP students are required to abide by the MP program policies, the JHU Student Conduct Code, and the SOM Graduate Student Policies. Student conduct that is not in line with the program and University values and goals will be reason to re-assess participation in the program. Examples include:

- Academic dishonesty
- Displaying unacceptable professional behavior (e.g., lack of respect for peers or faculty, sexual harassment; or hate speech)
- Failure to abide by university or program guidelines and policies
- Refusal to abide by program requirements

4.7 Master's Degree

Neither intermediate MS degree (*) nor terminal MS degree (*) shall be awarded to MP PhD students.

(*) An intermediate MS degree is an MS degree awarded to a PhD student during their PhD training on the program once they have fulfilled specific requirements for an MS degree. A terminal MS degree is an MS degree awarded to a PhD student when they terminate the PhD training and exit from the program.

4.8 Remediation, Probation and Dismissal Procedures from the MP PhD Program

The SOM Policy for Graduate Student Remediation Probation and Dismissal describes resources for student support and provides guidance for remediation; academic probation with steps to return to good academic standing; and dismissal when applicable. The flowchart in Figure 1 from the SOM policy gives an overview of the available paths, and it is important that it is consulted with the information provided below." The flowchart may be changed later when the SOM policy is revised.

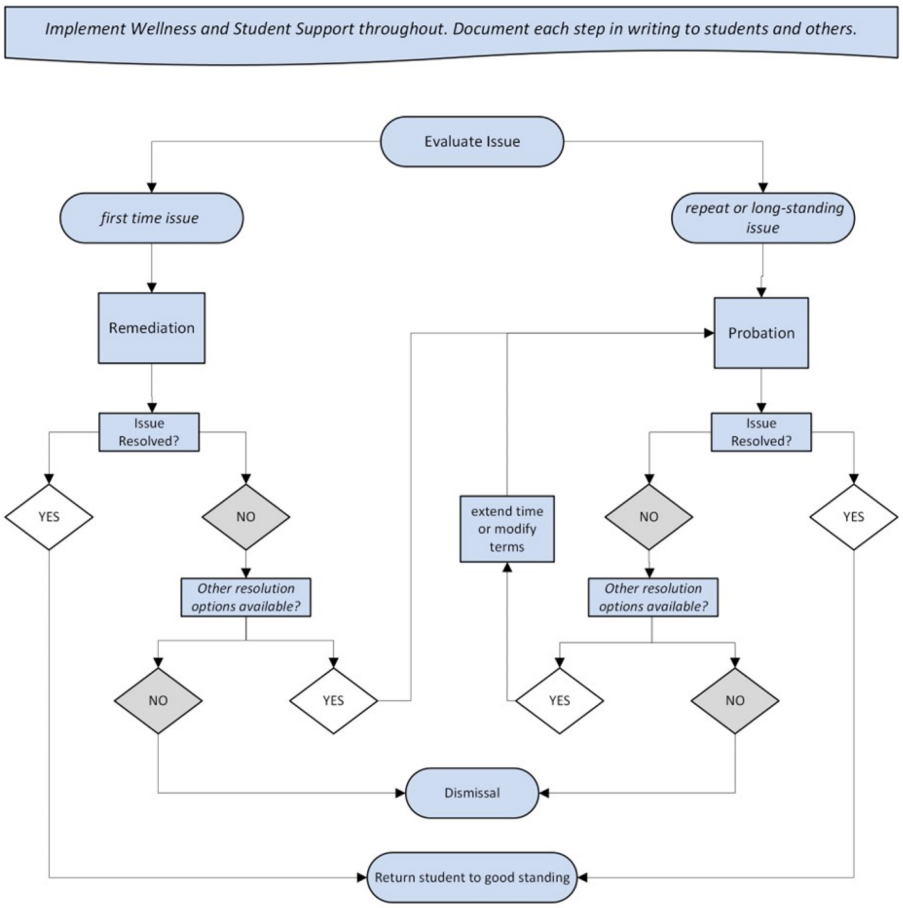

Figure 1: Process for remediation, probation, and dismissal. This is a simplified flowchart. Please refer to the sections below for details.

The MP PhD program directors will state the reason for this probation in a letter to the student with deadline that student must meet in the probationary period. At the end of the probationary period, the program directors will evaluate the progress of the student and will take on of the three actions: (a) remove the student from probation, (b) extend the probationary period, or (c) dismiss the student from the academic program.

The SOM policy for grievance procedure can be found here. The student may appeal the above decision in writing within five business days to the Overarching Medical Physics Program Directors.

5. Faculty Membership and Participation

5.1 Membership

Each faculty can be a member of the MP PhD program, either a Full Member or an Associate Member. MP PhD program members will be: (1) eligible to participate in student admission process, and (2) eligible to become primary thesis advisors.

A. Full member: Full participation in the program, including admissions.

a. Faculty with a PhD degree
b. Faculty at the rank of Assistant Professor, Associate Professor, or Professor (*1)
c. Faculty with the primary appointment at either of the following two divisions (*2)
    - Radiological Physics Division, Department of Radiology and Radiological Science
    - Division of Medical Physics, Department of Radiation Oncology and Molecular Radiation Sciences

B. Associate member: Full participation in the program, including admissions. The following JHU tenure track faculty are qualified to apply for Associate Membership.

a. Faculty with a PhD degree
b. Faculty at the rank of Assistant Professor, Associate Professor, or Professor
c. **Faculty with the primary appointment at either of the following two departments** but not at the two divisions specified in A.c
    - Department of Radiology and Radiological Science
    - Department of Radiation Oncology and Molecular Radiation Sciences
d. Faculty whose application has been approved by the MP PhD program for the corresponding academic year

(*1) Instructors can be neither the primary advisor of PhD students nor on their DBO committee. See Sec. 3.6.2 (DBO Committee) and Sec. III.F.1.a, SOM policy.

(*2) Yong Du, PhD of Department of Radiology is recognized as a Full member due to his significant contribution to the foundation of the Medical Physics Academic program.

Associate Membership will be granted once the following process is completed and expire every year on September 1st.

(1) The faculty submits a signed statement (*3), co-signed by their Division Chief, in which
    a. The faculty agrees to
        i. follow the MP PhD program policies,
        ii. adhere SOM graduate program policies,
        iii. provide financial support to PhD students,
        iv. provide program support fee to the MP PhD program, and
        v. commit to wellness of PhD students.
    b. Their division chief or comparable agrees to
        i. endorse the faculty's application,
        ii. provide financial support if the faculty has a financial issue in the future.
(2) The MP PhD program steering committee reviews, discusses, and votes the application
(3) A majority of MP PhD program steering committee votes favor the application

The Associate Membership may be revoked at any time with a majority of MP PhD Steering Committee members' votes.

(*3) Contact MP PhD program directors or administrators for the application form for the Associate Membership (MedPhysPhD@jh.edu).

All MP PhD program faculty members are expected to complete the mentoring training offered by the Office of Faculty Development at the School of Medicine (see Guidelines for Faculty Participation in Graduate Program Activities). Faculty who plan to accept students must register for and begin this training as soon as possible. The training must be completed before finalizing the placement of a graduate student in their lab or by the end of the first year of their PhD student's training.

6. Important JHU and SOM Policies

Accommodations

The SOM Student Disability Services provides accommodations and services to students with disabilities including ongoing medical conditions or injuries. To register with Student Disability Services and request accommodations, please complete the Online Registration Form. If you are not sure whether you want to request accommodations or if you have questions about any aspect of the process, please email GradDisabilityOffice@jhu.edu. Students are strongly encouraged to request accommodations before courses begin. Accommodations are not retroactive, but students can request them at any point in the semester they feel they need them. Prospective students can contact GradDisabilityOffice@jhmi.edu to request accommodations for their interview, and/or after matriculation. This communication is confidential.

Wellness

The health and wellness of students are of utmost importance to us here at Johns Hopkins. As part of the overall umbrella of the Johns Hopkins Student Health and Well-Being services, Mental Health Services (MHS) provides confidential support for students through goal-oriented counseling, psychiatric care, consultation, and referrals to appropriate and accessible services and resources, both on and off campus. Students also have access to a range of workshops, groups, and online resources, which can be found on the MHS website. Support is available 24 hours a day, 7 days a week through the Behavioral Health Crisis Support Team. Licensed clinicians can be reached via the Access Line at 410-516-9355, and mobile crisis co-response is available within JHU's Baltimore campus' footprints.

Student advisors and program directors should refer to the Student Well-Being page on How Faculty & Staff Can Help, and they should contact MHS for advice on how best to support students and/or whether to refer a student to MHS for support.

Mentoring Oversight

Johns Hopkins University is committed to a culture of quality mentoring for all students. The Policy on Mentoring Commitments for PhD Students and Faculty Advisors provides mechanisms to support a climate of excellence in mentoring for PhD students; and the JHU Mentorship Commitments of Faculty

Advisors and PhD Students outline mentoring expectations that should be discussed by advisors and their students. Our program ensures that these mentorship commitments are

- Discussed in a session with the incoming students
- Discussed with new faculty in the program.
- Shared with all students and their thesis advisors when they join a lab (as part of the lab placement documents).

If a student has a question or concern regarding their relationship with their thesis advisor, they can reach out to any of the following: the program directors, their thesis committee members; the Associate Dean for Graduate Biomedical Education; and/or the University Ombuds. The MP PhD program follows the SOM Conflict Resolution Procedures in the Context of the Relationship Between Faculty Mentors/Advisors and Graduate Students.

Students of Faculty Who Leave Johns Hopkins

On occasion, faculty members change institutions. In such cases, the MP PhD program follows the SOM policy on Mentoring oversight and support of PhD students whose thesis advisors are less than 50% full time employees (FTEs) or less than 50% available on site at JHU.

PhD Student Employee Union and Collective Bargaining Agreement

Information about the TRU–JHU PhD Student Union and the Collective Bargaining Agreement (CBA) can be found on this website: https://provost.jhu.edu/education/graduate-and-professional-education/phd-union/.

- PhD students in the program who receive work appointments and/or health insurance premium subsidy through Johns Hopkins University are defined as PhD Student Employees under the Collective Bargaining Agreement (CBA) dated March 29, 2024-June 30, 2027.
- This agreement has established wages, work hours, benefits, and conditions of appointment, many of these are described below.
- Eligible PhD students will be contacted by the Union and may elect to join the union and pay dues or pay agency fees. All eligible PhD students are under the CBA, regardless of Union membership.
- The CBA only covers work, which is limited to a maximum of 20 hours per week on average for base funding. A PhD Student Employee may voluntarily elect to participate in supplemental-funded activities beyond the 20 hours per week on average in alignment with their funding sources and visa guidelines (for international students).
- Academic policies for Medical Physics PhD program are not part of the CBA and are defined elsewhere in the handbook.

This is just a summary, not the actual terms of the CBA. To review the actual terms of the CBA please click on the link). Not all elements of the agreement are summarized below, please reach out to the department/program with questions.

CBA Summary

- Compensation for PhD Student Employees
  - Academic year (AY) 25–26: guaranteed minimum stipend of $50,000 effective July 1, 2025
  - The hourly appointment rate will be $27.03/hour, at minimum for teaching/research supplemental appointments.
  - Minimum 5 years of guaranteed funding for all PhD Student Employees in the School of Medicine.
  - PhD Student Employees with external awards paid through the University will have their compensation increased to the minimum stipend, if it is below the guaranteed minimum, during the period of guaranteed funding.
- Benefits
  - Enrollment information will be available through HR Benefits for Students and Learners and communications will be sent in advance of benefits election periods.
  - Paid by the University
    - The University will pay the premiums for University Student Health Benefits Plan (SHBP), including dental and vision coverage, employee coverage for employees in full-time resident status during the terms of full appointments.
    - PhD Student Employees will receive subsidies of $4,500 per child per year for eligible children under 6 years and $3,000 per child aged 6-18 years or adult dependent, with a maximum of $12,000 per family per year, in installments throughout the year.
  - Reimbursed by University/Departments
    - The University will pay the cost of the health insurance premiums for eligible dependent children and spouses unable to work in the US, including dental and vision. Reimbursement procedures will be available on the HR Benefits website.
    - International students will be eligible to apply to a yearly fund to cover required visa fees.
    - Students will be eligible for reimbursement for MTA All Access College Transit Passes or DC U-Passes. Registration and enrollment information will be available on the HR Benefits website.
    - Time Off/Vacation/Leaves
  - All University holidays are recognized.
  - PhD Student Employees can take 15 vacation days per year. Additional time can be given by a supervisor.
  - PhD Student Employees can take 15 sick days per year with an additional 5 days per dependent.

- PhD Student Employees can take 5 days of bereavement leave for the passing of immediate and extended family members and close friends, with 1 additional day for those needing international travel.
- International PhD Student Employees who are required to travel out of the country in order to maintain their immigration status necessary to be able to continue their program at the University are eligible for up to fourteen (14) days with pay during the period of such travel.
- PhD Student Employees who are new parents are eligible for 8 weeks of paid leave following birth or adoption, with an additional 4 weeks for the birthing parent. NOTE: PhD students who are new parents and want academic accommodations should follow the New Child Accommodation policy.
- Leaves of absence, including family leave, medical leave, and personal leave, are governed by the University's Leave of Absence Policy (https://policies.jhu.edu/doc/fetch.cfm/TBlXLPii).

- Work Hours
  - No PhD Student Employee shall be required to perform work for more than 20 hours/week on average.
  - Teaching Assistantship (TA) hours are included in the 20 hours of work that may be assigned regardless of whether the TA is part of an academic requirement or not.
  - Academic coursework, exams, and research related to your academic learning and dissertation are not considered work and are not included in the work hour limitations.
  - There are no restrictions on work external to Hopkins except when decreed by funding source or visa status as long as academic progress is not impeded.
  - All work appointments (baseline funding or supplemental funding) require an appointment letter. Appointment letters will define the expectations and requirements of the teaching, research, or other University activity appointment. Students should contact their department/program administrator (Sharon Welling, swelling@jhmi.edu) with any questions.

- Union Representation
  - All PhD Student Employee directory information will be sent to the Union unless restricted. Supplemental information will require a FERPA consent form available on SIS self-service.
  - Union Representatives are current PhD Student Employees who are elected/selected to help their fellow PhD Student Employees navigate work-related disciplines, grievances, and other procedural/policy issues. Contact TRU-JHU with questions about your division's specific Union Representatives.
  - TRU-JHU Contact Information
    - Website: https://trujhu.org/
    - Phone: (443) 281-9462
    - Address: TRU–UE Local 197, PO Box 41149, Baltimore, MD 21203
    - Email: trujhu@gmail.com

Resources

Important Resources You Need to Know

Policies
JHU policy finder
https://www.hopkinsmedicine.org/som/education-programs/graduate-programs/student-academic-resources/policy-finder

Johns Hopkins University: Student Conduct Code
https://studentaffairs.jhu.edu/policies-guidelines/student-code/

Graduate Student Policies
https://www.hopkinsmedicine.org/som/education-programs/graduate-programs/academics/academic-resources/policy-finder.html

Satisfactory Academic Progress: Graduate Students
https://www.hopkinsmedicine.org/som/offices/finaid/sap/grad.html

Graduate Student Leave Policy
HTTPS://CMM.JHMI.EDU/WP-CONTENT/UPLOADS/2021/01/GRADUATE-STUDENT-LEAVE-POLICY.PDF

JHU Personal Relationship Policy
https://cmm.jhmi.edu/wp-content/uploads/2019/07/Personal-Relationship-Policy.pdf

Registrar's Office
Links from Registrar's Office: Information regarding registration and important student information from the School of Medicine Registrar.
https://www.hopkinsmedicine.org/som/offices/registrars/graduate-students/registration.html

Update your information with the Registrar's Office: use *Self-Service* to update your demographic data and see your grades/course registration.

If you have moved along with changing your address in the above Self-Service system you need to update the information in the *ESS* Employee Self Service. https://ess.johnshopkins.edu/

Health Insurance Information
The School of Medicine Registrar's office has provided *Health Insurance Information* for students. https://www.hopkinsmedicine.org/som/offices/registrars/benefits/index.html

Contact information on University Health Services and directions to 933 N. Wolfe St. are available at these websites. https://www.hopkinsmedicine.org/uhs/

Office of International Student, Faculty and Staff Services
Information for current International students can be found at *Office of International Student, Faculty and Staff Services* https://ois.jhu.edu/

Libraries
The JHU Libraries are extensive, both on-ground and online. The Welch Medical Library, on the medical campus, includes study space on the second floor of the library in the East and West Reading rooms, at carrels located on all floors of the stacks, and in the central lobby. Library resources can be found here: https://welch.jhmi.edu/

Security
While the JH Public Safety provides ample and appropriate security to the campus, they remind us that we must play our part. Please exercise common sense when entering and leaving your workspaces, classrooms, and labs.

- When you leave your office, if you are the only one there, lock the doors even if you leave only for a minute. Thefts take only a few seconds and valuable equipment and your work can disappear instantly.
- Secure your laptops. Take your laptops with you when you leave your workspace.
- Back up your work onto separate disks or systems in case something happens to computer via virus, equipment problems, or theft. The University provides free anti-virus software that can be downloaded from the website at http://it.jhu.edu.
- Lock your car and do not leave any items inside your car in plain sight. Secure them in your trunk or bring them with you.
- Secure your personal items such as your purse, wallet, books, equipment, and your coat or jacket.
- If you see someone suspicious in your workspace or area, don't confront the individual, contact Security at 410-955-5585 right away. Your personal safety is most important.
- If you are uncomfortable walking through campus or to your car at night or otherwise are concerned for your safety, the security team provides escort services to selected locations. Call 410-955-5585 to arrange for an escort.

Transportation
This page provides the comprehensive information about the transportation and parking. There are reimbursement and subsidized information specific to PhD students under CBA.

Parking Information–If you work or go to school at the Johns Hopkins East Baltimore campus, you may purchase a permit for on-campus parking:
https://www.hopkinsmedicine.org/security_parking_transportation/parking/employee_student_parking.html

Shuttle Bus information-If you work or go to school at Johns Hopkins Medicine or Johns Hopkins University, you may take advantage of courtesy shuttles. These free shuttles provide transportation around the East Baltimore campus, Johns Hopkins Bayview Medical Center, JHU's Homewood campus, and several other satellite offices and parking lots:
https://www.hopkinsmedicine.org/security_parking_transportation/transportation/employee_student_shuttles.html

Other General Information

Emergency Alert System

Graduate Student Association

ID Badge Replacement