ONCOLOGY

Graduate Program

Student/Faculty Handbook

Updated:7/24/24

Website: Oncology Graduate Program | UPMC Hillman Cancer Center

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A. ORGANIZATION OF THE SCHOOL OF MEDICINE (SOM) GRADUATE PROGRAMS

Origin of the Oncology Graduate Program (OGP)

The OGP came into existence upon approval by the University Provost, Dr. Joseph McCarthy, in August 2023. OGP is administered by the Dean of the School of Medicine (SOM), Dr. Anantha Shekhar, and conforms to academic governance by the Provost of the University

A.1. Office of the Dean

Associate Dean for Graduate Studies Saleem Khan, Ph.D. oversees graduate programs in the SOM and reports to Dean Anantha Shekhar, M.D., Ph.D.

A.2. SOM Graduate Council

The Graduate Council is a standing committee in the SOM chaired by the Associate Dean for Graduate Studies. Council members include the director of each SOM graduate program, the director of the M.D./Ph.D. program, and one student representative, usually the president of the Biomedical Graduate Student Association (BGSA).

A.3. Program in Oncology Committees

Admissions and Recruitment Committees
Curriculum Committee
Student Evaluation and Progress Committee
Comprehensive Examination Committee

A.4. Biomedical Graduate Student Association (BGSA)

The BGSA is the University sanctioned organization of graduate students within the SOM. Web link: http://www.bgsa.pitt.edu/.

A.5. Graduate Stipends/Financial Aid

All students in good standing receive support in the form of a stipend, health insurance, and tuition remission. Students are appointed annually on a 12-month, full-time basis. In the first year, students are supported through fellowships administered through the UPMC Hillman Cancer Center. Afterwards the dissertation advisor is responsible for the student stipend and related costs. After the first year, students may be supported through the following funding mechanisms:

1. **Research Grants**: Students working on thesis research may be supported from research grants from their main advisor. These students would be considered Graduate Student Researchers (GSRs).
2. **Training Grants**: Several students working on thesis research may be supported from an institutional training grant (such as an NIH T32) from various departments associated with OGP. These students would be considered Predoctoral Trainees.
3. **Foundation/Government Fellowships**: Students who qualify for foundation and government individual fellowship awarded to the student by an external funder (such as NSF, NIH (F30 or F31) would be considered Predoctoral Fellows. Completion of the grant writing course and comprehensive exam provide excellent preparation for timely submission of a competitive grant application.

Regardless of the source of the support, all OGP students receive a stipend of $40,000 (2023-2024). Current stipend levels are posted at https://www.somgrad.pitt.edu/prospective-students/phd-programs. Should a student receive a funding opportunity that is less than this level, the student's advisor is expected to make up for the difference. The University of Pittsburgh will provide the student with individual health coverage. *Please note that the process and payment for health insurance will vary depending on how the student is being funded.* If the student wishes to enroll in a family plan, they will be responsible for paying the difference in cost.

A.6. Physical and Mental Health Services

All University students can take advantage of the Student Health Service for health care, prevention, and pharmacy services. Web link: https://www.studentaffairs.pitt.edu/shs/

OGP students also have access to campus exercise and fitness facilities: Web link: https://www.studentaffairs.pitt.edu/campus-recreation/

In addition, a variety of resources are available to OGP students for mental health and counseling. Information on these resources can be found at:

- School of Medicine Mental Health Team: https://www.medstudentaffairs.pitt.edu/contactus/mental-health-team
- University Counseling Center: https://www.studentaffairs.pitt.edu/cc/
- Care and Resource Support (CARS): https://www.studentaffairs.pitt.edu/cars/
- BGSA Mental Health Counseling Guide: https://bgsauniversityofpittsburgh.squarespace.com/mental-health-resources

Students should direct questions about the OGP and the procedures and policies described herein to their research mentor, the Program Director (or Associate Director), or to the Program Office (5081 Assembly Building, 5051 Centre Ave, Pittsburgh, PA 15221 oncologygradprogram@pitt.edu (412) 482-4881)

B. GRADUATE DEGREE REQUIREMENTS

B.1. Requirements for a Ph.D.

The OGP is comprised of formal course work and original laboratory research, which is designed to allow attainment of a Ph.D. in 4-6 years. The University requires students seeking the Ph.D. degree to engage in a minimum of one term of full-time doctoral study that excludes any other employment, except as approved by their departments. Ph.D. degree work must be completed within ten years from initial registration for graduate study. If the student has received credit for a master's degree appropriate to the field of study, then all requirements for the Ph.D. degree must be completed within eight years. A minimum total of 72 credits is required to satisfy the Ph.D. requirement. Of this, 32 credits must come from approved courses, not including directed study credits or dissertation research credits. Students are graded according to the A-F letter grade or S/NS (sufficient/not-sufficient) grading system for most courses. An "I" (incomplete) grade must be made up according to the stipulations of the faculty director of the course, the Program Director, and University policy. Graduate students not fluent in English are strongly encouraged to take a University course in conversational English to allow active and full participation in the program. This course does not have to be taken for credit and does not contribute to

the student's Quality Grade Point Average (QPA). University policy requires a cumulative QPA of at least 3.0 for graduation. OGP further requires a minimum grade of a B in all required courses and in those elective courses counted toward the 32-credit requirement and maintain at least a 3.0 QPA. If a student fails to maintain the minimum grade 5 requirement, then the curriculum, executive and/or student evaluation committee will decide whether to dismiss the student from the program or allow the student to retake any required course for which a grade less than a B was received. In such cases, the student will be placed on academic probation.

B.2. Requirements for a Master's Degree.
Students are not admitted to the OGP with the express purpose of obtaining a M.S. degree. In certain cases, however, it may be necessary that a student in the Ph.D. program be transferred to a terminal M.S. degree. Students pursuing a M.S. degree in Oncology will be required to complete the same course work as described for the Ph.D. program and to prepare and successfully defend a Master's thesis.

The requirements to receive an MS degree will be:

1) The student has completed a minimum of 30 credits in the program
2) The student has completed their preliminary milestone.
3) The student has passed a Comprehensive Exam.
4) The student has written and defended a Master's thesis.

The Comprehensive Exam will be based on the student's thesis research. The examination will require that the student complete a research proposal. The proposal submitted prior to the exam should be in the form of a 6-page F31-type grant proposal that is conceptually well founded and adequately documented. Attribution to published and unpublished sources must be comprehensive. The written proposal must be original to the student, although the project may have been previously outlined in the advisor's grant. The proposal is to be well organized, written in a coherent, grammatically correct style, and should describe original and innovative experiments that will accomplish the stated aims and objectives of the research. NIH instructions for format should be followed. The written proposal will be assessed by a panel of faculty members. It will be the responsibility of the panel chairperson to poll panel members as to the acceptability of the written proposal, and, if acceptable as submitted, to convene the panel for an oral examination. Presuming an acceptable written proposal, the oral examination for each student will be scheduled as soon as feasible after completion and submission of the written proposal (preferably within three weeks). At the end of the oral examination, the panel will vote in private to pass or fail the student. A simple majority shall prevail; abstentions will not be permitted. There shall be no conditional pass/fail decision. After the panel vote, the panel chair will immediately notify the student of the decision and give an evaluation of performance.

The Master's thesis must provide evidence of original scholarly research of sufficient quality to be published in a leading scientific journal. Laboratory work for which a student receives wages (for example, work performed when the student was employed as a technician) is not eligible for any part of the thesis research. The student's thesis committee will meet at the time that the student's research is nearly complete and will authorize the student to begin drafting the thesis. The style and format of the thesis must conform to the standards set forth by the University of Pittsburgh. The thesis advisor and one or more members of the thesis committee will read preliminary drafts of the thesis and will approve the final copy for submission to the thesis committee. The final copy must be submitted to the thesis committee at least two weeks prior to the thesis defense date followed by an examination of the

student by the Thesis Committee members. If the decision of the committee is not unanimous, the case is referred to the Dean for resolution.

C. THE ONCOLOGY GRADUATE TRAINING PROGRAM

C.1. Introduction

This document contains general information about the Oncology Graduate Program. The most up-to-date information can be found at the OGP web site Oncology Graduate Program | UPMC Hillman Cancer Center

C.2. Administrative Structure of the OGP

Program Co-Directors: Katherine Aird, Ph.D. & Chris Bakkenist, Ph.D

Admissions Committee: Voting members consisting of at least 1 faculty member from each of the 5 basic/translational oncology science programs (Cancer Biology Program, Cancer Immunology and Immunotherapy Program, Cancer Therapeutics Program, Cancer Virology Program, Genome Stability Program). The committee is chaired by one faculty member from OGP, who will assign applications for review and serve as a non-voting member. Terms are for 3 years.

Comprehensive Examination Committee: Yi-Nan Gong (co-Chair), Elisa Fouquerel (co-Chair)

Curriculum Committee: Laura Stabile, Ph.D. (Chair), Katherine Aird Ph.D., Chris Bakkenist Ph.D

Executive Committee: Katherine Aird Ph.D., Chris Bakkenist Ph.D.,

Program Coordinator: Sophia Cosentino Pezzuti

C.3 Responsibilities of Program Representatives

Program Director(s): The Program Director(s) will oversee the program, administer program activities as needed, serve on the SOM graduate council, serve on the Executive Committee, serve as a mentor to all first year OGP graduate students, and participate in the evaluation of the first-year class. Course directors will report directly to the Program Director.

Admissions and Recruitment Committees: Representatives will evaluate applicants to OGP, help organize the recruitment weekend visits of applicants, participate in selection of members of the incoming class, and represent the interests of OGP during orientation events. Terms on the Admissions Committee will last three years and members will be appointed by the Executive Committee. A representative from this committee will also attend regular meetings of the school-wide Recruitment Committee, which addresses issues such as increasing the quality and diversity of applicants applying to Pitt graduate programs and competing successfully with other top-level graduate programs.

Curriculum Committee: Members of the Curriculum Committee will meet on a bi-annual basis to evaluate the content and quality of the Program Course Offerings.

Comprehensive Examination Committee: The committee will be responsible for overseeing the comprehensive examination required of each student in the fall of the second year. The chair will receive proposals from students, distribute to Examination Committee members to review, chair the study section review of all written proposals, and create an oral defense committee for each student, as described in section F of this document. Remaining committee members will participate in the examination process by serving on the study section to review written proposals.

Executive Committee: Members of the committee will meet frequently to discuss time-sensitive OGP issues, such as the nomination and election of the Program Director and the processing of faculty membership applications. The chair of the committee will be responsible for scheduling meetings on an as-needed basis.

Student Evaluation Committee: The format of student evaluation will be determined by the Program Director and Student Evaluation Committee. Annual evaluations completed by the OGP student and their mentor will be reviewed.

Student Representative to the BGSA: This individual will be elected by the students, represent OGP within the BGSA, and coordinate student-sponsored events as needed.

C.4. OGP Faculty Membership Criteria

1. Graduate Faculty status
2. Research funding: current or recent history of extramural funding or startup funds
3. Independence: space and funding
4. Appropriateness of research program for oncology/cancer biology graduate student training
5. Current participation or willingness to participate in the teaching of OGP and/or other graduate students
   Current participation or willingness to participate in other OGP graduate program activities: journal clubs, seminar series, graduate thesis committees, comprehensive examination committees

C.5. OGP Program Faculty

A comprehensive and current list of OGP Graduate Program faculty is available at: People | Oncology Graduate Program | UPMC Hillman Cancer Center

C.6. OGP Program Students

A comprehensive and current list of OGP Graduate Program students and graduates will be made available after the inaugural class matriculation

D. OGP CURRICULUM

D.1. Advising and Evaluation

Upon admission to OGP, students will be mentored for the first year by Program Co-Directors. These first-year mentors will provide advice on research and academic requirements and choices, choice of rotation labs, as well as assist in the decision regarding ultimate choice of a laboratory in which to

complete their Ph.D. research. The mentors also will represent the student's interests at meetings with the OGP curriculum and evaluations committee should there be concerns about academic progress. Once a student formally joins a laboratory in which to complete their Ph.D. research, their primary mentor will be the faculty member who heads that lab. Students will be continually evaluated by the Curriculum Committee with respect to grade point average and grades from laboratory rotations. Students will be assessed based on coursework and laboratory rotations. If a student is not performing at a satisfactory level, remedial action will be suggested, or the student may be placed on academic probation or may be dismissed from the program.

D.2. Curriculum

OGP students will take Foundations 1 and Foundations 2 in the Fall term of the first year. These are required courses for all incoming students in OGP. The course is team-taught and designed to introduce and reinforce core concepts of oncology and cancer biology. One laboratory rotations, lasting 12 weeks each, will be completed during the Fall of the first year. In the Spring of their first year, OGP students will take Foundations 3. These lecture and discussion courses will introduce the students to translational concepts in oncology. Students will also take Success in Academic Science, which will provide information to students on expectations of academic labs along with other professional development. Students will also do an additional 2 10-week rotations in the Spring term. OGP students are also required to take courses in statistics and biomedical ethics during the Summer term at the end of the first year. OGP students will have more flexibility in the second-year curriculum. In Fall and Spring semesters of their second year, OGP students will choose an elective course(s) as needed or desired. In the Spring of their second year, OGP students will take a grant writing course. Electives appropriate for OGP students are listed here: https://www.OGP.pitt.edu/curriculum In addition, students will attend the UPMC Hillman Cancer Center Basic & Translational Seminar Series, UPMC Hillman Cancer Center Annual Retreat, and weekly OGP Work in Progress Seminar Series. The sequence of classes is summarized in the table below (credits in parentheses)

Year	Semester	Course	Credits
1	Fall	Foundations 1	3
1	Fall	Foundations 2	3
1	Fall	Rotation #1	2
1	Fall	UPMC Hillman Seminar Series and Cancer Center Retreat	1
1	Fall	OGP WIP	1
1	Spring	Foundations 3	3
1	Spring	*Success in Academic Science*	1
1	Spring	Rotation #2	2
1	Spring	UPMC Hillman Seminar Series	1
1	Spring	OGP WIP	1
1	Spring	Rotation #3	2
1	Summer	*Biomedical ethics*	2

1	Summer	*Data to Knowledge*	3
2	Fall	Electives	2-3
2	Fall	UPMC Hillman Seminar Series and Cancer Center Retreat	1
2	Fall	OGP WIP	1
2	Spring	UPMC Hillman Seminar Series	1
2	Spring	OGP WIP	1
2	Spring	Grant Writing	2

If a student fails to achieve a passing grade in any course, make-up exams may be offered. This is entirely at the discretion of the course director and in consultation with the Program Director. Students concerned about performance in a course should discuss this with the course director at the earliest opportunity. A wide range of additional graduate courses are available through the SOM. The most current list of courses is available from the web site (http://www.gradbiomed.pitt.edu/current-students/courseinformation).

D.3. Research

Laboratory research is the major component of all biomedical Ph.D. programs. OGP supervises the process of research rotations during the first year. Students are expected to complete 3 research rotations during the first year. At the end of each rotation, the student is required to complete a written report of 2-3 pages (including figures) and prepared according to the style suggested for contributors to the *Journal of Biological Chemistry*. When the written report is complete, the rotation mentor will review the performance of the student and assign a letter grade for the rotation. Failure to maintain satisfactory laboratory performance will result in dismissal from the program.

It is expected that three rotations of 10-12 weeks each will be performed in different laboratories of members of the OGP training faculty. This will provide the student with an adequate opportunity to identify an area of research interest and to establish a relationship with a potential dissertation advisor, and potential dissertation committee members. All rotations must be approved by the Program Directors.

In rare instances, a student may petition the Oncology Graduate Program Director for permission to take a 4th rotation. During this rotation you will be placed on academic probation. By last day of summer term 2, your rotation advisor will submit an evaluation of your rotation to the Oncology Graduate Program Director and a recommendation as to whether you should continue your dissertation research in their laboratory. If you match with their laboratory and pass your preliminary evaluation, your probation status will be removed, and you will become a student in good standing. However, if the 4th rotation does not work out, your performance will be considered unsatisfactory, and you will be subject to dismissal by the Oncology Graduate Program Steering Committee from the Oncology Graduate Program PhD program and hence the University of Pittsburgh.

D.4. Additional Program Activities

The Pitt Biomedical Graduate Student Association (BGSA) organizes an annual symposium each fall to highlight graduate student research. After joining a lab, OGP students are required to submit an abstract for a poster presentation and to attend the symposium each year. All OGP students will be required to attend and present at Work in Progress (WIP).

E. OGP DEGREE REQUIREMENTS

E.1. Course Requirements - PhD Track

COURSE TITLE CREDITS
Foundations 1, 2, 3 – 9 Credits
Rotations (3)- 6 Credits
Biomedical ethics 2 Credits
Data to Knowledge 3 Credits
Comprehensive/Experimental 4 Credits
WIP (1 Credit per semester)
Success in Academic Science 1 Credit
Grant Writing 2 Credits
Electives (1) 3 Credits

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~34-40 Credits (at least 34 course credits needed)

Per University guidelines, a minimum of 72 credits is required for a Ph.D. in Oncology & Cancer Biology over a minimum of 6 full-time terms. 9 to 15 credits constitute full-time study in the Fall and Spring terms and 3 credits is considered full-time for the Summer term. A minimum of 32 of those credits 10 will come from coursework while a minimum of 40 credits must be earned for dissertation research, acquired after passing the doctoral comprehensive examination.

E3. Course Descriptions

Foundations I (3 cr)

This is a required course for all incoming students in OGP to be taken in the Fall of the first year. This is a team-taught course designed to introduce, and reinforce, core concepts in biology and biomedical science.

Foundations 2 – MSOGP 2000 (3 cr)

This is a required course for all incoming students in OGP to be taken in the Fall of the first year. This will be a team-taught, course designed to teach core concepts in Oncology.

Foundations 3 – MSOGP 3000(3 cr)

This is a required course for all incoming students in OGP to be taken in the Spring of the first year. This will be a team-taught, course designed to teach advanced concepts in the management and treatment of patients in the Oncology Clinic. The objective is to give students a deep understanding of the impact of Cancer on patients, their families, and society.

OGP Grant Writing - (2 cr)
This course is designed to familiarize students with the basics of submitting research grants. The course includes a review of the types of research grants most commonly applied for by principal investigators, the general structure and content of these applications, and the most common mistakes made by new grant writers. Students will be provided with example research grants and will be expected to review these grants and serve as reviewers of writing sections. Spring

OGP PhD Dissertation Research (1 – 14 cr)
After advancement to candidacy for the Ph.D. degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course is required for the Ph.D. degree in the SOM. All semesters.

OGP Work in Progress – MSOGP 2050 (1 cr)
The OGP Work in Progress (WIP) course meets weekly during which students, in their second year or later, report on their research progress, including the background, reasoning, analyses, critical evaluation of experimental strategies, data analysis, and interpretation of their experimental results. Students are expected to discuss issues and answer questions from graduate students, faculty, and others in attendance. Emphasis is placed on the development of teaching and speaking skills needed for scientific presentation. Fall and Spring semesters.

OGP Success in Academic Science – MSOGP 2070(1 cr)
This course will provide insight and knowledge into what it means to be successful in an academic lab, including expectations of academic labs, introduction to publishing, introduction to grants, and other relevant topics. Lecturers will introduce concepts in professional development, including how to pick a mentor, how to navigate mentor-mentee relationships, time management skills, etc… Spring

Hillman Basic Research Seminar – MSOGP 2060 (1 cr)

OGP XXX Big Data (3 cr)
This team-taught course will focus on topics in Big Data related to oncology, including hands on basics of data science and programming basics and analyzing high throughput data.

OGP XXX Cancer Immunology and Immunotherapy (3 cr)
This team-taught course will introduce core concepts in cancer immunology and focus on relevant topics in cancer immunology such as the basic of different immune cells in addition to highlighting basic and emerging topics in cancer immunotherapy.

OGP XXX Women's Cancers (3 cr)
This team-taught course will introduce women's-specific cancers such as breast and ovarian and focus on core concepts that are relevant for these diseases.

INTBP 2013 D2K: From Data to Knowledge - Biomedical Experimental Design & Analysis (3 cr)

This team taught course will focus on basic principles of experimental design together with measurements and sources of experimental error. The course will provide a practical introduction to the quantitative tools required for experimental research using cellular, molecular, and systems methods. Topics will include rigor and reproducibility, experimental design; measurement errors; principles of parametric and non-parametric statistical inference; use of MS Excel, GraphPad PRISM and Minitab; design of publication graphics; and an introduction to big data approaches. In addition to lectures, students will work in small groups to construct capstone projects by making YouTube style videos to illustrate key principles of scientific rigor, experimental design, and analysis. Summer semester.

INTBP 2290 Scientific Ethics and the Responsible Conduct of Research (1 cr)
The course is an introduction to the basic ethical issues which arise in the course of conducting scientific research. It is intended for all graduate students and fellows in the biomedical sciences who have completed at least one year of graduate work. The course will be composed of informal lecture presentations followed by discussion of issues in small groups. Summer semester.
14 Additional Microbiology and Immunology program courses can and will be developed, as dictated by student and faculty interests and needs.

E.4. Publication Requirement
Publication of novel findings is an important part of being a research scientist and the principal way that scientific findings are disseminated. Students are therefore required to publish at least one first-author paper of original research for completion of the Ph.D. in OGP.

F. COMPREHENSIVE EXAMINATION
F.1. Introduction
Students enrolled in the Ph.D. program should take the comprehensive examination in the fall of the second year. Students in the M.D./Ph.D. track should take the comprehensive examination in the summer of the first year in OGP. The comprehensive examination will be administered after the student has completed most course work and has chosen a major advisor. In the summer at the end of the first year (or spring of the first year for M.D./Ph.D. students), students will meet with the chair of the *Comprehensive Examination Committee* to discuss these guidelines.

Students will be required to submit a written proposal in the format of an NIH F31 research grant to the Comprehensive Examination Committee chairperson, who will chair a study section of faculty members to evaluate each student's written proposal. The student is ultimately graded pass/fail of the written proposal (see additional details in section F.3.c. below), with a simple majority vote of the panel deciding the grade. If passed on the written proposal, the study section will select faculty members to conduct an oral examination of the student. In the event of a failure of either the written or the oral component, the student shall be given one opportunity to retake each failed component of the examination. In the event that a student fails either component twice, the action shall be dismissal of the student from the program or recommendation of a plan for completion of a terminal M.S. degree.

F.2. Comprehensive Examination Proposal (written component)
The comprehensive examination is based on the student's thesis research area (see below). Unless an exception is granted, Ph.D. track students must submit an abstract describing the planned research

project by September 15 and the full written proposal by October 15. M.D./Ph.D. track students must submit an abstract describing the planned research by May 1 and a full written proposal by May 31.

Preparation of the written documents should follow the guidelines below and can be further clarified by the chair of the Comprehensive Examination committee. The examination will require that the student submit and defend a proposal in the format of an NIH F31 research grant, with the following guidelines:

1. **General Guidelines.** The proposal is expected to be conceptually sound and adequately documented. The student is responsible for preparing an original research proposal. Dissertation advisors and others may be consulted on specific scientific issues, but the document must be prepared exclusively by the student. Advisors may not directly discuss the written proposal with the student or edit the written proposal for style or content. However, advisors may continue to discuss the conceptual aspects of a student's project with them, as this is important to facilitate their scientific advancement in the laboratory. In addition, an advisor may work with a student in preparing them for their oral examination, but may not directly coach them in preparing answers to specific questions that may arise from the written proposal. Attribution to published and unpublished sources must be comprehensive. The written proposal must be original to the student, although the project may have been outlined previously in the advisor's grant. The written proposal must include well-defined hypotheses and rationale, interpretation 15 of expected and/or current results, and alternative approaches, as well as the significance of the proposed experiments. Overall significance to the field of research also should be discussed.
2. **Format.** The proposal shall be single spaced, with margins no smaller than 0.5 inches and no larger than 1.0 inch. The font used shall be 11 pt. Arial, although smaller type (9-10 pts) may be used in figures and legends. The written research proposal must adhere to the following page guidelines:
    a. Title Page
    b. Abstract Page (1-2 paragraphs)
    c. Specific Aims Page: not to exceed one page
    d. Significance and Innovation: usually 1-2 pages
    e. Research Plan: usually 4-5 pages
        i. Tables and figures must be integrated into the Significance, Innovation, Research Plans
    f. Literature Cited: must include complete citation with all authors, year, title, journal, volume, inclusive pages (see e.g. Journal of Experimental Medicine format).
3. **Policy on Consultation.** Students are encouraged to seek feedback on the written proposal and practice for the oral defense from other students, but not faculty members. Those whose written English skills are considered weak may wish to consult the Writing Center in the Cathedral of Learning (http://www.writingcenter.pitt.edu), which provides individualized help with writing skills

F.3. Administration of the Comprehensive Examination

1. **Submission of the proposal.** Students shall take no more than four weeks from their laboratory work in the writing of their comprehensive examination proposal. Upon completion, an electronic (PDF only) copy shall be submitted to the chair of the Comprehensive Examination Committee.

2. **Examination committee**. As soon as possible (PREFERABLY WITHIN TWO WEEKS OF SUBMISSION OF THE PROPOSAL), the Comprehensive Examination Committee will convene and review the written proposals in a study section format. If the written proposal is passed, an oral defense committee will be formed for each student. With the advice of appropriate faculty members on the Comprehensive Examination Committee, the chair shall establish for each student's proposal, a panel of faculty members (and its chair) competent to evaluate the subject of the research proposal for the oral defense. Each panel shall consist of three members, at least two of whom are members of OGP. At least two members of the panel will have served previously on a comprehensive examination panel. The chair of the Comprehensive Examination Committee will distribute the proposal to members of the selected panel within one week of its approval and determine a date for the oral exam. The student's thesis advisor shall not serve on a panel established to evaluate one of his/her students.
3. **Evaluation of the proposal.** The written proposal should be assessed mainly for clarity, scientific accuracy and internal consistency. The proposal should not be evaluated like an R01 proposal, i.e. significance and innovation should be given less weight than the above criteria (although the student should still be able to explain the significance and novelty).
    a. **Study Section Format.** Written proposals will be reviewed by three Comprehensive Examination Committee members and presented to the entire committee by the primary reviewer. Review and discussion will be conducted as a NIH Reviewer Panel. The Comprehensive Examination Committee chair will also chair the study section.
    b. **Initial assessment**. Four initial outcomes are possible: pass (no changes or revisions required), provisional pass (small factual or stylistic comments, which can be quickly revised), minor revision (e.g., one sub-aim in need of significant revision) or major revision (seriously flawed hypothesis and/or approach). The student will submit a revised proposal, including a brief response (one-page limit) to the original critiques within 2 weeks (provisional pass), 4 weeks (minor revision), or 6 weeks (major revision). 6 page max. for Signif, Innov. and Res. Plan combined 16
    c. **Pass/Fail.** The Committee will reach a decision about the suitability of the revised proposal (i.e. responsiveness to the critiques) within one week. If the revised document is still judged to be inadequate, the student will fail the written component. A second unacceptable written exam performance shall constitute a second failure, and the student will be subject to dismissal or other action as noted in section F.1, above.
4. **Oral examination**
    a. **Logistics.** The oral examination for each student should be scheduled within four weeks after submission of a passed written proposal. At the beginning of the exam (in the absence of the student), the Comprehensive Examination Panel chair (or a representative) will briefly address the committee, communicating the ground rules for the examination. The oral examination will be held in a closed session, with only the student and the three members of the examination panel in attendance. The student will begin the examination with an oral presentation (not to exceed 15 minutes). Slides depicting specific aims or figures/tables from within the proposal may be used. The oral examination shall not exceed two hours, inclusive of the student's opening presentation. The research proposal shall be the sole document available to the student during the oral examination.

b. **Standards.** It will be the panel's task to evaluate the student's understanding of basic concepts from coursework in their major field of study, content of the research proposal, and the basic concepts and scientific literature underlying the proposal. The oral examination should not be used as an opportunity to correct serious flaws within the written proposal. At the end of the oral examination, the panel will vote in private to pass/fail the student. A simple majority shall prevail. There shall be no conditional pass/fail decision. The panel chair will immediately notify the student of the decision and evaluation of performance. A critique written by the comprehensive examination panel chair, evaluating the exam performance and the pass/fail decision, shall be submitted to the chair of the Comprehensive Examination Committee, who shall distribute copies to the Director of OGP, the student, the student's advisor, and the program coordinators for record keeping.

c. **Failure/re-examination**. In the event of failure of the oral exam, a student will have one opportunity to re-take that component of the exam, and will be advised by the exam panel whether it would be appropriate to revise the written component (only if no previous revision was required prior to the first oral exam) before re-taking the oral component. The re-examination panel will consist of three faculty, at least two of whom will be from the OGP. The panel should consist of one original panel member and two replacement members, at the discretion of the Comprehensive Examination Committee chair. A second unacceptable oral exam shall constitute a second failure, with the student subject to dismissal or other action as noted in section F.1, above.

d. A "pass" of the comprehensive examination shall be accomplished when both of the following conditions are met:

i. The written proposal is considered sufficient as presented

ii. The student has performed knowledgeably in the oral defense of the proposal.

The panel, at the time of the oral examination, whether the student passes or fails, must also sign the required “Comprehensive Examination Report” three-part form, which should then be submitted to the Graduate Studies Office (M240 Scaife Hall) for processing.

G. ADVANCEMENT TO CANDIDACY & FORMATION OF A DISSERTATION COMMITTEE

Following completion of course work and passing the comprehensive examination, the student undertakes the steps required for advancement to candidacy for the Ph.D. degree, outlined below.

Students should form a dissertation committee within one month of passing their comprehensive examination. The committee shall consist of at least five faculty members. The dissertation advisor is included in the committee, but another faculty member must be designated chair of the committee. The majority of members must be from the OGP faculty, and the majority of members must have Graduate Faculty status. The student is not limited to faculty from the SOM or the University of Pittsburgh. The Directors of the OGP will approve the committee. Upon approval from the Directors, the student should then email the OGP coordinator to discuss the required DocuSign forms needed.

The thesis committee should meet within three months of formation, before the end of March in the student’s second year. Per the policy of the Graduate Office, all committee members must be present at the first meeting. Prior to the meeting, a written thesis proposal should be provided to each committee member. At this meeting, the dissertation research project is presented in detail to the committee; if

the committee approves the proposal, the student should make certain that the required graduate school forms were emailed from the OGP coordinator (via DocuSign) are signed by all committee members for advancement to candidacy for the Ph.D. degree. OGP Coordinators will forward the completed DocuSign forms to the Graduate Office. Final approval of committee membership must be obtained from the Associate Dean for Graduate Studies.

Following the initial thesis committee meeting, additional meetings must be held at six-month intervals. The student must submit, one week prior to the scheduled committee meeting, a brief written summary (1-2 pages) of their research progress since the previous committee meeting. Each time a thesis committee meets (including the first meeting), a brief report of this meeting (see Appendix), written by the committee chair, must be sent to all thesis committee members and to the OGP coordinator so that this information can be included in the student's academic file.

H. DISSERTATION AND FINAL ORAL EXAMINATION

When a determination has been made by the thesis committee that the student is nearing completion of their degree, the committee may give the student permission to begin working on their written dissertation. This generally occurs about six months from the anticipated defense date. This should be documented on a thesis committee report form and submitted to OGP coordinator by the committee chair to be added to the student's file. At this time, students should refer to the "OGP Checklist to Schedule and Defend Your Thesis" document.

Prior to setting a date for defense, the student must meet with the Directors of the OGP and the OGP Coordinator. The School of Medicine stipulates that the following requirements must be met before the last day of the term in which the student has applied for graduation. Students apply for graduation through PeopleSoft.

The student's dissertation must provide evidence of original scholarly research of sufficient quality to be published in a leading scientific journal. Laboratory work for which a student receives wages (for example, work performed when the student was employed as a technician) is not eligible for any part of the dissertation research. The style and format of the dissertation must conform to the standards set forth by the Graduate Council. It is strongly recommended that the student attend an Electronic Thesis Defense (ETD) Workshop and share a preliminary draft of the dissertation with their committee chair and/or dissertation advisor.

A final copy of the written dissertation must be submitted to the entire committee at least two weeks prior to the dissertation defense date.

The dissertation defense consists of a formal, public seminar on the subject of the dissertation. This is followed by a closed-door examination of the student by the thesis committee members. If the decision of the committee is not unanimous, the case is referred to the Dean for resolution. The degree in *Oncology* will be granted by the School of Medicine, University of Pittsburgh.

A student must be on active status (must be registered for a minimum of three credits during a 12-month period) and must register for at least one credit during the term in which they graduate. Students who complete all the degree requirements in one term but graduate the next term may petition the

Dean for a waiver of this requirement. A student who is on inactive status must be readmitted and registered for three credits in order to graduate.

After the final defense, the following must be delivered to the Graduate Office electronically and can be found on the SOM Grad website:

1. Dissertation Defense Report (sent via DocuSign by the OGP Coordinator on day of defense)
2. Dissertation Approval Report (sent via DocuSign by the OGP Coordinator on day of defense)
3. ETD Approval Form (sent via DocuSign by the OGP Coordinator on day of defense)
4. An official receipt from Student Payment Center (G-7 Thackeray Hall) for payment of the processing fee for a Ph.D. degree.
5. Survey of Earned Doctorate (used by National Research Council)
6. AAUDE Doctoral Exit Survey
7. *ProQuest UMI Dissertation Publishing Agreement*
8. A copy of your updated curriculum vitae
9. Alumni Form (found on the SOMGrad website)

Students are required to submit an electronic version of the thesis using the ETD submission process (https://etd.pitt.edu/submit) as required by University Policy.

Appendix – Forms (all are available by contacting the OGP Coordinator)

- Rotation form (Available via DocuSign, contact Program Coordinator)
- Template for rotation report
- Rotation evaluation
- Thesis committee meeting report form (To be filled out by the thesis committee chair and returned to Program Coordinator Sophia)
- Yearly progress evaluation (summary, mentor and self)
- OGP checklist to schedule and defend