The Dartmouth Institute
for Health Policy & Clinical Practice

STUDENT HANDBOOK

PHD PROGRAM
IN
HEALTH POLICY & CLINICAL PRACTICE

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I. OVERVIEW AND STATEMENT OF PURPOSE

The Dartmouth Institute for Health Policy & Clinical Practice is one of many exemplars of excellence that compose the Audrey and Theodor Geisel School of Medicine at Dartmouth. Founded in 1797, the Geisel School of Medicine is the fourth oldest medical school in the nation and consistently one of America's top medical schools. The Geisel School is committed to improving the lives of the people it serves; to advancing healthier communities through innovations in research, education, and patient care; and to creating new generations of diverse leaders who will help solve the most vexing challenges in healthcare. The Geisel School has produced many firsts and advancements in education, research, and medical practices. Among them include valuable contributions from The Dartmouth Institute such as the Dartmouth Atlas of Health Care, the first comprehensive examination of variations in health care costs in US medical practice.

The Dartmouth Institute's Doctor of Philosophy (PhD) program is designed for those pursuing a career involving major research and/or leadership roles in the areas of health policy, public health, or clinical practice. Disciplines represented by the faculty include health services research, decision science, economics, epidemiology, biostatistics, geography, political science, psychology, public health, clinical medicine, sociology, anthropology, and ethics.

The PhD program at The Dartmouth Institute is fueled by scholarly curiosity to engage in original academic inquiry. Successful pursuit of a doctoral degree requires initiative, resiliency, and sustained passion and persistence for success. It also requires the full commitment of your presence, time, and research productivity, as these are the hallmarks of a successful academic or other career centered on original research reflected in the design and standards of the program.

The PhD program begins with a set of required courses, research rotations, and continues with a formal dissertation proposal defense. Training culminates in the production of a publishable dissertation (typically amounting to the equivalent of at least 3 papers) based on original research in the student's chosen field of investigation. Each student is required to work on the dissertation under the supervision of a faculty adviser; this association will determine, to a large extent, the nature of the student's individual course of study. The guidelines that follow strive to ensure that each student completing the PhD program will have acquired the necessary skills and knowledge to be effective in research in their chosen discipline.

The research will ideally be derived from a student's original idea although in some fields (e.g., methodological work, interventional work), it may be that the student's original ideas and contributions apply to phases of the research other than the original genesis of a study. It will be appropriate to further existing research from your adviser so long as (1) the student's original contribution is clear, substantial, and produced

during their PhD research efforts; and (2) the work is sufficiently distinct from research completed prior to their PhD studies. Simply writing up papers for publication that have emanated from the combined activities of a research team is not a sufficient demonstration of academic originality (e.g., a continuance of work previously performed as a research scientist or research assistant is unlikely to be deemed a sufficient demonstration of academic originality). While collaborations are encouraged and in many fields are necessary, a student will need to have been the primary driving force and innovator of the work underlying the papers for them to qualify (typically a PhD student leads the research efforts that result in a minimum of at least three publishable journal articles).

II. THE DARTMOUTH INSTITUTE PHD PROGRAM ADMINISTRATION

The Dartmouth Institute PhD program is overseen and guided by the program director(s), an associate director, The Dartmouth Institute PhD Program Committee, and the PhD Program Faculty, who instruct, advise, supervise, and mentor doctoral students. Contact information for the Director(s) and Associate Director is listed above.

PhD Program Director(s)

The PhD Program Director(s) are responsible for the scientific and programmatic vision of the program. This includes potential modification or expansion of the PhD program and strategic resource sharing with other programs. A shared responsibility of The Dartmouth Institute Director and the PhD Program Director(s) is the development and maintenance of a positive climate that is consistent with Dartmouth's institutional goals for diversity, equity, and inclusivity, and that supports the academic and research success of PhD program students, faculty, and staff.

The PhD Program Associate Director coordinates and manages all administrative, financial, and operational aspects of the program. Their overarching responsibility is to actively support student progress and advocate for students by being their primary point of contact regarding all administrative aspects of the PhD program from matriculation to graduation.

PhD Program Committee

The PhD Program Committee provides counsel on major programmatic issues, student assessment hearings, and other similar matters. Votes are considered binding unless re-evaluated and overturned by a simple majority of voting members. The PhD Program Committee is a 5-member committee consisting of the PhD Program Director(s) and a minimum of three voting members of the program faculty. The PhD Program Director(s) will determine and approach faculty members to fill vacant committee member seats as needed. Potential members will be considered by vote of the PhD Program Committee. The PhD Program Committee is chaired by the PhD Program Director(s). The term for all committee members is a minimum of three years. The Dartmouth Institute Director may sit on the committee as an additional ex-officio member with no voting rights. Intention to resign from the committee except under unexpected personal or professional circumstances must be expressed to the committee at least two months in advance such that a suitable replacement can be found.

The PhD Program Committee meets at least quarterly per year at approximately 3-month intervals. Decisions regarding major programmatic issues and other matters are put to a vote of the PhD Program Committee and implemented by The Dartmouth Institute administration and PhD Program Faculty where appropriate. For routine decisions, the PhD Program Director(s) will act in their best judgment. Committee members also serve as members of the PhD Admissions Committee; additional members to the admissions committee will be appointed each year by the PhD Program Director(s).

The PhD Program Committee periodically evaluates the content and sequence of the PhD curriculum and degree requirements. The committee will identify scientific gaps and market competitiveness; review syllabi, sample lecture slides, and homework assignments from each course when it is first offered by an instructor or substantially modified; and meet with course directors to relay feedback from course evaluations. For courses that they or TDI leadership identify as requiring improvement, the committee will provide support to course directors in creating an action plan for course improvement as appropriate. Rigorous curricular oversight ensures that graduates of The Dartmouth Institute PhD Program will demonstrate competency in quantitative, qualitative, survey, and mixed-methods research.

PhD Program Faculty

Only approved PhD Program Faculty members may supervise a TDI PhD student as a primary mentor/adviser. Mentoring a PhD student carries multiple responsibilities such as financial responsibility for the student (e.g., up to four years of funding support, which includes a stipend and Dartmouth student health insurance), attending program seminars, participating in TDI sponsored events, accepting PhD students for research rotations, supervising dissertation students, service on program committees, and helping with potential student candidate interviews and recruitments during recruiting season. Such faculty members will typically have an independent research program as the primary focus of their Dartmouth activities.

Becoming PhD Program Faculty

Faculty of The Dartmouth Institute and other members of the Dartmouth community who wish to supervise TDI PhD students as their primary mentor/adviser must submit their biosketch/CV, a conflict-of-interest form, as well as a letter of intent to The Dartmouth Institute PhD Program stating why they would like to become PhD Program Faculty and why they would be a good fit for the program. This information is distributed to the PhD Program Committee who must provide a majority affirmative vote for this individual to join the PhD Program Faculty.

“The Dartmouth Institute Faculty” refers to persons whose primary appointments are in The Dartmouth Institute while “The Dartmouth Institute PhD Program Faculty” refers to Dartmouth Institute faculty and all persons who have been vetted as

Dartmouth Institute PhD Program faculty members. It is typical but not required for such faculty to hold primary, secondary, or tertiary appointments within TDI.

Primary Responsibilities of Program Faculty

PhD Program Faculty join the program with the intent to supervise rotations, and sponsor and mentor dissertation students. It is recognized that this may be dependent on funding in a given academic year. When taking a rotation student, the faculty member should have a reasonable possibility of being able to fund (or co-fund) the student should the student and faculty member be interested in matching together (e.g., the faculty member is actively applying for grants). The PhD Program Associate Director will solicit information from each faculty member in the program regarding their interests in sponsoring rotation students and be guided by this input when assigning rotations annually. At that time students seek to match with faculty, typically at the end of their first year in the program, faculty should commit to four years of support for a PhD student. Faculty can expect the average length of PhD student/candidate training to be at least 3-5 years after a student matches with them. Faculty mentors anticipating funding hardships should notify the PhD Program Director(s) as soon as possible to review the situation and determine a path forward.

Mandatory Attendances

PhD Program Faculty are expected to attend the following student activities and academic milestones:

- Regularly scheduled committee meetings
- PhD research seminars (annual research in progress seminars led by PhD students from Year 3 onwards).
- Qualifying and dissertation defenses
- Diversity, Equity, Inclusion, and Belonging training and anti-racism training, if not already completed, as recommended and/or required by the Guarini School, Geisel School of Medicine, and/or Dartmouth College

Additional responsibilities of Program Faculty

- Participation in PhD program admissions processes, including application review, applicant interviews, evaluations, and attendance at prospective student events
- Attending and participating in other TDI seminars, outreach, and social events
- Complete an annual student review with the PhD Program Director(s) and/or Associate Director
- Student mentorship as appropriate through primary adviser role and/or as a member or content-area expert on either Qualifying Examination and/or Dissertation Committees on which they serve (faculty advising obligations are delineated more fully below)
- Program faculty are strongly encouraged to attend all PhD student seminars

Expectations for Professionalism

The Dartmouth Institute upholds institutional expectations for professional conduct by all faculty, non-faculty academics, and staff engaged in delivering the PhD program. Institutional policies related to conduct include, but are not limited to, the following:

- Geisel School of Medicine at Dartmouth
- Guarini School of Graduate and Advanced Studies (searchable list of Guarini policies) including but not limited to:
    - Honor Principle and Code of Conduct Violation Procedures
    - Code of Conduct - Nonacademic Regulations
    - Safeguarding Integrity in Research, Training, and Other Related Activities
    - Consensual Relationships and Conflict of Interest
    - Dartmouth College Policy on Sexual and Gender-based Misconduct

Graduate Student Representatives to the PhD Program

Each year, up to two TDI PhD students in Year 2 or beyond are chosen to serve as Graduate Student Representatives to the PhD program. These student representatives perform as part of the PhD Admissions Committee. They actively participate in the admissions process by reviewing assigned PhD applications, and participating in the PhD interview processes and prospective student events. Student representatives also are expected to attend student-related academic and social events and to help in the planning of main program events, such as the annual retreat, new student orientation, enrichment activities, and/or select trips.

III. OVERVIEW OF THE PHD DEGREE REQUIREMENTS

Successful completion of TDI's PhD program requires students to complete all degree requirements for research and coursework, to maintain satisfactory academic progress for the duration of their doctoral studies, and to actively engage in a wide variety of program events and activities as outlined by year in Table 1.

Enrollment Status, Attendance Expectations, and Academic Performance

Note that in the sections following, the term 'first-year student' is used to describe a student who is formally matriculated to the PhD program. Under most circumstances prospective students may not begin satisfying the program requirements described in this document prior to the fall term of their first year in the program. Exceptions may be made for those students accepted from The Dartmouth Institute's master's degree programs.

Full-Time Student Status

The TDI PhD Program is a full-time degree program requiring continuous full-time enrollment status; it is not designed or intended for students seeking part-time studies. During any year in which they receive compensation from Dartmouth, regardless of the source of those funds, graduate students are committed by the terms of their agreement to be in residence for a period of 12 months commencing one week before the start of fall term.

All TDI doctoral students are advised to enroll in three courses each term. All candidates for the PhD are required to enroll in a three-course load. For financial aid purposes, a graduate student enrolled in two or more courses or in a graduate research course is considered to be a full-time student. However, for IRS purposes under certain circumstances, a three-course load may be required for full-time status.

A full-time student in the Guarini School of Graduate and Advanced Studies who is in good academic standing is considered to be making satisfactory progress unless the student's graduate committee or the Dean of the Guarini School has placed the student in unsatisfactory academic standing or taken action to separate the student from the college. See the specific details of Guarini's policy at [https://graduate.dartmouth.edu/policy/requirements-meet-full-time-student-status]

Requests for part-time status will be reviewed by the PhD Program Director(s) in conjunction with The Guarini School of Graduate and Advanced Studies.

Table 1: Overview of PhD Program Requirements.

YEAR 1	***Research Requirements***	***Course Requirements***
August		Welcome to The Dartmouth Institute and enroll in summer classes
September		PhD program orientation
Fall Term	Research rotation 1	Core coursework
Winter Term	Research rotation 2	Core coursework
Spring Term	Research rotation 3 (optional) Match with adviser	Core coursework
YEAR 2	***Research Requirements***	***Course Requirements***
Summer Term	Directed research	Core coursework
Fall Term	Directed research, Qualifying Exam Committee created	Core coursework and PH 290: Grant Writing Seminar
Winter Term	Directed research	Core coursework and PH 290: Writing Seminars (and initial professional development)
Mid-January	Submit first draft of Specific Aims page; then continue working on remainder of proposal	
Mid-February	Qualifying Examination Committee provides Specific Aims page revisions and adds final member of committee	
Mid-February	Submit final revision of Specific Aims	
Mid-March	Submit first draft of written Proposal	
Mid-April	Qualifying Examination Committee Returns Revision Comments	
Mid-May	Submit final revision of written Proposal	
Mid-May	Qualifying Examination Committee Approval or Failure of Final Proposal	
Mid-June	Qualifying Exam: Oral defense of Proposal	
YEAR 3 and Beyond – PhD Candidates deliver an annual Research in Progress Seminar at The Dartmouth Institute. PhD Dissertation defenses typically occur in Year 4 or 5 (some may occur in Year 3).		
Teaching Assistantships to commence in Year 3 (required to teach up to 2 units; DCAL TA orientation required).		
Professional development activity to commence in Year 3 (for details see Section III, page 27).		
Summer Term	Doctoral research, ongoing	
Fall Term		PH 270: Advanced methods
Winter Term		PH 270: Advanced methods
Summer Term		PH 270: Advanced methods
Additional course enrollment is optional (for professional development or to complete required courses for MS in Quantitative Biomedical Science)		
6 months prior to planned Dissertation submission	Doctoral research, ongoing. Identify external PhD Dissertation examiner	
2 weeks prior to PhD Dissertation Defense	Share final PhD dissertation with examination committee	
PhD Dissertation Defense	Public presentation/defense, followed by private defense. Graded as Pass, Conditional Pass, or Fail	
Defense Passed	Corrections shared with adviser for approval; submission to library	
Graduation	Confirm submission deadlines and graduation requirements with Guarini School.	

Orientation

All PhD students will participate in a formal two-day program orientation to be held in early September each year. The annual program orientation will cover a variety of topics relative to academic requirements, expectations, policies, and procedures. Equally as important, orientation activities facilitate student engagement with peers and faculty.

Should any scheduling conflicts exist, all efforts possible will be taken to ensure that students can attend pertinent and/or required orientation activities/events offered by The Guarini School of Graduate and Advanced Studies.

Checking In Each Term

According to Guarini School policy [https://graduate.dartmouth.edu/policy/check] all graduate students must check in on the first day of each term. This process requires the online verification/update of the student's addresses and an enrollment commitment (check-in) for the term.

The check-in process indicates any holds that may have been placed on registration due to failure to settle the tuition bill or DA$H account, or to meet certain other College requirements. If holds exist, information is provided to indicate where and how the student can eliminate registration holds.

Check-in is available each term on the day before classes begin. Students are required to complete the check-in process (including clearance of any holds) by 4pm on the second day of class for the term. After this deadline, check-in will incur a $50 fee.

Students who are obliged to check-in late may petition the Guarini School of Graduate and Advanced Studies Registrar for waiver of this charge for good and sufficient reason.

Any student scheduled to be in residence who has not completed the check-in procedure 10 calendar days after the term begins is subject to administrative withdrawal from college immediately thereafter.

Vacations, Leaves, and Absences

Vacation time should not exceed a total of one month per year, excluding designated institutional holidays; date(s) should be mutually agreeable to the student and the dissertation adviser. During summer terms students are expected to perform dissertation research and enroll in required courses as course availability and time permit.

Requests for medical leave will be reviewed by the PhD Program Director(s) in conjunction with the Guarini School. For any expected absences of greater than one month per year and for students who are primary caregivers for a child, rules and regulations adhere to those outlined by Guarini in the Graduate Student Handbook.

Annual Performance Review

The student will complete an annual review at the end of each academic year. The student should use their progress report template as a meeting agenda outline that informs their committee of their research progress to date, classes completed, papers published or in progress, and a timeline of future plans.

This report should be signed by the student and all members of their Qualifying/Dissertation Committee and submitted to the PhD Program Director(s) by the end of June. If a student cannot arrange for an annual committee meeting in a timely fashion, they must provide a valid reason to the PhD Program Director(s). If no valid reason can be provided or approved, the student will be placed in unsatisfactory standing, the Guarini School of Graduate and Advanced Studies will be notified, and the situation will be reviewed by the PhD Program Committee.

The report form should include an evaluation or outline of the student's progress in the program and in developing and completing a dissertation research project. This will serve as part of the formal record of the student's graduate education. Completed and signed reports will be submitted to the PhD Program Associate Director within 10 days.

YEARS 1 AND 2: Research and Core Coursework

In June through August preceding the start of the fall term, entering students are encouraged to meet individually with The Dartmouth Institute leadership and members of The Dartmouth Institute faculty. The purpose of this initial meeting is to familiarize students with faculty research to begin the selection process of faculty advisers for research rotations.

Required Research Rotations (Years 1 and 2)

Research rotations are required during the first year of the program by all new PhD students. These rotations are required courses (units can vary each term) for which a student must register and will earn a grade (credit or no credit). The rotations are a "guided research" experience that serve to determine a match between the student and faculty member(s) with whom the student will complete their PhD studies. During their first year in the program, students are required to complete at least two research rotations (up to three is both permissible and common) under the supervision of faculty members. Each rotation will be for the duration of an academic term (10 weeks) and should include approximately 10 hours of research per week. Joint faculty rotations may be arranged with the approval of the 0PhD Program Director(s). Only under approved and special circumstances are fourth or additional rotations allowed.

Students are strongly encouraged to read papers by faculty whose research is of particular interest to them and to call or write to those faculty members during the summer term to discuss the possibility of a rotation. Students also will have an

opportunity to learn more about faculty interests during a “Lunch with the Faculty” event during fall orientation. Before the start of each term, students are required to submit up to three choices for research rotation advisers, in rank order of preference, to the PhD Program Associate Director to organize the selections. Choices should be submitted in the final week of the term.

Every effort will be made to match students with their first choice of adviser(s) for each research rotation, under the following considerations:

1. Students may perform research rotations only with faculty who have a reasonable likelihood of having at least three years of funding to support a student stipend, student health insurance costs (if applicable), and dissertation research.

2. Co-Mentorship: Students may perform a research rotation with non-TDI-affiliated faculty only in the event a co-mentor in The Dartmouth Institute is identified for the rotation. Ultimately, a non-PhD-Program Faculty member may be the primary dissertation adviser so long as there is a PhD Program Faculty co-mentor.

3. The PhD Program Associate Director will solicit information from each faculty member in the program regarding their interests in sponsoring rotation students and be guided by this input when assigning rotations.

4. Realizing that ideas, impressions, attitudes, and expectations change with time, only the first rotation is to be arranged prior to the beginning of the fall term. Subsequent rotations for winter and spring terms will be arranged during the final week of the preceding term using procedures identical to those employed for the assignment of fall term rotations.

5. It should be emphasized that neither the student nor the faculty member is to regard any of the research rotations as permanent. Students are required to perform a minimum of two research rotations within the first year of the program before finally deciding on a dissertation adviser.

Both students and faculty will independently complete a brief evaluation (available on the PhD Program Documents Shared Folder) within one week of completing each rotation.

Research rotations are graded by the research adviser or co-mentors on a Credit (CT) or No Credit (NC) basis. A grade of NC for the research rotation is given only if student performance is deemed seriously deficient.

Registration for Research rotations is based upon the total number of course units for which a student is registering in the term, as follows:

Select	***IF Course Registration***
• PH 181: Research in Health Services I (1 unit)	2-2.5 or more units
• PH 182: Research in Health Services II (2 units)	1-1.5 units
• PH 183: Research in Health Services III (3 units)	0-0.5 units

Note: PH 183 is for those not enrolling in any other courses or only a 0.5 unit course

Required Core Coursework (Years 1 and 2)

Like other PhD programs, skill building through didactic courses and seminars is emphasized during the first two years of the PhD program. Students will primarily take courses in the Dartmouth Institutes Programs and the Quantitative Biomedical Data Science program. Prerequisites and course requirements are outlined in this section.

Upon matriculation to the PhD program students are expected to possess certain foundational knowledge. The course requirements outlined below are considered a minimum for the PhD. In addition to the prerequisite entry knowledge covered in Core Course Requirement 1 below and that described in the preceding paragraph, the Dissertation Committee can recommend that a student take more than the minimum required number of courses to provide that student with an academic background appropriate for pursuing research in the student's chosen area of investigation. Students may petition the PhD Program Associate Director for degree credit(s) for courses completed at outside institutions that cover required prerequisite content. Should a student wish to take a course not on the approved TDI course list, they must receive pre-approval from the PhD Program Director(s) to receive credit toward degree.

<u>Core Course Requirement 1: Prerequisites</u>

While all courses below are strongly recommended for your training, students are required to complete only PH139 and PH140 ***OR*** successfully petition for course equivalency credit with supporting evidence of their mastery of that material.

1. Introduction to Health Services Research (recommended; these courses provide valuable background on The Dartmouth Institute's research areas)
   - ☐ PH 111: Medical Care Epidemiology
   - ☐ PH 128: Health Systems and Policy

2. Introduction to Research Synthesis and Study Types I (recommended; these courses provide background on health services research methods)
   - ☐ PH 100: Inferential Methods in Epidemiology and Public Health I
   - ☐ PH 102: Systematic Review
   - ☐ PH 122: Survey Methods
   - ☐ PH 125: Qualitative Methods

3. Basic Epidemiology and Biostatistics (Required or demonstrated competency must be shown)
    - ☐ PH 139: Measuring Health (required or must petition to have waived)
    - ☐ PH 140: Applying Health Statistics (required or must petition to have waived)

For example, students entering the program with a Master of Public Health, Master of Science in Economics, Health Service Research, or a related degree may place out of prerequisite course requirements. Students who believe that they have completed coursework equivalent to PH 139 and PH 140 elsewhere must petition the PhD Program Director(s) for credit. It is the student's responsibility to provide their transcript and course prospectuses (or at least descriptions) of prior courses and make the case as to why they have mastered the material. Students can transfer up to six credits (1 credit corresponds to one full-time course by Guarini's definition) according to The Guarini School of Graduate and Advanced Studies policy on credit transfers (https://graduate.dartmouth.edu/policy/transfer-credits). Questions related to Core Course Requirement, petitions for credit, and demonstrated competency can be directed to the Associate Director of the PhD Program.

Core Course Requirement 2: Year 1

The following 3 courses must be completed during Year 1:

- ☐ PH 141: Regression and Other Approaches
- ☐ QBS 139/PH 147: Advanced Methods in Health Services Research
- ☐ QBS 140/PH 121: Decision and Cost Effectiveness Analysis

Core Course Requirement 3: Year 1, Year 2, and Year 3

At least 3 courses from the following list must be completed by the end of Year 2:

- ☐ Biostatistics courses (a minimum of 1 of the following is required):
    - QBS 119: Biostatistics I: Applied Biostatistics
    - QBS 120: Statistical Theory
    - QBS 121: Statistical Modeling
    - QBS 122: Statistical Analysis of Complex Data

- ☐ Epidemiology courses (a minimum of 1 of the following is required):
    - QBS 130: Epidemiology I
    - QBS 131: Epidemiology II
    - QBS 136 or 137: Applied Epidemiology Methods
    - QBS 133: Clinical Epidemiology

AND

The following series of TDI seminars in professional development are to be completed, as follows, over the 6 terms of Year 2 and Year 3:

- PH 290: Professional Development Seminar (Year 2, register each term)
  - Year 2 Fall: Grant Writing Seminar
  - Year 2 Winter: Writing Seminar
  - Year 2 Spring: Writing seminar

- PH 270: Advanced Research Methods (Year 3, register each term)
  - Year 3 Fall
  - Year 3 Winter
  - Year 3 Spring

Notes and Suggestions on Course Selections

- Students who have taken The Dartmouth Institute Bio/Epi masters-level courses cannot count QBS 130 (Epi I) toward Core Course Requirement 3.

- Students whose doctoral studies in Health Policy and Clinical Practice are more quantitatively focused might consider completing the sequence QBS 119, 120, 121, and 122 (still taking at least one of the QBS 13x sequence), while those whose studies are more qualitatively focused might consider the sequence QBS 130 (if not already completed), 131, 136/137, and 133 (still taking at least QBS 119).

- Students whose research involves quantitative analyses are encouraged to include QBS 121 among their course selections, and those involving cutting-edge quantitative work are encouraged also to include QBS 122.

- Mixtures of these focused sequences are allowed, and students should discuss alternatives under consideration with their faculty adviser.

Coursework in Directed Research and Directed Reading

It is important that students set achievable and measurable research goals each term. Students must complete the required form outlining their research objectives for the upcoming term. The objectives must reflect the level of effort proposed i.e., if selecting PH 199 or PH 299, the student should propose 35 – 40 hours of research per week. The goals should be measurable and attainable, and approved by the PhD program leadership team (Year 1) or primary adviser (Year 2 forward).

Directed Research – Pre-Qualifying

In Years 1 and 2, prior to passing the Qualifying Examination, students will be busy with research rotations and core curriculum classes. Students should only enroll in a Pre-Qualifying Directed Research course in the uncommon scenario that it is needed to bring credits up to a full-time level (3 units). A plan for research to be completed during this time must be approved by PhD program leadership (if taken in the first year of the program) or primary adviser (if taken in the second year of the program).

Registration in pre-qualifying directed research is based on the total number of course units for which a student is registering in the term, as follows:

Select	***IF Course Registration***
● PH 197: Directed Research (1 unit) (25-30 hours/week)	2-2.5 or more units
● PH 198: Directed Research (2 units) (30-35 hours/week)	1-1.5 units
● PH 199: Directed Research (3 units) (35-40 hours/week)	0-0.5 units

Note: PH 199 is for those not enrolling in any courses or only a 0.5 unit course)

Doctoral Research – Post-Qualifying

In Year 3 going forward, students must select one of the Doctoral Research courses; the selection should reflect the amount of time students plan to spend on their doctoral research during the upcoming term. It is expected that most time will be focused on doctoral research.

Registration in post-qualifying doctoral research is based on the total number of course units for which a student is registering in the term, as follows:

Select	***IF Course Registration***
● PH 297: Doctoral Research (1 unit) (25-30 hours/week)	2-2.5 or more units
● PH 298: Doctoral Research (2 units) (30-35 hours/week)	1-1.5 units
● PH 299: Doctoral Research (3 units) (35-40 hours/week)	0-0.5 units

Note: PH 299 is for those not enrolling in any courses or only a 0.5 unit course)

Directed Reading

Students may elect to take independent studies in the form of reading participation courses with a faculty member. PhD students must register for Directed Reading (PH 186 or 187) in each term that they take a Dartmouth Institute directed reading course. The faculty member directing the reading

serves as course instructor and must send the PhD Program Associate Director a description that entails the theme and material covered during the term. This does not have to include specific papers but should outline the plan per week and how often the student and instructor will meet to review the literature (at least 1-1.5 hours per week meeting time in addition to at least 3 hours per week of out of classroom work expected of the student). All interested students will need to inform the PhD Program Associate Director of their intentions to join a specific Directed Reading course and a description/syllabus needs to be sent on a defined date before the end of the add/drop period for that term. The faculty member is responsible for tracking and evaluating the student's progress in order to provide a grade to PhD program leadership at the end of the term.

All Dartmouth Institute Directed Reading courses are equivalent to 0.5-1.0 units; but units may vary for Journal Clubs offered through other departments and programs. A student may take more than one directed reading course. A directed reading course *may* be based on prior directed reading work given that it adds substantive new academic deliverables. Students must submit a Directed Reading Proposal Form for each course.

- PH 186: Directed Reading (0.5 units; requires 5 hours/week)
- PH 187: Directed Reading (1.0 units; requires 10 hours/week)

YEAR 2: The Qualifying Examination

Students are expected to complete the Qualifying Examination requirement by the end of Year 2. Following are the process milestones students should use to guide their preparation for the oral defense of the Qualifying Examination:

Table 2. Qualifying Examination Process Timeline.

Mid-January	Submit first draft of Aims; then continue working on remainder of written proposal
Early February	Qualifying Examination Committee provides revisions to Aims
Mid-February	Submit final revision of Aims
Mid-March	Submit first draft of Written Proposal
Mid-April	Qualifying Examination Committee returns revision comments
Early May	Submit final revision of Written Proposal
Early May	Qualifying Examination Committee returns determination (Approval or Failure) of Final Proposal
Early June	Oral Defense

Each student enrolled in the PhD program must pass a Qualifying Examination by the end of Year 2 to be formally advanced from student to Candidate status for the PhD degree. This exam has two components: a written research proposal and an oral defense that uses the written proposal as its focus. The Qualifying Examination is an opportunity for students to get feedback on their proposed research and for the committee to ensure the student is undertaking an acceptable body of work to complete a PhD. In most cases this process will result in refinements and modifications to the proposal. In lieu of a Research in Progress (RIP) seminar, all Qualifying Examination Oral Defense presentations will be open to the public.

Specific deadlines pertaining to the exam will be communicated to the student during the summer term following Year 1 and they will be provided with a document to share with their committee members that outlines the committee responsibilities.

The Qualifying Examination topic will be based on the student's proposed dissertation project. In preparing for the Qualifying Examination in Year 2, students will be expected to develop 1) a Specific Aims page, 2) a six-page Written Proposal outlining the research strategy (using the National Institute of Health R21 Mechanism Format); and 3) a short presentation. While the student will work under the guidance of their adviser and committee, the student is ultimately responsible for the development of the scientific focus of their proposal. The written Aims/Proposal should describe the student's idea of an original research topic, for example, the student should not submit a copy of an existing grant. The primary adviser and examination committee members must approve the student's Specific Aims and Written Proposal prior to the student proceeding to the Qualifying Examination oral defense. The student should complete this entire process before or by June Year 2. Students who have not completed the Qualifying Examination by August 1 of Year 2 will not be advanced to Candidate status and will not be permitted to enroll for the following fall term as an ongoing PhD student without the review and approval of the PhD Program Director(s).

Details of the three primary components of the Qualifying Examination are outlined below:

The Specific Aims Document

The Specific Aims document can be thought of as an introduction to the proposed research, outlining in one page the rationale, approach, aims, expected outcomes, and next steps for the research. This follows the format from NIH grant submissions.

Structure of Specific Aims Document

The student should develop specific aims for the research proposal similar to those prepared for NIH funding applications (i.e., R21). The Specific Aims is a one-page document formatted in 11-point font with 0.5 inch margins. The general structure is as follows:

1. Introduction (1 paragraph, approximately 0.5 pages): Defines “The Gap” in the field of study that motivates the aims of the proposed research.
2. Solutions (1 paragraph): Describes your approach to the inquiry, including what you want to do, why you are doing it, and how you want to do it.
3. Specific Aims:
    - List the specific aims of your inquiry as stand-alone headers, run-on headers, or bullet points.
    - State your plans using strong verbs like identify, define, quantify, establish, determine, etc.
    - Describe each aim in one to three sentences (including methods).
    - Consider adding bullets under each aim to refine your objectives.
    - Describe expected outcomes for each aim.
    - Explain how you plan to interpret data from the aim’s efforts.
    - Describe potential limitations and related contingency plans.
4. Pay-off (1 paragraph): Articulates the potential contribution of the inquiry and answers the “So what?!” question.
5. References: Format in American Medical Association style.

<u>Developing the Specific Aims Document</u>

Students should begin working on their Specific Aims page shortly after they match with their primary adviser. The first draft of Specific Aims must be shared with members of the Qualifying Examination Committee before the January deadline. The Qualifying Committee members must review and provide written feedback to the student within 2 weeks (excluding holidays). Students should work with guidance from their primary adviser on revisions to their Specific Aims and submit a final version for approval to their primary adviser by mid-February.

With the approval of the Qualifying Examination Committee, the specific aims may be modified, as the written proposal is prepared. In its final form, the specific aims will be the first part of the written proposal.

<u>Evaluating the Specific Aims Document</u>

Following are the primary criteria for evaluation and approval of the specific aims:

1. Is studying and writing about the topic of the proposal likely to be a sound educational experience for the student? The Qualifying Examination should enhance knowledge and understanding in fields related to the student's PhD dissertation project.

2. Do the specific aims address important questions in the field? Ideally the aims should be "hypothesis-driven" rather than merely descriptive.
3. Has the student performed an appropriate synthesis of research already completed in the area of their proposed dissertation research to confirm that what they are proposing corresponds to gaps in the literature?
4. Are the proposed methods reasonable and feasible using current technology? If not, has the student proposed new approaches that have a reasonable probability of succeeding?
5. Can the proposed research be completed within the timeframe of a student's PhD candidacy?
6. Does the student have, or have a plan to ascertain, the required methodological training to complete the proposed specific aims?
7. Is the style and level of detail of the aims appropriate for a grant application?

The Written Research Proposal

Preparation of the written portion of the Qualifying Examination is a research proposal written by the student that is modeled after NIH R21/R03-type applications. An initial draft of the written proposal must be submitted before mid-March for initial review by the Qualifying Examination Committee, students will receive feedback within two weeks, and a final version of the written proposal is due by mid-May. **It is expected that the student will have already made substantial progress on their written research proposal while preparing and finalizing their aims.** The research proposal is 7 pages including the 1-page Specific Aims. References are required, must be formatted in AMA style, and do not count toward the page limit. A detailed timeline of key milestones should be included as a 1-page attachment to the Written Research Proposal.

Structure of the Written Research Proposal

The research description should consist of the 1-page specific aims and 6 pages of research strategy inclusive of significance, innovation, and approach. A Timeline is included as an additional 1-page attachment. Further description of each section is below:

1. Specific Aims (1 page): An introductory paragraph should introduce the topic and provide a very brief background sufficient to place the actual specific aims in context. The specific aims should be listed, and the proposed approach briefly described.
2. Significance (1-1.5 pages): This section should provide the reviewers/committee members with essential background information to allow them to understand the proposed study or studies. This section is not a broad

review of the field; instead, it should be focused on providing information that will enhance the understanding of the proposed research.

3. Innovation (0.25-0.5 pages): This section should succinctly explain what is innovative or novel about the research being presented or proposed. It should build off the background material presented in the preceding section.
4. Approach (4-4.5 pages): This section should describe the proposed research design and analytic plan, specifically the rationale, the methods to be used, and the likely outcomes and interpretations of the research study. The Approach section should be divided into sections that correspond to the specific aims. In general, the written proposal should provide methodological detail sufficient for the Qualifying Examination Committee members to understand the approaches planned and possible limitations or concerns with using the planned approaches. Students should consult the Qualifying Examination Committee Chair if they have questions about how extensive to make their description of any preliminary results they have already obtained.
5. Timeline (1 page): Include an addendum outlining what work will be done in each year of the proposal. Separate attachment (not included in the 7-page limit).

Formatting of the Written Research Proposal

Please adhere to the following guidance when drafting, formatting, and submitting the written qualifying exam:

1. The entire research proposal is limited to 7 pages and adheres to NIH Fellowship (R21 or R03) format. Please see the How to Apply Application Guide here:(https://grants.nih.gov/grants/how-to-apply-application-guide.html). The 7-page limit does not include the reference list or the timeline attachment. The 7-page limit does, however, include all figures and tables. No materials may be included in any appendix (however information essential to the understanding of the proposal should be included within the 7-page limit). Proposals exceeding this page limit will be returned to the student without review.
2. A font size of 11-point or larger is acceptable. Arial font is required, as per NIH grants. There may be no more than 15 characters/inch.
3. The proposal should be single-spaced. There may be no more than six lines of type per vertical inch.
4. Provide at least half inch margins (top, bottom, left, and right) for all pages.
5. All pages should be numbered. The first should be numbered as page 1 and should include the specific aims page.

6. A reference list should be included after the research description section. There is no length limit for the reference list. Citations in the reference list should be complete and contain all authors' names (if fewer than 10 authors, and the first 10 authors if more than 10 authors), full title, year of publication, journal, journal volume, and page numbers. The reference list should be formatted to follow AMA style. Students are urged to cite original references rather than review articles.
7. Citations in the text of the proposal should be numbered while the reference list at the end of the proposal should contain full references. For guidance, please see the National Library of Medicine link here: (http://www.ncbi.nlm.nih.gov/books/NBK7256/).
8. Inclusion of relevant figures and tables is encouraged. The figures and tables can be either embedded in the text or placed together preceding the references. In either case, the research description section must not exceed 7 pages including all figures/tables. A timeline is included as a separate 1-page attachment as it does not directly relate to the science being presented.

Evaluation of the Written Research Proposal

The criteria for evaluating the proposal are based on the NIH reviewer criteria format (https://grants.nih.gov/grants/policy/review/rev_prep/scoring.htm) and scored for significance, innovation, approach, investigators, and environment. The following are key considerations for scoring student proposals:

1. Does the proposal follow the stated guidelines for length and format? If not, the proposal should be returned to the student without review.
2. Does the Introduction/Background section provide sufficient detail to understand and evaluate the proposed research and its significance?
3. Is the rationale for any studies (randomized trials, observational studies, surveys) clearly described? Do the hypotheses make sense and are they supported by any relevant scientific and medical theory? Are policy implications of the proposed research discussed?
4. Is sufficient (but not excessive) detail on methodology provided? Are the methods appropriate and justified?
5. Is the work original with some degree of innovation noted?
6. Does the PhD student have the relevant training and/or training plan (CV, coursework taken to date, and any other pertinent experience/information provided to reviewers) to conduct the work? Is the mentorship team appropriate for the planned research?
7. Are potential outcomes and interpretations of possible outcomes described?
8. Have alternative approaches been considered if the method of choice does not work?
9. Is the proposal written in a style appropriate for a research grant?
10. Is the timetable for the work provided by the student realistic?

Committee Review of the Written Materials (Specific Aims and Proposal)
The Chair of the Qualifying Examination Committee should examine the Specific Aims and Written Research Proposal for compliance with format requirements (PhD Program Associate Director will review formatting guidelines) as soon as possible after receiving it. Those do not adhere to all format specifications will be returned to the student without evaluation. The Chair should provide written guidelines to the student describing why the Specific Aims or Proposal is being returned. The Chair should also inform the student about the amount of time available for bringing the Specific Aims or Proposal into compliance with the format requirements. The members of the Qualifying Examination Committee will have up to two weeks (not including holidays) to evaluate the Specific Aims and Proposal but are encouraged to complete review as soon as possible and to communicate their decision and critique via the committee Chair to the student.

The Qualifying Examination Committee may approve the Specific Aims or Proposal or return any portion thereof for student revision. The Qualifying Examination Committee should request a revision of the aims or proposal if they contain significant flaws or if the committee believes that a substantially stronger project would result from revision.

If the Qualifying Examination Committee requests revision of the Proposal, a written critique will be prepared by the Chair by combining the concerns and suggestions from individual committee members. These comments should be organized into “required revisions” that must be incorporated in the aims and proposal, and “general comments” that do not need to be incorporated but may be grounds for questioning during the qualifying oral examination. Members of the Qualifying Examination Committee should NOT communicate written critiques directly to the student. The Chair of the committee will merge the individual critiques into one critique, provide committee members with the opportunity to read and comment upon the written critique, revise the critique, and forward the final critique to the student and adviser (who had previously reviewed and critiqued the proposal before the student submitted it to the full committee review). The student is advised to discuss with the Qualifying Examination Committee Chair how to address the concerns raised in the written critique.

The amount of time available to the student for preparing and submitting a revised written proposal will be determined by the Qualifying Examination Committee, based on the amount of revision needed. This may be as short as three days if only minor revisions are required, and no longer than one month if a major revision is needed. The student is to prepare, in addition to their revised proposal, a 1-page response to the critique the Chair sent them (the student may request examples of Revisions from the Associate Director). Only one revision of the written proposal will be permitted. The revised proposal, approved by the adviser, should be submitted to the Qualifying Examination Committee.

Prior to the oral examination, the Chair of the Qualifying Examination Committee should consult with the other committee members to determine whether there remain substantial deficiencies in the written proposal. If it is decided that these deficiencies can be addressed during the oral exam, the Chair should inform the student in writing before the date of the oral examination and state briefly what deficiencies exist. However, if the deficiencies are such that the revised written report would have been returned if it were the first submission, the Committee may choose to fail the written proposal of the qualifying examination.

Approval or failure of the final Specific Aims and Proposal will be communicated to the student no later than two weeks (excluding weekends and holidays) after submission. If the student's effort is deemed failing, the PhD Program Committee will convene with members of the Qualifying Examination Committee to determine the next step. The student may be allowed to repeat the qualifier process a second and final time or may be dismissed from the program if warranted based on the student's cumulative body of work.

Minimum expectations of written products include:

- All written materials must reflect a graduate level of scientific writing.
- Eliminate grammatical errors.
- Provide sufficient background, methodological, and operational detail.
- Conform to all formatting guidelines and length requirements.
- Complete references in AMA style.

Resources to assist with scientific writing are available at the Dartmouth College Libraries (specifically in Dana Biomedical Library and Matthews-Fuller Health Sciences Library); it is important to take advantage of these resources early in the PhD program if a challenge is identified (please contact your adviser and the PhD Program Associate Director).

The Oral Qualifying Examination

Following approval of the Written Proposal the student may proceed to the oral qualifying examination.

Scheduling the Oral Qualifying Examination

The student should schedule the oral examination to take place by June 1, or as soon thereafter as faculty schedules permit. The student is responsible for reserving a room for the qualifying exam, which should be scheduled a month in advance for at least 4 hours (although most oral examinations are completed in two hours or less). The room should be equipped with a board to writ on and audio/visual set up to facilitate virtual attendees. All Qualifying Examinations are open to the public and typically serve as the Research-In-Progress seminar for Year 2 students.

Format of the Oral Qualifying Examination

The student should prepare a brief oral presentation (not more than 20 minutes, with a slide deck) of the background to the proposal, the aims (hypotheses to be tested), innovation, and approach. The student should consult the PhD Program Associate Director for advice on preparation of the brief introductory presentation. Students must provide an electronic copy of the presentation deck to the Qualifying Examination Committee members in advance of the oral examination. Suggestions for the content of these slides may include an outline of their aims or research strategy and may include important graphs or figures that they may wish to address. Students should avoid reading directly from text heavy slides. Students are not permitted to use additional 'hidden' slides for clarification.

Guidelines to Assist Student Preparation for the Oral Qualifying Examination

1. The student should be familiar with the theoretical and factual background relevant to their proposal. All members of the Qualifying Examination Committee are free to ask questions broadly related to the proposal and to areas that constitute the background for the proposal. The student should be able to place the topic of their proposal in the context of the broad field of health services research. If the student has been informed by the Qualifying Examination Committee that a revised written proposal still has substantial deficiencies, but the committee decides the student's proposal has improved sufficiently that failing them is unreasonable, the student must address these concerns before proceeding to the oral exam.
2. Students should be conversant with the literature in the field(s) covered by their proposal, including those papers that deal with matters of general significance as well as those that relate directly to the proposed research (we recommend students undertake a systematic or scoping review early in the program as part of their PhD papers). The Qualifying Examination Committee will expect the student to have an appreciation of the development of ideas (historical perspective) in this field and the potential role of current ideas in guiding the field in the future. Students must be explicit and clear about the innovative components of their proposed research.
3. Students should be able to consider and generate alternative approaches and should be prepared to interpret hypothetical outcomes proposed by examiners.
4. Students should be thoroughly familiar with the technical aspects of their proposal. They should have a solid understanding of the approaches or techniques they propose to use, including the advantages and limitations of these approaches. Furthermore, they should be prepared to defend their choice of a particular technique or approach over available alternatives.
5. The Qualifying Examination Committee may also test the following aspects of the student's background and ability:
    - Is the student able to critically evaluate original scientific articles?
    - Has the student designed a study or studies that address the specific aims, and which have the potential to add new and useful information to the field of investigation?

Evaluation of the Oral Qualifying Examination

The following areas will be evaluated during the oral examination.

1. Significance:
   - Background knowledge in area of exam
   - Familiarity with literature
   - Historical perspective
   - General knowledge of the basics of health services research as covered in the required courses
   - Ability to evaluate the literature critically and link the gaps in the literature to the proposed research

2. Specific Aims:
   - Are the proposed studies appropriate to answer the proposed question?
   - Does the student have a theoretical and technical understanding of the approaches proposed?
   - Will the results be interpretable?
   - Will the results add new and useful information to the field of investigation?

3. General:
   - Can the student answer questions that require the inclusion of new/additional information?
   - Can the student incorporate information into a conceptual model that motivates the hypotheses and study design?
   - Can the student propose alternative approaches in cases where the proposed approaches do not provide the information needed?

Following the oral examination, Qualifying Examination Committee members evaluate the student's overall performance, considering both written and oral portions of the examination. The committee should attempt to reach a consensus on the outcome of the exam, but if this is not possible, the committee members will vote, and the vote of the majority will determine the outcome of the examination (the student is asked to leave the room while this conversation takes place). The only possible outcomes for the Qualifying Exam are Pass, Conditional Pass, or Fail. Conditional Passes (passes with conditions to remedy deficiencies) are permitted only after the first attempt at the oral exam. The student will be informed about whether or not they have passed the exam at this time; the Chair of the Qualifying Examination Committee will summarize the strengths and weaknesses of the oral exam. In cases where the student fails the exam, the Chair will prepare a consensus written summary clearly enumerating the reasons for the failure. If the student passes the oral exam, no detailed written summary of the exam is required. If the student receives a Conditional Pass, the Qualifying Examination Committee may ask them to remedy deficiencies in a written document up to five pages or to re-defend a specific topic of their oral exam. In both instances, this must be accomplished no later than one month after the oral exam. Should the student fail after an attempt to remedy their Conditional Pass, this is considered a “first” failed attempt and the

student will be given a chance to re-defend in no later than one month. Following the oral examination, the student and Qualifying Examination Committee Chair should sign the Qualifying Examination Report and the student must submit it, along with their written proposal, to the PhD Program Director(s). For Conditional Passes, this is signed when the student has satisfactorily addressed all deficiencies as recommended by the Qualifying Examination Committee.

Repeating the Oral Qualifying Examination

In the event that the student fails the oral examination or fails to adequately address their subsequent Conditional Pass, the student will have one opportunity to repeat the oral examination. The second administration of the second oral examination must occur no later than six weeks after the first oral examination. In the event that the examination is not repeated within the six-week time period, or if a second failure occurs, the student will not be advanced to candidacy for the PhD degree and normally will be unable to remain in the PhD program. However, the situation will be reviewed by the PhD Program Committee in which the student and adviser may provide a written statement on extenuating circumstances that may have precipitated the exam failure. Recognizing extenuating circumstances, the PhD Program Committee may allow the student to re-attempt their qualifying examination and determine the appropriate timeline for completion. Otherwise, if it is determined appropriate upon review by the PhD Program Committee in consultation with the Qualifying Examination Committee, the student may opt to leave Dartmouth with a Master of Science in Healthcare Research if the coursework for that degree is satisfactorily completed. The final determination for this action will be subject to review by the PhD Program Committee.

After Passing the Oral Qualifying Examination

Once a student has passed the Qualifying Examination the student is advanced to doctoral candidate status and will continue to be graded on research performance by their adviser at the end of each term, on a Credit (CT) or No Credit (NC) scale. If the adviser feels a grade of "NC" is warranted, the adviser must present the details of the student's performance to the PhD Program Associate Director. A grade of "NC" for graduate research can only be assigned with the agreement of the Dissertation Committee that the student has failed to perform in the manner of a research student working diligently on their research. Grades of "NC" for graduate research received after a student has been promoted to candidacy will be treated the same as similar grades received for research rotations or course work. Per the guidelines of the Guarini School of Graduate and Advanced Studies, a grade of "NC" for research may result in dismissal from the program if this meets any of the provisions listed in Section V . The TDI PhD Program expects a high level of academic rigor and performance from students that exceeds the Guarini standard.

Expectations for Dissertation Research Work During Preparation for the Oral Qualifying Examination

As noted earlier, prior to submission of the topic and specific aims, students are expected to maintain full (i.e., 100%) presence on research, teaching, and

coursework. It is not acceptable, for example, to discontinue or significantly reduce other PhD roles and responsibilities for weeks or months for the purpose of generating the aims for the Qualifying Examination. Students are encouraged to begin the discussions and background reading needed to select a topic early in Year 2. During the weeks prior to the oral Qualifying Examination, students should maintain some research productivity as required by their adviser and must continue to fulfill coursework and any active teaching obligations.

Data Use Agreements and Protection of Human Subjects

All research conducted at Dartmouth, including by students, must adhere to ethical standards relative to the protection of human subjects and private data, as determined by Dartmouth's Committee for the Protection of Human Subjects (CPHS), which serves as the institutional review board (IRB). Students whose research involves human subjects or confidential data sets must determine whether they need to obtain a student Data Use Agreement (DUA, only required if their proposed research is distinct from any parent study that their work falls within) and begin the process of applying for institutional approval from the CPHS or Dartmouth-Hitchcock IRB. If needed, students are encouraged to apply for and attain DUAs as soon as possible. It may even be reasonable to submit applications prior to having passed the qualifying examination.

Applying for F31 Funding

The National Institutes of Health offers F31 predoctoral fellowships. The purpose of an F31 is to enable promising predoctoral students with potential to develop into productive, independent research scientists, to obtain mentored research training while conducting dissertation research. The F31 is also used to enhance workforce diversity though a separate program. Students should keep in mind that future applications for support from a grant (i.e., F31 predoctoral grant) should propose a body of work that can be completed by a single person within a 2-3 year timeframe. While students are not expected to apply for NIH fellowships, such applications are very welcome. Students must document approval from their primary mentor prior to beginning an F31 application in accordance with the Guarini School policy on Notification Requirement for Trainee Grant Applications.

YEAR 3 and Beyond: Doctoral Research and The Dissertation

After successfully passing the Qualifying Examination, Candidates in Year 3 and beyond now focus their training on doctoral research and the dissertation, and professional development including teaching assistantships.

Professional Development

In addition to the above-mentioned degree requirements and academic milestones, it is an expectation that PhD candidates will further develop their skills and experience in

professional settings by attending and presenting at relevant conferences, typically starting in Year 3 and beyond. To that end, The Dartmouth Institute seeks to provide funding to support such initiatives.

Currently, a lifetime amount of $2,000 is provided by TDI to each TDI PhD student to use for various professional development pursuits. For example, these funds can be used for pre-approved conference registration fees and travel. Please seek approval from the PhD leadership prior to obligating any funds. Given the relatively small pool of funds available each year for students, please note that these funds are to be requested only after other funding sources have been investigated, including the lifetime funds provided by Guarini, external funding sources a student may have accrued (grant allowances, etc.), conference-supplied travel funding, other Dartmouth sources, and more. See also the Guarini website for details on competitive one-time Travel Awards.

Please note, the cost for publishing peer reviewed manuscripts is not covered by these funds.

The Dissertation

The PhD Dissertation involves two major components: 1) a written Dissertation Thesis, and 2) an Oral Dissertation Defense. For the PhD degree, the student shall show competence in conducting original research, and shall prepare and defend a doctoral dissertation thesis containing the results of their independent studies.

PhD Dissertation Thesis Structure and Format

The dissertation should present a coherent investigation of an original scientific research question at a level of rigor suitable for publication in a peer-reviewed academic journal. It should also include a thorough and critical analysis of the published literature in the field, including arguments that support the research as an innovative approach to addressing gaps in the literature, as well as of the methodological and theoretical background of the work.

Students are advised to visit the Guarini School website to review requirements for dissertation preparation and thesis guidelines.

The Dartmouth Institute PhD Program follows a research paper model of dissertation preparation. In this model, the PhD thesis should consist of the following components:

1. Title Page (followed immediately by a blank page)
2. Abstract (500 words max: introduction, methods, results, discussion)
3. Preface (including acknowledgments)
4. Table of Contents (with page references)
5. List of Tables (with titles and page references)
6. List of Figures/Illustrations (with titles and page references)

7. Abbreviations
8. Introduction (5,000 words minimum, broken into major and minor subheadings)
9. Papers (Three distinct papers).
    - Papers may be published or ready for submission.
    - The papers should have a common thread.
    - The PhD student must be the primary author and must have led the research and writing of each paper.
    - Use of journal reprints as a chapter is not allowed. A word document of the published article must be used, and the pages in the Dissertation must be consecutively numbered. Furthermore, the figures and accompanying figure legends must be integrated into the main body of each chapter, following the first mention of the figure.
10. Discussion (5,000 words minimum, broken into major and minor subheadings).
    - Summary of key results from the papers
    - Main limitations
    - Overarching discussion of thesis findings in context of existing literature
    - Implications
    - Future directions
11. Conclusion (500 words max)
12. Appendices (such as survey instruments, trial protocols, data dictionary, intervention manuals, etc.)
13. References (following AMA style, with a space between each reference listing)

The Guarini School website provides exact formatting requirements for the dissertation.

Acknowledging Co-Authors and the Work of Collaborators in the Dissertation

While the PhD student's dissertation research and writing must be their own, typically this is impossible without collaboration and meaningful contributions of others. As such the dissertation should indicate concisely who contributed to the work and how. For example, a chapter containing multi-authored, published work must include a complete reference of the publication and a brief description delineating the student's and the collaborators' contributions. For work that is not published, the contributors must be named, and respective attributions made clear. The attributions can be, preferably, on or accompanying the cover page for each chapter or within an extended acknowledgements section at the end of each chapter. Please follow the practices of the International Committee of Medical Journal Editors (ICMJE Guidelines) for guidance on authorship. This can be a sensitive conversation and one that the students should discuss with their committee early to understand expectations. ICMJE provides further guidance on how to acknowledge images, tables, and preliminary data used in the dissertation at ICMJE Preparing a Manuscript.

PhD Dissertation Defense Preparation Activities

As students begin preparation for the dissertation defense, they must contact the PhD Program Director(s). This is essential to help ensure that the student and program work

together to follow all Guarini policies so that the student will be cleared for degree completion by their anticipated graduation date. The PhD Program leadership can aid in organizing the time and location of their dissertation defense seminar, private examination; often visiting scholars, such as an external examiner, are invited to provide a public presentation about their own work – the PhD Program leadership can share notices if this is the case. They may also aid in events surrounding their defense such as celebrations or lunches, but The Dartmouth Institute is not responsible for funding these events.

1. Before beginning to prepare the final written dissertation and scheduling a defense date, the student must obtain formal approval from the Dissertation Committee either on their latest signed dissertation progress report or in a separate signed document stating their approval of the timeline to their proposed defense date. This is to be submitted to the PhD Program Associate Director.
2. The candidate is responsible for organizing the date, time, and room for the Dissertation Defense. The date and time must be set with members of the PhD Dissertation Committee at least 6 months in advance. The external member of the Dissertation Committee must be present for the dissertation defense (either in person or via video conference) and the advance confirmation of defense date allows the external committee member an option to travel in person to the defense). Once finalized, information on the dissertation defense must be shared with the PhD Program Associate Director (no later than 1 month from the Defense date), who will advertise the PhD candidate's intention to defend their dissertation at least 2 weeks prior to the defense.
3. Students must distribute a copy of the dissertation to each member of the Dissertation Exam Committee at least four weeks before the date scheduled for the defense.
4. The Dissertation Exam Committee is encouraged to review the dissertation for any major concerns at least two weeks prior to the proposed oral defense. If there are no major concerns, a public posting regarding the PhD oral defense will be shared by the PhD Leadership, two weeks in advance of the proposed oral defense. If any member of the committee finds that the submitted dissertation is inadequate, that member must immediately communicate their concerns to the dissertation adviser and the other members of the Dissertation Exam Committee. While it is ideal if these concerns can be communicated prior to publicly posting the public defense, committee members can cancel the dissertation defense as late as 48 hours before the scheduled time of the defense due to substantial concerns about readiness for defense. Concerns from the outside examiner must be communicated up to 72 hours prior to the scheduled defense to allow the committee time to meet the 48-hour deadline. In this event the primary adviser must share these concerns with the PhD leadership. The student should work to address major concerns before resharing their dissertation for review.
5. Following a publicly announced and delivered seminar on the dissertation material, the doctoral candidate will defend the dissertation before the Dissertation Exam Committee during a closed private defense (see Details on Day of the Dissertation Defense below).

The Dissertation Defense

The dissertation defense consists of two components: 1) A public seminar delivered by the candidate, followed by 2) a closed session to accommodate the candidate's defense of the committee's inquiries.

Public seminar

The Chair (the PhD Primary Adviser) calls the dissertation oral defense to order and welcomes all in attendance. The Chair reminds everyone that this is a significant academic event in The Dartmouth Institute and Guarini School of Graduate and Advanced Studies, and most importantly a critical milestone in the academic career of the student. The Chair makes it clear that this is a formal examination before awarding the degree of Doctor of Philosophy. The Chair then introduces members of the PhD Dissertation Committee, starting with the external member (the chair or members of the committee should briefly state their position and expertise). All members of the Committee will acknowledge that they have read the Dissertation and have agreed that it is ready for defense. The Chair then explains that the defense will begin with the candidate's oral presentation that will last between 45-60 minutes, followed by a 10-minute public examination. The purpose of the public examination is to foster transparency. The Chair will bring the public examination to an end. Questions by the Dissertation Committee should be held until the closed private defense. If the defense is also being recorded by teleconference (such as Zoom) the Chair will stop the recording at the conclusion of the public seminar.

Closed private defense

Committee members will then move to a closed session where the student will be examined by the PhD Committee. The committee will first meet in private without the student to hear if there are any concerns or areas they may want to focus on during the private exam. The student will be called back into the room after this discussion. The external member of the Committee begins the questions in the closed session. Each committee member is expected to ask a minimum of three questions (such as technical questions, questions about limitations and implications of the research etc.). While there is no limit to the number of questions or time needed, committee members should interrogate the student's topic sufficiently until they are satisfied with their examination. Students can expect up to 120 minutes of examination. The PhD student adviser must not contribute to the discussion in any way, other than to facilitate questions from the Committee. Once the examiners have completed their examination, the PhD student will be excused while the Committee determines the result of the Defense and whether any corrections are required. Once the decision is made, the student will be invited back into the room and the Chair will announce the result and next steps.

Results of the PhD dissertation defense
The possible results of the defense are:

PASS: The dissertation and oral defense are approved (possibly with only minor revisions needed). The student may submit their dissertation in its current form to the Guarini School and proceed to degree clearance and commencement. If the Committee has requested any minor revisions the student is expected to complete them within two weeks following the defense and prior to submitting the dissertation to the Guarini School.

CONDITIONAL PASS: The dissertation and oral defense are approved provisionally, pending corrections, major revisions, or minor modifications recommended by the Dissertation Exam Committee. Typically, the student's adviser will monitor these changes and upon satisfactory completion of them permit the student to submit the finalized dissertation to the Guarini School. If major revisions are required, it may take the student up to six months to complete and the revised dissertation will be re-evaluated by the full committee. Successful completion of these changes will result in an Approved or Approved pending corrections adjudication.

FAIL: The dissertation is deemed to be sufficiently lacking (revisions needed would exceed six months). In this case, at the discretion of the PhD student's dissertation committee, The Dartmouth Institute PhD Program may allow the student a single opportunity to resubmit and re-defend the dissertation. If the student's Dissertation Committee does not allow for a second opportunity, that student is removed from the PhD program and is evaluated for candidacy to graduate with a Master of Science degree in Healthcare Research.

Final Steps to Degree Clearance and Commencement

You did it! Upon passing the dissertation defense, the student is responsible for confirming and completing all steps in Guarini's administrative processes for degree completion and clearance to attend commencement, including but not limited to:

1. The committee must sign the title page of the dissertation. Digital signatures are allowable and ideally should be high-resolution versions of the actual signature.

2. Students must submit final copies of the written and signed dissertation to the Guarini School of Graduate and Advanced Studies. Please note that printed copies of dissertations are no longer required. Detailed submission guidelines can be found on the Guarini website under Information for Remote Submission of Thesis, Dissertation, or Course-Track Fulfillments.

3. Students must submit a signed Degree Certification Form to the Guarini School (found on the Guarini website under Exit Forms). This form is signed by TDI's Executive Director of Education and verifies that the student has completed all of

their program requirements. Students can see the TDI Registrar for assistance securing the form and signature.

4. Students planning to participate in the Investiture Ceremony and Dartmouth's June commencement exercises should be aware of the May deadline date(s) for submission of the signed dissertation and the Degree Certification Form; these dates are assigned by the Guarini School of Graduate and Advanced Studies. Typically, these deadlines occur during the month of May. It is the student's responsibility to meet these deadlines (posted on the Guarini School's website under Information for Submission of Thesis) in order to officially complete degree clearance, participate in Commencement, and receive their diploma. and graduate.

5. Important Note: The graduate student stipend will end based on the dissertation submission date, not the date of diploma availability. A dissertation submitted before the 15th of the month will result in the graduate student stipend being terminated at the end of that month. A dissertation submitted after the 15th of the month will result in the next month's stipend being the final month the student is paid, at the discretion of the adviser.

IV. ADVISING AND EXAMINATION COMMITTEES

In the first year of the program, prior to matching with the Dissertation Adviser, students will meet quarterly with the PhD Program Leadership to assess their progress, discuss Core Requirements, and identify research Rotation Faculty. All first-year PhD students will have a dedicated space in the PhD hub located in The Dartmouth Institute, Level 5, Williamson Translational Research Building (WTRB).

Matching with Your Primary PhD Dissertation Adviser

Students and faculty are not to arrange the choice of their dissertation adviser prior to the last two weeks of the second rotation period. Between the end of the second rotation (end of winter term) and before the beginning of summer term of Year 1, each student must have arranged for a member of the PhD Program Faculty to serve as their dissertation adviser and research sponsor (the faculty member who has committed to delivering financial sponsorship for the student's approved research). Ideally students should match with an adviser that: 1) is active in their research field, 2) has enough time to provide adequate supervision (weekly meetings; timely feedback), 3) is genuinely interested in your project, 4) can provide and has experience of mentorship, and 5) can serve as a supportive mentor for you.

Once the dissertation advising relationship is confirmed, student and faculty adviser will submit a thesis agreement letter, jointly signed, to the PhD Program Associate Director. A modified form will be used if the student will be co-mentored by two advisers and co-mentored students are required to also provide an outline regarding the division of financial and mentoring responsibilities agreed upon by each adviser. Questions about matching should be directed to the PhD Program leadership team.

Choice of a dissertation adviser may be delayed by one term under special circumstances in which a student requests from The Dartmouth Institute a fourth research rotation; in this case the fourth research rotation will occur during the summer following Year 1. Unless otherwise discussed with the PhD Program Associate Director, the adviser for the fourth rotation is intended to be the student's dissertation adviser. The PhD Program Director(s) will set the timeline for this rotation and The Dartmouth Institute will provide stipend support during this time. If a student is not able to find a suitable or willing adviser from among PhD Program Faculty at the end of their research rotations the situation will be reviewed by the PhD Program Committee, which may allow a fifth rotation to be funded by The Dartmouth Institute, suggest terms by which a student may leave with a Master of Science degree in Healthcare Research (e.g., completing all requirements of that degree), or recommend separation or a leave of absence (LOA) from the program prior to the start of the fall term of Year 2.

Primary Adviser(s) Obligations to Students:

- Financial support of the student, as appropriate, including provision of graduate student stipend, health insurance, and travel/professional development expenses associated with doctoral training.
- Scientific and content-area expertise guidance on dissertation, including final approval on Specific Aims, PhD proposal, and PhD Dissertation prior to the student moving to oral defense.
- Provide and model ethical conduct in matters of research and professionalism and expect reciprocal behavior from students.
- Regular meetings (typically weekly) to provide mentorship/advising around research progress, academic progress, dissertation committee matters, professional development, and other related topics.
- Chair the PhD Dissertation Defense (of note, the dissertation adviser is a member of the Qualifying Examination Committee but does not chair the Qualifying Defense.)

PhD Qualifying Examination and Dissertation Committees

A PhD student must form two distinct examination committees as part of their doctoral training: the Qualifying Examination Committee and the Dissertation Committee. While there is often a high degree of overlap in the membership of these committees, they serve different purposes at different times in the program.

The Qualifying Examination Committee

The Qualifying Examination Committee advises students on their doctoral proposal and serves as the examiners for the Qualifying Examination. This group is comprised of four members including the student's adviser (adviser cannot serve as the chair of this committee), two Dartmouth Institute faculty members (one of whom serves as the chair), and an additional faculty member who is selected after the adviser, chair, and other faculty member approve the student's topic and Specific Aims. The fourth committee member may be Dartmouth College or Dartmouth-Health research faculty, but otherwise cannot be external to Dartmouth. The first three members of the Qualifying Exam committee, guided by reviewing the specific aims, will be able to make an informed assessment of who best to approach as the fourth committee member. Ideally Committee members should have methods or content expertise related to the student's area of research. One member of the Qualifying Examination Committee may be a faculty member who is not a member of the PhD Program.

Once formed, the Qualifying Examination Committee members will each submit a biosketch/CV and conflict-of-interest form to the PhD Program Associate Director. The first meeting of the Qualifying Examination Committee is to be before the beginning of the winter term of Year 2 (ideally January). This gives the student an opportunity to discuss and receive feedback on their formative PhD proposal plans prior to their qualifying examination (June of Year 2).

Chair of qualifying examination oral defense

The Chair is responsible for the conduct of the examination and for the preparation of any required correspondence, compiling the critique of the written proposal, and communicating major concerns to the PhD Program Director(s). The Committee Chair should be the student's primary point of contact; however, they may seek guidance and input from individual members. The Chair is responsible for filling out and returning the grade form to the PhD Program Associate Director.

Changing members of the qualifying examination committee

As the student's research aims evolve, it may become clear that faculty members who agreed to be members of the Qualifying Examination Committee early during the process are no longer the most relevant to the student's proposal. In these cases, the student, adviser, and Qualifying Examination Committee members should decide on a suitable and qualified replacement. If a committee member is consistently unresponsive during the entirety of the qualifying process, causing a delay in the timeline, the student is to bring this matter up with their adviser and the PhD Program Director(s) to resolve the issue.

The Dissertation Committee

The Dissertation Committee is formed after the candidate successfully defends their PhD proposal. It consists of the dissertation adviser (who will chair the Dissertation Committee) and two additional faculty members with faculty appointments in The Dartmouth Institute (to be chosen by the student in agreement with their dissertation adviser). Typically, Dissertation Committee members are the same as those from the Qualifying Examination Committee, but this is not required. However, where appropriate, one member of the dissertation committee may be a faculty member external to TDI's PhD Program faculty. Committee members with appointments outside the Dartmouth Institute can serve on Dissertation Committees with the prior approval of the PhD Program leadership.

As the student nears the end of their PhD dissertation research, typically within the last six months and no later than three months before their potential dissertation defense, the student in collaboration with their mentor will propose a final external committee member who holds a faculty-equivalent research appointment at an academic institution other than Dartmouth, to be approved by the PhD Program Director(s). This external member should be completely independent from the student's PhD research (including no publications, grants, or other such affiliations between the student's other PhD Dissertation Committee members).

The Dissertation Committee is to be formed and approved no later than the end of the fall term of Year 3 (unless a valid reason for delay is provided to and approved by the PhD Program Director(s)). Once Committee membership is confirmed, the student's adviser will sign the PhD Examination Committee Approval form and submit it to the PhD Program Director(s) along with the expected date of defense.

Final approval by the PhD Program Director(s) of the Dissertation Committee composition (and any subsequent changes to committee membership) is required. Contact the PhD Program Associate Director to initiate the paperwork for committee membership and approval.

Avoiding Potential Conflict of Interest

Both committees should be assembled so as to avoid or eliminate potential or perceived conflicts of interest between faculty members, and between faculty members and the graduate student. To help ensure this, all parties must complete and submit a Conflict of Interest form to the PhD Program Director(s) attesting that they have no potential conflicts of interest. Such conflicts include, but are not limited to, personal or financial relationships.

Committee Member Responsibilities

All members of the Qualifying Committee and the Dissertation Committee are obligated to deliver to the student:

- Scientific guidance (content and/or methods) on their research project
- Timely written feedback on major work products, including Specific Aims, Written Proposal, manuscripts, presentations, etc.
- Quarterly meetings with students
- Career advice
- Attend annual committee meetings arranged by the student (or more frequently as needed) to assess and address student progress
- Attend the student's annual PhD research seminar (starting in Year 3)
- Review and sign committee meeting progress reports written by the student summarizing their academic performance
- Mediate disputes between the student and adviser (In the event that either the student or the adviser desires to end the student-adviser relationship—and particularly if the choice is not a mutual decision—then other committee members must support a student’s academic success by playing an active role in helping the student transition the advising relationship to another faculty member)

Student Responsibilities

The student is responsible for actively managing their engagement with members of the Qualifying Committee and the Dissertation Committee. Students are encouraged to direct questions to the PhD Program Director(s). Student responsibilities include:

- Meet all academic and administrative deadlines (as set by your committees, TDI, the Guarini School, and Dartmouth)

- Set time and place for the examinations
- Submit bio-sketches and Conflict of Interest (COI) forms to the PhD Program for approval
- Provide committee members with the guidelines regarding Committee responsibilities, the PhD milestone timelines, and a link to the PhD handbook.
- Inform Committee members about the dates of their PhD program research seminars
- Schedule meeting(s) with each Committee, at least once annually and more frequently as needed (For example in Year 2 as the student prepares their proposal or in the run up to the Dissertation defense)
- Provide a progress report (template available on Canvas) summarizing their proposal and dissertation and program progress to committee members ahead of meetings with them; and forward signed copies of their annual committee meeting description and feedback to the PhD Program Associate Director,
- Continue to complete required courses and inform adviser of academic progress
- Complete an annual review of their progress and their mentorship experience (based on quarterly meetings with PhD Program Associate Director).

V. PROGRAM POLICIES, PROCEDURES, AND RESOURCES

The Dartmouth Institute PhD Program is governed by the policies of both The Guarini School of Graduate and Advanced Studies and The Dartmouth Institute of the Geisel School of Medicine. Likewise, all three entities provide various resources to support the academic success of PhD students throughout their studies.

Policies and Resources of The Guarini School of Graduate and Advanced Studies

All graduate students enrolled in The Dartmouth Institute PhD Program are subject to the academic policies, the Honor Principle, and the Student Code of Conduct of The Guarini School of Graduate and Advanced Studies. See Guarini's *Dartmouth Graduate Student Handbook* for a detailed listing of policies, procedures, and resources pertaining to graduate studies at Dartmouth.
https://graduate.dartmouth.edu/academics/graduate-school-forms/academic-policies

Policies of The Dartmouth Institute

As a unit of the Geisel School of Medicine, Geisel may institute policies in addition to and/or that supersede the following policies of The Dartmouth Institute.

Grading

All grading should be in accordance with the Guarini School of Graduate and Advanced Studies (https://graduate.dartmouth.edu/policy/satisfactory-progress).

The Dartmouth Institute core and elective courses are graded as HP (High Pass), P (Pass), or LP (Low Pass).

The Dartmouth Institute Directed Reading or Journal Clubs, research rotations, supervised teaching, and dissertation research are graded on a CT (Credit) or NC (No Credit) scale.

Grades of "LP" or "NC" in research rotations, journal club, dissertation research, supervised teaching, or in core coursework have serious consequences. One grade of "LP" or "NC" in any term in any course or program requirement results in the student being at risk of removal from the program should their performance fail to improve. Specifically, any one of the following three options will be considered by the PhD Program Committee at an assessment hearing should the student not maintain grades

of HP, P, or CT (depending on how the course is graded) in subsequent coursework (including research credits):

Option 1. No action is necessary
Option 2. The student must remediate the deficiency, by repetition of the course, special examination, or other arrangement
Option 3. The student is removed from the PhD Program

The following guidelines will be used for arriving at a recommendation (the term “course” includes the outcome obtained in the Qualifying Examination) by the PhD Program committee:

1. If a grade of "NC" is earned in any core course (this includes research credits) in any subsequent term the PhD Program Committee will recommend option 3.
2. If an additional "LP" is earned in any subsequent course the PhD Program Committee may recommend options 2 or 3.
3. If more than two "LPs" are earned the PhD Program Committee may recommend option 3.
4. If a student fails to sufficiently improve their performance within one academic year after a performance review recommendation, the PhD Program Committee may recommend option 3.

All of the above options will be considered for grades obtained in elective courses at the discretion of the PhD Program Committee. Should an assessment hearing be required, the student will be allowed to prepare a statement that may indicate any extenuating circumstances that may have influenced their grades.

It is common for students who earn LPs or NCs only for didactic courses to not be removed from the program if their research is such that their primary mentor or other committee members support them. Because of the severe consequences facing any students who receive a NC for research (LP is not an option for research), a scenario in which a student may have already lost the support of their primary mentor and committee, the program, in alignment with the Guarini School of Graduate and Advanced Studies initiatives around student success, has prepared a warning notice that a student may be given at the first indication of their research being far below the level considered acceptable. Mentors will be regularly encouraged by the PhD Program leadership to use such a warning as soon as they think it is necessary and ideally while they are still supportive of the student continuing in the program. Should a student fail to heed the warning, it is likely that they would receive a NC for the next term’s research.

Procedures in the Case of Separation of Adviser and PhD Student

In the event either the student or the adviser(s) desires to end the advising relationship, the following must occur:

1. The initiating party must file a written description of the issue, conflict, or concerns with the PhD Program Director(s).
2. The Dissertation Committee must be made aware of the issues in writing.
3. The student or adviser(s) must be given an opportunity to rectify the problems, possibly with the aid of a mediator.
4. The conditions that the student or adviser(s) must meet to rectify the problem should be approved by the Dissertation Committee and communicated in writing to the student and to the PhD Program Director(s).
5. If the Dissertation Committee has not been formed, cannot reach a conclusion on the issue, or the concerns cannot be rectified, the situation will be brought to the PhD Program Director(s) for review.
6. As with all disputes, if the PhD Program Director(s) cannot resolve the dispute it will then be taken to The Dartmouth Institute's Director or named representative if the TDI Director is conflicted. If TDI is unable to resolve the dispute in a manner that the student deems fair, the student may elect to pursue resolution through the Guarini School of Graduate and Advanced Studies.

Procedures in the Event an Adviser Leaves Dartmouth

In the event that a student's adviser leaves Dartmouth College, the student has several options depending upon their progress in the program.:

A student who has successfully passed their Qualifying Exam has three choices:

1. The student may choose to remain in the PhD Program and transfer to a new adviser at Dartmouth. This option requires the naming of a new dissertation adviser from among The Dartmouth Institute faculty. It is up to the student and the new adviser to determine if they would like the outgoing adviser to remain on the student's Dissertation Committee.
2. The student may choose to continue to work with the outgoing adviser but remain an enrolled student in the PhD Program and work at Dartmouth. This option requires the naming of a local TDI PhD program-affiliated adviser (typically an existing member of the Dissertation Committee) with the outgoing adviser remaining a faculty member of the student's Dissertation Committee, attending the student's research presentations, committee meetings, and eventually the dissertation defense.
3. The student may move with the outgoing adviser to the new institution but remain an enrolled student in TDI's PhD Program. This option requires the student to name a new Dartmouth Institute-based adviser (typically one of their existing committee members) in order to enroll in graduate research at Dartmouth each term, and to meet all program requirements while studying off-site. The student will be required to return to campus for their post first-year annual research presentations, meetings with their advisory committee, and completion of all course requirements. The student may petition the PhD Program Director(s) prior to obtaining permission to fulfill remaining requirements remotely or receive a waiver of certain requirements, such as teaching requirements.

For the student who has set a date for their Qualifying Examination defense *and* submitted a final draft of their written research proposal to their Qualifying Committee *but has not yet* completed their qualifying oral defense to achieve Candidate status, the situation will be reviewed by the PhD Program Director(s) should the student desire to pursue options 1-3, above.

A student who has not yet successfully passed their Qualifying Examination typically has two choices:

1. If the student chooses to remain enrolled in TDI's PhD Program, they must transfer to the supervision of another TDI faculty member. This option requires the naming of a new dissertation adviser from among the PhD Program Faculty. The student will work with the PhD Program Director(s) to ensure there is an appropriate time for selecting this adviser and completing a research rotation if needed. It is up to the student and the new adviser to determine if they would like the outgoing adviser to remain on the student's Dissertation Committee.
2. The student may withdraw from TDI's PhD Program to follow the outgoing adviser and enroll in the new institution's program or otherwise.

Procedures in the Case of Potential Separation of the Student From the Program

In the event that a student faces potential separation from the program due to course grades or other performance reasons (i.e., insufficient progress on research goals, violation of institutional policy, demonstrated and consistent displays of unprofessional behavior, etc.), or is denied advancement to candidacy due to the failure after two attempts of the Qualifying Examination or other reasons, the PhD Program Committee will be convened to review the student's overall record and the pending separation prior to final action. The PhD Program Committee will meet in conjunction with the student's dissertation adviser (unless there is a perceived conflict related to potential separation) and, as deemed appropriate for the situation, the student's Dissertation Committee (if one has been formed), the Qualifying Examination Committee (if the Qualifying Examination has been attempted), or Dissertation Exam Committee (if a dissertation has been submitted and the dissertation and the dissertation defense attempted). The PhD Program Director(s) will serve as chair of the meeting unless the Director(s) is the student's dissertation adviser(s). In such a case, a senior member of the PhD Program Committee will serve as chair. Faculty members who feel they might have a potential conflict of interest that would compromise their ability to make a fair and impartial decision are expected to recuse themselves from associated meetings. The PhD Program Committee will function as a democratic committee with a single vote for each faculty member present and the final decision will be arrived at by a majority vote. Any grievance the student has with a decision of separation can be pursued in accordance with The Dartmouth Institute Student Grievance Policy.

The overall performance of the student will be reviewed with respect to whether the student is qualified for a productive scientific, or related, career and as to their potential

capacity for achieving PhD-level scientific development within a reasonable timeframe. They will also consider any extenuating circumstances brought to their attention in a prepared document by the student, their adviser or other informed party that may have contributed to poor performance in the PhD program. In extraordinary instances, the PhD Program Committee may recommend an alternative course of action to that which would normally be stipulated as above. Such a recommendation requires a two-thirds (2/3) majority vote of the PhD Program Committee.

The Dartmouth Institute Student Grievance Policy

The process for guiding graduate student progress in The Dartmouth Institute, while primarily designed to oversee scientific progress and direction, is also intended to guard against biased treatment of any individual. TDI's grievance process consists of multiple stages to ensure that student grievances will be investigated fully and fairly, treated confidentially, and resolved in a timely manner. With an effective oversight/grievance committee structure, few grievances or disputes will reach the stage where they require formal resolution from the Guarini School of Graduate and Advanced Studies. However, when resolution is not feasible or successful at the program level, the Guarini School of Graduate and Advanced Studies is the next place to turn.

A grievance may be handled as appropriate in the following stages:

1. Whenever possible, the aggrieved party should speak directly to the person who is the alleged cause of the complaint and attempt to resolve the concern.
2. Speak to the research adviser and/or members of the Dissertation Committee.
3. Speak to the PhD Program Director(s).
4. Speak to The Dartmouth Institute Director.
5. If a satisfactory resolution cannot be reached within the program or TDI, the aggrieved student may request a meeting with the Dean of The Guarini School of Graduate and Advanced Studies to discuss the issue.
6. If the Dean, working together with the aggrieved student and appropriate faculty member(s) or representatives of the PhD Program, is unable to reach a satisfactory resolution, the student can request, in writing, a formal hearing and ruling by the Dean of The Guarini School of Graduate and Advanced Studies and the Committee on Student Grievances.
7. Please note that allegations of scientific misconduct, violations of the academic honor principle, and certain issues of professional and personal conduct (sexual harassment, discrimination, and others described in the graduate handbook under code of conduct - non-academic regulations) must be reported to and handled by The Guarini School of Graduate and Advanced Studies and the Title IX Office. Additional information about Guarini Policies and Procedures can be found here (https://graduate.dartmouth.edu/policies).

Visas for International Students

Due to the length of time an international student may spend acquiring their PhD, including the attainment of prior degrees, it is to be expected that most international students will need to renew their student visa at some point during their studies. International students are required to report the expiry date of their visa to The Dartmouth Institute administration upon enrollment in the program. Program administration will inform the student's adviser at the time when the visa has only 12-months left before it expires such that the student shall be allowed to visit their home country or take other necessary action to renew their visa if it is their wish to do so. If the student lets their visa expire, then they must give their adviser at least a 12-month window during which a mutually agreed-upon timeframe is to be found for them to renew their visa.

Student Employment Policy

Graduate students who are fully supported (a full tuition scholarship and a full stipend) cannot receive additional payment from Dartmouth College for services rendered and cannot accept employment outside the College while enrolled. Exceptions may be granted in cases of academic or professional benefit or documented financial hardship. Unless a program-specific exception has been approved by the Graduate Council, such as that already approved for students in The Dartmouth Institute PhD program to receive additional payments for TA work beyond their required TA assignments, any exception will normally not exceed eight hours per week and must have the written approval of the graduate student's adviser, department chair or Graduate Program Committee, and the Dean of the Guarini School of Graduate and Advanced Studies.