GUIDELINES FOR Ph.D. in Applied Physics and M.S. in Physics

Table of Contents
I. Overview ........................................................................................................................................... 4
II. General Requirements for the M.S. degree .................................................................................... 5
   A. M.S. Program ................................................................................................................................. 5
   B. Completion of Program ................................................................................................................. 6
   C. Time Limits ................................................................................................................................... 6
   D. Appeal ........................................................................................................................................... 6
III. Student Advising for M.S. students ................................................................................................. 7
   A. Research Adviser .......................................................................................................................... 8
   B. Entry Committee (EC) ................................................................................................................... 9
   C. Research Committee (RC) ........................................................................................................... 9
   D. Satisfactory academic progress ................................................................................................. 10
   E. Dismissal from the M.S. program ............................................................................................... 10
   F. Appeals ....................................................................................................................................... 11
IV. General Requirements for the Ph.D. ............................................................................................... 11
   A. Coursework ................................................................................................................................. 12
   B. Comprehensive Examination ....................................................................................................... 13
   C. Prospectus Examination ............................................................................................................. 14
   D. Departmental Seminar ................................................................................................................ 14
   E. Dissertation .................................................................................................................................. 15
   F. Time Limits .................................................................................................................................. 16
V. Student Advising for Ph.D. students ................................................................................................ 16
   A. Research Adviser .......................................................................................................................... 18
   B. Entry Committee (EC) ................................................................................................................... 19
   C. Research Committee (RC) ........................................................................................................... 19
   D. Dissertation Committee (DC) .................................................................................................... 19
   E. Committee Meetings .................................................................................................................... 20
VI. Status in Program ............................................................................................................................ 21
   A. Advancement to Candidacy .......................................................................................................... 21
B. Maintenance of Enrollment in Program ................................................................. 21
C. Maintenance of Graduate Assistantship.............................................................. 22
D. Residency Requirement ...................................................................................... 24
E. Leave of Absence ................................................................................................. 24
F. Addition of the M.S. degree or withdrawal from Ph.D. and change to the M.S. Program ............................................................................................................ 25
G. Completion of Program........................................................................................ 25
H. Satisfactory academic progress ......................................................................... 26
I. Dismissal from the Ph.D. program ...................................................................... 26
J. Appeals .................................................................................................................. 26
VII. Regulatory Compliance and Safety .................................................................... 27
VIII. APPENDIX A – Responsibilities ...................................................................... 28
   A. Summary of Responsibilities ........................................................................... 28
   B. Student’s Responsibilities: ............................................................................... 29
   C. Research Adviser’s Responsibilities: ............................................................... 29
   D. Entry Committee (EC) Responsibilities: ......................................................... 29
   E. Research Committee (RC) Responsibilities: .................................................... 30
   F. Dissertation Committee (DC) Responsibilities: ............................................. 30
IX. APPENDIX B – Dissertation Timeline ............................................................... 31
    A. Dissertation Timeline Summary ..................................................................... 31
List of Acronyms:

DC – Dissertation Committee
TC – Thesis Committee
EC – Entry Committee
ETD – Electronic Thesis and Dissertation
GA – Graduate Assistant
GAC – Graduate Affairs Committee
GS – Graduate School
OHSU – Oregon Health Sciences University
RA – Research Assistant
RC – Research Committee
SPE – Student Progress Evaluation
TA – Teaching Assistant
I. Overview

For the Applied Physics Ph.D. program in the Department of Physics you will not only have to show mastery of subject-matter, you are also expected to make a scholarly contribution to the knowledge through your own original research as attested to by the submission of peer-reviewed publications in the appropriate literature. Since physics is a laboratory science, proper safety rules should be followed at all times. See section VII: Regulatory Rules and Safety.

The Applied Physics Ph.D. degree involves the successful completion of the following requirements:

- Course program
- Adherence to the regulatory and safety rules
- Comprehensive exam
- Research prospectus exam
- Dissertation research and preparation
- Final dissertation defense

It is the function of this document to delineate these requirements and to define the Physics Department’s supervisory role. The information given here supplements statements of degree requirements published in the PSU Bulletin. Additional information may be obtained from the Graduate School and the Physics Department office.

For the Physics M.S. program in the Department of Physics, you are required to show mastery of subject-matter. Since physics is a laboratory science, proper safety rules should be followed at all times. See section VII: Regulatory Rules and Safety.

The M.S. degree involves the successful completion of the following requirements:

- Course program
- Adherence to the regulatory and safety rules
- One of the following:
  - PH 503 Thesis research and thesis defense
  - PH 504 Cooperative Ed./Internship
  - PH 506 Special Projects

For increased chance of acceptance to either or both programs, we urge students to contact their desired professor to determine if they have the capacity to take on more students, even before applying. If there is a good connection, the chances for admission increase significantly.

For both programs, the following undergraduate preparation is assumed: Resnick and Halliday, Fundamentals of Physics; Tipler, Modern Physics; Fowles, Analytical Mechanics; Hecht, Modern Optics; Reif, Statistical Physics; Griffiths, Intro to Electrodynamics. This material corresponds to the following courses at PSU: PH 211, 212, 213, 214, 215, 216, 311, 312, 314, 315, 316, 424, 426, 431, 432, and 464. If a student is lacking in this preparation,
they are urged to complete those courses prior to applying to PSU. It is the student’s responsibility to make sure they have the required knowledge.

II. General Requirements for the M.S. degree

The University guidelines are summarized on the Graduate Studies page of Procedures for Master's Degrees.

A. M.S. Program.

There are 3 options to obtain the Physics M.S. degree: thesis, project, and internship. The program must be approved by the student’s adviser and must include a minimum of 45 graduate credits in science, including at least 30 credits in physics. These 30 credits in physics must be in 500- or 600-level courses as follows for thesis and non-thesis options. The following courses do not carry credit for the master's degree: PH 515, 524, 525, 525, 526, 531, and 532.

**Thesis Option**

Three of the following 600-level courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 617 Quantum Mechanics</td>
<td>4 credits</td>
</tr>
<tr>
<td>PH 631 Electrodynamics</td>
<td>4 credits</td>
</tr>
<tr>
<td>PH 624 Classical Mechanics</td>
<td>4 credits</td>
</tr>
<tr>
<td>PH 664 Statistical Mechanics</td>
<td>4 credits</td>
</tr>
</tbody>
</table>

And

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 507 Seminar</td>
<td>3 credits</td>
</tr>
<tr>
<td>Electives</td>
<td>24 credits</td>
</tr>
<tr>
<td>PH 503 Thesis</td>
<td>6 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45 credits</strong></td>
</tr>
</tbody>
</table>

**Non-Thesis Option**

Same as the thesis option but instead of 6 credits of PH 503, substitute 6 credits of PH 504 Cooperative Ed./Internship or PH 506 Special Projects.

For the thesis option, a Thesis Committee (TC) needs to be formed. This is done on the GO-16M form. This is true even if the same faculty serve on Dissertation Committee (DC) for the Ph.D. Thesis students need to prepare a properly formatted and approved M.S. thesis and have an oral defense of the research work. The outcome of the defense will recorded on form GO-17M.

For the presentation of PH 504 Cooperative Ed./Internship or PH 506 Special Projects, the outcome of the final presentation will be recorded on form GO-17M. The department needs this form to process the required DARS exception.

**Forms:**
GO-16M, Appointment of Master's Thesis Committee (pdf)
GO-17M, Recommendation for the Degree, Master's Level (pdf)
Electronic Thesis and Dissertation (ETD) Formatting Requirements
B. Completion of Program

The awarding of a degree during a specific term involves the following steps, which must be met by certain deadlines.

- Apply for graduation by the date listed for the desired term in the University’s Graduate Candidate Deadlines calendar.
- For master’s students completing a thesis, the following is required:
  - Submission of the completed thesis to the DC at least two weeks prior to the defense.
  - Passing the thesis defense by the term deadline.
  - Completing all thesis revisions to the satisfaction of the DC prior to the term deadline.
  - Ensuring that you have met all M.S. degree requirements.
  - Completing the ETD formatting and submission process.
- For master’s students completing PH 504 Cooperative Ed./Internship or PH 506 Special Projects, the following is required:
  - Passing the presentation defense prior to the end of the term.
  - Ensuring that you have met all M.S. degree requirements.

Exact due dates are posted by the Graduate School but it is advisable for the student to finish the requirements well ahead of the deadline to allow leeway for unexpected delays. The advisor needs to hand in form GO-17M to the Physics Departmental Office for routing to the Graduate School by the posted deadlines or for processing the required DARS exception. Any Incomplete or In Progress grades (except 503) must be removed no later than two weeks before graduation.

Forms: GO-17M, Recommendation for the Degree, Master's Level (pdf)
Electronic Thesis and Dissertation (ETD) Formatting Requirements

C. Time Limits

Full-time students (9 credits per term excluding summer)
For full-time students entering the M.S. program, a maximum of three years will be allowed from admission to completion of all requirements.

Part-time students (less than 9 credits per term excluding summer)
For part-time students entering the M.S. program, a maximum of six years will be allowed from admission to completion of all requirements.

Students who switch from part-time to full-time or vice versa, will use a prorated share.

D. Appeal

A student has the right to appeal the results of any aspect of the departmental guidelines, by sending a written notice to the Physics Department Chair and the Physics Graduate Affairs Committee. The appeal will be considered by the whole Department within sixty (60) days. Following that appeal, the student can request a review by the Dean of the College of Liberal Arts and Sciences, and if so requested, a review by the Dean of the Graduate School to ensure
the departmental process was followed.

Students are responsible for knowing all regulations and procedures required by the University as well as the departmental requirements for the graduate certificate or degree program being pursued. A graduate student may petition the Graduate Council for the waiver of a University graduate academic regulation or degree requirement. The petition process is an option in unusual cases with extenuating circumstances. A petition is not a remedy for poor advising on the part of an academic unit or poor planning by the student. In no case will a regulation be waived or an exception granted because of ignorance of the regulation or of the assertion that the student was not informed by the adviser or other authority.

The responsibility for initiating the petition rests with the student. The decision of the Graduate Council is final.

**Forms:** [Graduate Petition (pdf)]

### III. Student Advising for M.S. students

Students seeking the M.S. degree in Physics at PSU must understand that they require both satisfactory performance in their course work and adequate progress performing their research. Class performance is primarily monitored by grades and by passing courses required to meet degree requirements. Grades for graduate courses are expected to be B or better. PSU has requirements for overall graduate study GPA, outlined in the [Academic Standing section of the Bulletin](#). Research performance must be monitored by the student’s committee to ascertain progress towards the desired goals. The committee will meet at least annually with the student. All such meetings must result in completion of the appropriate Annual Progress Review form. More meetings may be called by the committee or by the student as needed if adequate progress is not taking place. If problems continue, the student will be issued a warning with a written plan that details the requirements to be met. The requirements will include measurable outcomes and a time frame to achieve them. Failure to meet the outcomes and time frame will lead to termination from the program.

While working on their thesis, project, or internship the student are required to sign up for at least one credit with their research advisor.

Upon acceptance into the graduate program, each new graduate student is assigned a committee of two tenure track physics faculty members. This committee is the Entry Committee (EC). The first required meeting between the Entry Committee and the student is prior to the beginning of term. This process will ensure that the student understands the courses most likely to meet their needs. The student is also required to meet with the Department Chair and the Ph.D. program director. The EC will file a report with the Department about the meeting and the suggested courses the student shall take.

The next required meeting is in spring term of first year. If the student has a research advisor, the advisor will chair the committee and the committee might be modified to more closely align
with the student’s research topic, which will now be called the Research Committee (RC). The Committee will verify that adequate progress was made in coursework. For thesis students, the RC will become a TC and that needs to be recorded on form GO-16M. Once the student has chosen an advisor, they are to meet at least once per term to discuss the progress in their program.

Students who do not yet have an advisor by the end of the first year will be told by the EC that they need to determine one by the end of the following fall term. The current committee chair will notify the department chair and the Departmental Graduate Affairs Committee. They will assist the student in finding a suitable research advisor. A follow up meeting will be scheduled to confirm that this happened. The new committee will meet with the student after an advisor has been found.

For the spring term in year 2 and the following annual meetings, the committee will review the SPE form and assess whether the student actively engaged in research.

The Physics SPE form will have sections for passing specific required core courses and descriptions of other accomplishments, such as presentations, papers, etc. It will note how many research credits have accrued. There will be a statement of what progress happened in the past year, and another statement on expectations for the next year. These should be approved by all committee members and dissenters must write their misgivings. If there is no unanimous approval, the Graduate Affairs Committee will assess the progress and will try to obtain unanimous approval. Should they fail, the Department Chair will try to obtain unanimous approval; should this fail, the Department Chair shall make the decision on what happens next. A student has the right to appeal the results of any aspect of the departmental policies. The appeal will be considered by the department as a whole in a regular department meeting.

**Forms:** [SPE - annual Student Progress Evaluation form for MS (pdf)]

### A. Research Adviser

Each Physics MS student must begin discussion of potential research projects with faculty members as soon as possible, preferably in their first term as graduate students in physics department. Most students will have selected a Research Adviser before the end of the first term. The procedure for adviser selection is as follows.

- The student will independently discuss fields of interest and potential research projects with preferably at least three physics tenure-track faculty members. Be aware some professors may not be taking on new graduate students.
- The student obtains the signature of each faculty member with whom they discuss potential research projects on the [Selection of Research Adviser Form](#).
- On the same form at least one second physics faculty will be listed who will complete the RC (see below).

The Department Chair and the GAC will assist the student if they have trouble making a selection. Students are required to place with a research adviser by the end of the fall academic
quarter of their second year in residence; failure to do so will result in cancellation of admission to the program.

Once the RC is formed, students are required to have a research adviser throughout their remaining time in the program. If at any point after the fall term of their second year, a student does not have a research adviser, for any reason, the student will be permitted one academic quarter to find a new research adviser. Failure to place with a new research adviser within one academic quarter will result in their admission to the program being cancelled. Students are required to meet at least once a term with their advisor.

**When:** Typically during the first term in the program, or by the end of the fourth academic quarter of the student’s residence at the very latest.

**Form:** [PHY 100 Selection of Research Advisor (pdf)]

**B. Entry Committee (EC)**

The EC will advise and examine a student’s progress through the first terms in the program. This committee will be appointed by the GAC prior to the student beginning classes. This committee should meet with the student once at the beginning of their time at PSU and once close to the end of the 1st year if they have not yet found a research advisor. This committee, like the RC (see below), is intended as a first resort for students for advice with regard to their education. The GAC and the Department Chair are always available as other advising resources to students throughout their time in the program. The EC will file a report with the Department about the meeting and the suggested courses the student shall take.

**Form:** [PHY 200-MS, entry meeting form for MS (pdf)]

**C. Research Committee (RC)**

The Research Committee takes over from the EC and is composed of two to four faculty members. The purpose of the Research Committee is to provide a panel of experts in the subspecialty of the student to assist in monitoring the student’s progress and provide support. Students and advisers should keep in mind that more committee members can make scheduling meetings more difficult. The RC is comprised of:

- The student’s research adviser; the adviser serves as chair of the RC.
- At least one additional tenured or tenure-track faculty member from within the Physics Department at Portland State University.
- Additional members can be from the Physics department or from another department relevant to the student’s subspecialty.

The RC plays an oversight role, ensuring adequate student progress. The RC will conduct an annual review of the student’s progress, based on a meeting with the student. Additional meetings may be scheduled at the discretion of the student, Research Adviser, Department Chair, or any member of the RC, but must be at least once per academic year.
If the student is on the thesis track, the formation of the TC should be noted on form GO-16M. Passing the final oral M.S. exam for both thesis and non-thesis students will be recorded on form GO-17M. Either the RC or TC faculty sign the form and the advisor hands the GO-17M form to the Department.

**Forms:**  
[GO-16M, Appointment of Master's Thesis Committee (pdf)]  
[GO-17M, Recommendation for the Degree, Master's Level (pdf)]

### D. Satisfactory academic progress

It is expected that students make adequate progress towards their M.S. degree. Progress will be evaluated at least each spring term on the SPE form. The University has policies pertaining to academic standing for graduate studies that the student should be familiar with, outlined in the Academic Standing section of the Bulletin. Besides the annual evaluation, the Department will look at other markers of progress. Lack of progress may result in cancellation of the admission to the M.S. program. Lack of progress will be assessed by the Department as follows:

- A student whose GPA is satisfactory, but has multiple I, W, X, or NP grades over multiple terms which have no impact on GPA but clearly demonstrate lack of progress;
- A student whose annual GPA is below 3.0 but still has a cumulative GPA of 3.0 or above;
- A student who does not complete coursework agreed upon with the research adviser;
- A student whose GPA is satisfactory yet is not making progress toward the degree: is not completing degree requirements (no or little core coursework completed), is registering for 503 Thesis, 504 Cooperative Ed./Internship, or 506 Special Projects credits, but has nothing to show for it at the end of term yet asks to keep registering for 503, 504, or 506 credits term after term. etc.:
- A student who fails to meet with their chosen advisor during a term;
- A student who fails to have an adviser after the Fall term of their second year or after terminating working with their chosen advisor and who does not get a new advisor within one term;
- A student who fails to be registered for two (2) academic terms without filing a Leave of Absence;
- A student who fails to complete the M.S. degree in three (3) years for full-time study and five (5) years for part-time study, including any Leave of Absence requests;
- A student who violates the regulatory and safety rules;
- Failure to validate admission into the program by registering and paying for at least one credit in the first term after admission into the program.

### E. Dismissal from the M.S. program

The student will be notified in writing (email to their PDX-email account) that they are not making satisfactory progress. The student is to respond to this written notice within thirty (30) days. Failure to respond will cause dismissal from the program. The requirements to achieve satisfactory progress which will include measurable outcomes and a time frame to achieve them, will be laid out in the notice. Failure to meet the outcomes and time frame will lead to
termination from the program.

If after having met those requirements for satisfactory progress, the student would become subject to a second notice, the student’s admission to the M.S. program will be cancelled and they will receive a written notice to that effect.

The student can appeal the process by sending a written notice to the Physics Department Chair and the Physics Graduate Affairs Committee. The appeal will be considered by the whole Department within sixty (60) days. Following that appeal, the student can request a review by the Dean of the College of Liberal Arts and Sciences and by the Dean of the Graduate School to ensure the departmental process was followed.

Students are reminded of the rules regarding student conduct and the University rules administered by the Graduate School that can be found in the PSU Bulletin.

F. Appeals

The student can appeal any aspect of the departmental guidelines by sending a written notice to the Department Chair and the Graduate Affairs Committee. The appeal will be considered by the whole Department within sixty (60) days. Following that appeal, the student can request a review by the Dean of the College of Liberal Arts and Sciences, and if so requested, a review by the Dean of the Graduate School to ensure the departmental process was followed.

Students are responsible for knowing all regulations and procedures required by the University as well as the departmental requirements for the graduate certificate or degree program being pursued. A graduate student may petition the Graduate Council for the waiver of a University graduate academic regulation or degree requirement. The petition process is an option in unusual cases with extenuating circumstances. A petition is not a remedy for poor advising on the part of an academic unit or poor planning by the student. In no case will a regulation be waived or an exception granted because of ignorance of the regulation or of the assertion that the student was not informed by the adviser or other authority.

The responsibility for initiating the petition rests with the student. The decision of the Graduate Council is final.

Students are reminded of the rules regarding student conduct and the University rules administered by the Graduate School that can be found in the PSU Bulletin.

Forms: Graduate Petition (pdf)

IV. General Requirements for the Ph.D.

All doctoral students must earn a minimum of 81 credits beyond the bachelor's degree. Candidates for the Ph.D. in Applied Physics must satisfy requirements related to coursework, seminar, and a dissertation. Candidates for the Ph.D. in Applied Physics are required to pass the
comprehensive examination, a prospectus examination, write a dissertation, and orally defend the
dissertation. Coursework requirements include a minimum of 81 credits as follows:

A. Coursework

A total of 81 credit hours at the graduate level are required for a Ph.D. in Applied Physics.
Included in these 81 credits must be the following 69 credit hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 617, 618 Quantum Mechanics</td>
<td>8</td>
</tr>
<tr>
<td>PH 631, 632 Electrodynamics</td>
<td>8</td>
</tr>
<tr>
<td>PH 624 Classical Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PH 585 Experimental Methods in Applied Physics</td>
<td>4</td>
</tr>
<tr>
<td>PH 607 Seminar</td>
<td>6</td>
</tr>
<tr>
<td>PH 603 Dissertation</td>
<td>27</td>
</tr>
<tr>
<td>Electives (all from a single Specialty Core)</td>
<td>12</td>
</tr>
</tbody>
</table>

A minimum of 27 credits of PH 603 Dissertation are required. A student may not enroll for PH
603 credit prior to advancement to candidacy (completion of the prospectus exam). The
remaining credits will be made up of either: graduate level courses, research (PH 601) and/or
dissertation (PH 603) credits. After the term for advancement to candidacy and all terms
afterwards, the student is required to be registered for PH 603 with their adviser.

Due to the interdisciplinary nature of the departmental research programs, courses from outside
the Physics department can be part of a student’s curriculum. Approved electives in the three
specialty areas of Nanoscience and Materials Physics, Atmospheric Physics, and Biophysics are
listed below. It is to be noted that other courses might be substituted on approval of the adviser
and the GAC. It is in the adviser’s and the student’s best interest to identify the courses that will
be most beneficial for the student’s research. Although we list only three major tracks, work in
other fields in applied physics is possible as well, provided faculty in the department are able
and willing to mentor the student in this field and expect that it will successfully lead to a
completed degree. Electives for non-standard tracks will need to be approved by the student’s
committee.

When: Typically by the end of the 2nd year in residence.

Specialty Core:  
At least THREE courses (12 credits) from ONE of the Specialty Elective Lists below:

Atmospheric Sciences:
   - PH 571: Physical and Human Dimensions of Climate Change
   - PH 573: Alternative Energies
   - PH 679: Advanced Atmospheric Physics
   - PH 577: Air Pollution
   - PH 619: Advanced QM
   - PH 633: Advanced E & M
   - PH 664: Statistical Mechanics
CH 661: Photochemistry
CH 670: Atmospheric Chemistry
ESM 566: Environmental Data Analysis
GEOG 512: Climate Change Science and Socioenvironmental Impact Assessment
GEOG 584: Cartographic Applications of GIS
CE 672: Environmental Fluid Mechanical Transport
CE 676: Environmental Fluid Mechanics

**Biophysics:**
- PH 590 Cellular and Molecular Biophysics
- PH 619: Advanced QM
- PH 633: Advanced E & M
- PH 664: Statistical Mechanics
- CH 590, 591, 592: Biochemistry
- BI 524: Molecular Genetics
- BI 563: Sensory Physiology

*Students may substitute advisor-approved electives from the following list (from Oregon Health & Science University – OHSU):*
- BME 622: Biomed Opt I: Tissue Optics (OHSU)
- BME 623: Biomed Opt II: Laser Tissue Interactions (OHSU)

**Nano and Materials Science**
- PH 513: Introduction to Solid State Physics
- PH 540, 541: Solid State Devices
- PH 545, 546, 547: Micro-Electronic Device Fabrication
- PH 595: Materials Physics
- ME 528: SEM
- ME 529: TEM
- PH 581: Intro to Nano-materials
- CH 661: Photochemistry
- ECE 515: Fundamentals of Semiconductor Devices
- PH 619: Advanced QM
- PH 633: Advanced E & M
- PH 664: Statistical Mechanics

**Courses Outside of the Department**
If the student opts to take courses outside the department, no more than one course per term can be taken without prior approval from the Graduate Program Director and the Department Chair.

*When:* Typically by the end of the 2nd year in residence.

**B. Comprehensive Examination**

In their second year students will complete their comprehensive exams. These exams are intended to ensure that students have a sufficiently strong background in physics. The Comprehensive Examination is composed of the following three parts:

The written part of the annual exam, which is given over two days, will be offered during the first few weeks of winter term. The written exam will be followed by an oral exam. The student will be given two chances to pass all parts of the exam. Students need to repeat only the parts that they did not pass. If the student fails to pass all parts by the second attempt, the student will no longer be allowed to continue in the Applied Physics Ph.D. program.

**When:** Typically by the end of winter term of the 2\(^{nd}\) year.

### C. Prospectus Examination

In addition to passing the Comprehensive Examination, the student must submit a prospectus outlining a proposed research project suitable for the doctoral dissertation in Applied Physics. The prospectus must be approved by the student's DC. This committee is appointed on form GO-16D. The DC consists of the research advisor plus at least one additional member from physics, at least one member to be chosen from either the department or outside the physics department (for example: Chemistry, Biology, Engineering, Geology and Math), and one representative from the Graduate School (any department but Physics). Two recommendations for Graduate School representatives must be listed in priority order on the GO-16D. The graduate office representative is selected by the Graduate School and all members are notified by the Graduate School. These members should be mutually agreed upon by the student and her/his research advisor.

Nothing in this section is intended to preclude early preliminary research on a problem of interest.

A student who has successfully completed the requirements for Courses and Comprehensive Examination and whose dissertation prospectus has been approved, will be advanced to candidacy for the PhD. A copy of the approved prospectus must submitted to the Department along with form G0-23.

**When:** Preferred by the end of the 3rd year, typically no later than by the fourth year of study.

There is both a minimum and a maximum time after advancement before the dissertation defense. The University enforces the following time limits. The minimum time is four months from the date the Graduate School determines as the effective date of candidacy. The maximum time allotted after advancement to candidacy is five years. **A leave of absence does not stop any University time limit.** The Department has stricter rules, see section IV F.

**Form:** [GO-23, Doctoral Request for Advancement to Candidacy (pdf)]

### D. Departmental Seminar

Students are highly encouraged to attend the Physics Departmental seminar, even if not registered, at 3:15 PM on Monday afternoon (times may vary slightly). Participation in the
departmental seminar is an important part of a student’s development as a research scientist.

**When:** Routine attendance at the departmental seminar is expected as is a presentation to be given about the student’s research no later than the 4th year in full-time residence in the departmental seminar.

### E. Dissertation

The candidate’s Dissertation Committee including the representative of the Graduate School shall conduct a final oral examination based primarily on the subject area of the dissertation. The candidate’s dissertation presentation shall be open to the public. The completed dissertation should be in the hands of the committee members a minimum of two weeks in advance of the final oral examination. The student is required to provide a copy of the final version of the dissertation to the Graduate School. The dissertation must be prepared according to the ETD Formatting Requirements.

During the first part of the defense, the student gives a public 45-60 minutes presentation on their dissertation research. This will be followed by a private oral examination attended by members of the examination committee covering the subject area of the dissertation. A dissertation defense has two possible outcomes: pass or fail. In the event that a student fails the defense, the student may (at the discretion of the Dissertation Committee – DC) be afforded a second opportunity to defend their dissertation no less than three months after the initial defense exam. For more details see the Portland State University Bulletin under: Graduate Programs → Degree Requirements → Doctoral Degree → Dissertation Defense.

Students are typically asked to make revisions to their dissertation by the DC even after passing their dissertation defense. Successful completion of the oral examination and the revisions to the dissertation requested by the dissertation committee will be required for completion of the degree.

The post-defense revisions to the dissertation have to be made to the satisfaction of the entire committee. The DC will provide the student with a clear list of dissertation revisions that should be completed prior to submission of their final dissertation and a time-line for the completion of these revisions. Students should present revisions in such a way that they can be easily tracked by the committee member. Students should also provide each DC member with sufficient time to review and approve dissertation corrections.

**When:** It is expected that the dissertation will be submitted no later than 5 years after passing the comprehensive exam. Applications for graduation must be submitted by the 1st Friday of the term in which graduation is requested. The deadline for holding a dissertation defense is 5 weeks prior to the Friday of finals week of a term. The deadline for submitting a final dissertation is 3 weeks prior to the Friday of finals week of a term. Students should be aware that the summer term is calculated based on the 8 week term schedule. The deadline for submission of the form GO-17D for early (i.e., next) term graduation is the Tuesday after finals week of the term prior. The detailed rules are given in the University’s Graduate Candidate Deadlines calendar.

**Forms:** Thesis and Dissertation Information
Electronic Thesis and Dissertation (ETD) Formatting Requirements
GO-17D, Recommendation for the Degree, Doctoral Level (pdf)
Please note: students may not handle the GO-17D once DC members have signed the form.
Dissertation Signature Page (pdf)

F. Time Limits

Full-time students (9 credits per term excluding summer)
For full-time students entering the Applied Physics Ph.D. program with a master’s degree, a maximum of two years will be allowed from admission to completion of all required comprehensive examinations. For students entering with a bachelor’s degree, a maximum of two additional years will be added to this limit, for a maximum of four years from admission to completion of all comprehensive examinations. Students have a maximum of three years after passing their comprehensive examinations to be advanced to candidacy, but in no case will the time in the program to be advanced to candidacy be more than five years. After advancement to candidacy, students have three years to pass their dissertation defense and have their dissertation approved, but the total time in the program, from admission to dissertation approval should be less than seven years.

Part-time students (less than 9 credits per term excluding summer)
For part-time students entering the Applied Physics Ph.D. program with a master’s degree, a maximum of two years will be allowed from admission to completion of all required comprehensive examinations. For students entering with a bachelor’s degree, a maximum of two additional years will be added to this limit, for a maximum of four years from admission to completion of all comprehensive examinations. Students have a maximum of three years after passing their comprehensive examinations to be advanced to candidacy. After advancement to candidacy, students have five years to pass their dissertation defense and have their dissertation approved.

Students who switch from part-time to full-time, will use the full-time rules from the point at which they switched and students who switch from full-time to part-time, will use the part-time rules from the point at which they switched.

V. Student Advising for Ph.D. students

Students seeking an Applied Physics Ph.D. at PSU must understand that they require both satisfactory performance in classrooms and adequate progress performing original research. Classroom performance is primarily monitored by grades and by passing courses required to meet degree requirements. Grades for graduate courses are expected to be B or better. PSU has requirements for overall graduate study GPA, outlined in the Academic Standing section of the Bulletin. Research performance must be monitored by the student’s committee to ascertain progress towards the desired goals. The committee will meet at least annually with the student. All such meetings must result in completion of the appropriate Annual Progress Review form. The meetings listed below assume the student is making adequate progress. More meetings may
be called by the committee or by the student as needed if adequate progress is not taking place. If problems continue, the student will be issued a warning with a written plan that details the requirements to continue. The requirements will include measurable outcomes and a time frame for achieving them. Failure to meet the outcomes and time frame will lead to termination from the program.

After the term in which prospectus was defended and all terms afterwards, the student is required to be registered for PH 603 with their adviser.

Upon acceptance into the graduate program, each new graduate student is assigned a committee of two tenure track physics faculty members. This committee is the Entry Committee (EC). The first required meeting between the Entry Committee and the student is prior to the beginning of term. This process will ensure that the student understands the courses most likely to meet their needs. The student is also required to meet with the Department Chair and the Ph.D. program director. The EC will file a report with the Department about the meeting and the suggested courses the student shall take.

The next required meeting is in spring term of first year. If the student has a research advisor, the advisor will chair the committee and the committee might be modified to more closely align with the student’s research topic. This committee will now be called the Research Committee (RC). The Committee will verify that adequate progress was made in coursework. In addition, they will remind the student of Comprehensive Examination in winter year 2. Students have two chances to pass the Comprehensive Examination or their admission to the Applied Physics Program will be cancelled (see IV B. Comprehensive Examination section for details and exceptions).

If the student does not yet have an advisor by the end of the first year they will be told they need to determine one by the end of the fall term of their second year. The current committee chair, the department chair, and the Departmental Graduate Affairs Committee will be notified and assist the student in finding a suitable research advisor. A follow up meeting will be scheduled to confirm that this happened. The new committee will meet with the student after an advisor has been found.

For the spring term in year 2 and following annual meetings, the committee will look at the following questions, among others.

- Did the student pass the comprehensive exam?
- Is the student actively engaged in research? If so, what courses or skills are needed to enhance the project?
- The PhD student needs to prepare for prospectus in year 3.

The following needs to be attended to as well. For the prospectus examination, a formal GS approved committee must be established (GO-16D, Appointment of Doctoral Dissertation Committee (pdf)). The Dissertation Committee is the GS approved committee (the GS representative is only required at the prospectus and the dissertation defense; they are welcome to join other meetings, but that is the choice of the GS representative). The committee will look for a sound plan to complete the dissertation work. The department will attempt to
accommodate extenuating circumstances, but there must be a plan in place for the student to succeed.

The Physics SPE form will have sections for passing comprehensive exams, passing specific required core courses, passing courses in area of specialization, etc. It will note how many research credits have accrued. There will be a statement of what progress happened in the past year, and another statement on expectations for the next year. These should be approved by all committee members and dissenters must write their misgivings. If there is no unanimous approval, the Graduate Affairs Committee will assess the progress and will try to obtain unanimous approval. Should they fail, the Department Chair will try to obtain unanimous approval; should this fail, the Department Chair shall make the decision on what happens next. A student has the right to appeal the results of any aspect of the departmental policies. The appeal will be considered by the department as a whole in a regular department meeting.

**Forms:** SPE - annual Student Progress Evaluation form for PhD (pdf)

### A. Research Adviser

Each doctoral student must begin discussion of potential research projects with faculty members as soon as possible, preferably prior to their admission into the program, but in no case later than in their first term as graduate students in physics department. Most students will have selected a Research Adviser before the end of the first term. The procedure for adviser selection is as follows.

- The student will independently discuss fields of interest and potential research projects with preferably at least three physics tenure-track faculty members. Be aware some professors may not be taking students, for example, due to full groups.
- The student obtains the signature of each faculty member with whom they discuss potential research projects on the Selection of Research Adviser Form.

The Department Chair and the GAC will assist the student if they have trouble making a selection. Students are required to place with a research adviser by the end of the fall academic quarter of their second year in residence; failure to do so will result in cancellation of admission to the program.

Students are required to have a research adviser throughout their time in the program. If, for any reason, at any point after the fall term of their second year, a student does not have a research adviser the student will be permitted one academic quarter to find a new research adviser. Failure to place with a new research adviser within one academic quarter will result in their admission to the program being cancelled.

**When:** Typically during the first term in the program, or by the end of the fourth academic quarter of the student’s residence at the very latest.

**Forms:** PHY 100 Selection of Research Advisor (pdf)
B. Entry Committee (EC)

The EC will advise and examine a student’s progress through the first terms in the program. This committee will be appointed by the GAC prior to the student beginning classes. This committee should meet with the student once or twice: once at the beginning of their time at PSU, and the other close to the end of the 1st year if they have not yet found a research advisor. This committee, like the RC and DC (see below), is intended as a first resort for students for advice with regard to their education. The GAC and the Department Chair are always available as other advising resources to students throughout their time in the program.

Form: SPE - annual Student Progress Evaluation form for PhD (pdf)

C. Research Committee (RC)

The Research Committee takes over from the EC and is typically composed of two faculty. The purpose of the Research Committee is to provide a panel of experts in the subspecialty of the student to assist in monitoring the student’s progress and provide support. As soon as a student has passed their comprehensive exam they should complete the process of forming the Dissertation Committee (DC, see section V D). The RC may vary in size from two to five faculty members. Students should keep in mind that more committee members can make scheduling meetings more difficult. The RC is comprised of:

- The student’s research adviser; the adviser serves as chair of the RC.
- At least one additional tenured or tenure-track faculty member from within the Physics Department at Portland State University.
- Additional members can be from Physics or from another department relevant to the student’s subspecialty.

The RC plays an oversight role, ensuring adequate student progress. The RC will conduct an annual review of the student’s progress, based on at least one meeting per academic year in-person with the student. Additional meetings may be scheduled at the discretion of the student, Research Adviser, Department Chair, or any member of the RC.

D. Dissertation Committee (DC)

The Dissertation Committee is required by the GS for completion of the prospectus and the dissertation defense. Students should work closely with their research adviser on selecting committee members. It is advisable to have a committee that will understand the technical aspects of the student’s research and provide constructive comments that will help improve the quality of the research.

The DC consists of the RC with the addition of a representative from outside the department and potentially other people with relevant expertise:

- One representative of the Graduate School (GS). The GS representative must be a tenure/tenure track faculty member holding a Ph.D. in another department at Portland
State University. The advisor and the student shall suggest two possible candidates for this role but final selection lies with the GS.

- The DC may be augmented with faculty members from outside the department (in addition to your GS rep) to increase relevant expertise on the DC. This should be discussed with the research adviser before proceeding. All members of the DC must hold doctoral degrees. GS will require *curriculum vitae* for any committee member from outside Portland State University.

GS must approve the entire final Dissertation Committee prior to the prospectus exam which should typically be completed in the student’s third year.

The DC continues the oversight role played by the EC and RC to ensure adequate student progress. The DC will conduct an annual review of the student’s progress, based on at least one meeting per academic year in-person with the student. Additional meetings may be scheduled at the discretion of the student, Research Adviser, Department Chair, or any member of the RC. The DC is also responsible for final approval of the research prospectus and recommendation for Advancement to Candidacy and the Dissertation. In addition, the DC administers the candidate’s oral prospectus exam and the final oral exam.

*When:* The DC should be formed soon after the comprehensive exams have been passed.

*Forms:* [GO-16D, Appointment of Doctoral Dissertation Committee (pdf)]

### E. Committee Meetings

All students must meet with their advisory committee a minimum of once per academic year. This is to ensure that the student is continuing to make satisfactory academic progress. The expected schedule for meetings is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Purpose</th>
<th>Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Initial advising meeting</td>
<td>EC</td>
</tr>
<tr>
<td>1</td>
<td>Assess progress</td>
<td>EC or RC</td>
</tr>
<tr>
<td>2</td>
<td>Assess progress</td>
<td>RC</td>
</tr>
<tr>
<td>3</td>
<td>Prospectus exam?</td>
<td>DC</td>
</tr>
<tr>
<td>4</td>
<td>Prospectus exam</td>
<td>DC</td>
</tr>
<tr>
<td>5</td>
<td>Dissertation defense?</td>
<td>DC</td>
</tr>
<tr>
<td>6</td>
<td>Dissertation defense</td>
<td>DC</td>
</tr>
</tbody>
</table>

For committee meetings that are not formal examinations (i.e., proposal/prospectus or
dissertation defenses), students need only prepare slides to present their results and future plans much as they might be expected to do for a research group meeting. No written document is required unless requested by the committee. Students may meet with their committee as frequently as needed, however, one meeting in each academic year must be designated in advance as the “annual committee meeting”. In that meeting, if the student’s academic progress is deemed unsatisfactory, the student will be informed in writing of the plan that can be reasonably be accomplished in one term with measurable outcomes and required to hold a second meeting with their full committee (including GS representatives when applicable) in the following academic term. If academic progress at the subsequent meeting is again deemed unsatisfactory, the student may be dismissed from the program.

**When:** Annually

**Forms:**  
PHY 100 Selection of Research Advisor (pdf)  
SPE - annual Student Progress Evaluation form for PhD (pdf)

### VI. Status in Program

#### A. Advancement to Candidacy

A student is nominated for advancement to candidacy by the student's approved Dissertation Committee with the approval of the Department Chair after the student has satisfactorily completed all coursework, the comprehensive exam, and the oral prospectus exam. This typically occurs no later than the end of the 3rd year of a student’s degree program. The nomination is made on form GO-23. The student will be informed by the Dean of the Graduate School of their advancement to candidacy.

**Forms:** GO-23, Doctoral Request for Advancement to Candidacy (pdf)

#### B. Maintenance of Enrollment in Program

Students must maintain a minimum 3.0 cumulative graduate-level grade point average (GPA) and be enrolled for credit each term of the academic year (unless the student has obtained a leave of absence). After completion of 9 graded credit hours, if a student’s cumulative graduate GPA falls below 3.0, the Graduate School will place the student on ACADEMIC PROBATION. ACADEMIC PROBATION means that the student is not eligible to hold a graduate assistantship, have a dissertation committee appointed (i.e., have a GO-16D approved), or be advanced to candidacy. The student has until the completion of a further nine (9) graded credit hours to raise their cumulative graduate GPA back to 3.0 or above. A student on ACADEMIC PROBATION who fails to raise their cumulative graduate GPA to 3.0 within 9 graded credit hours OR allows their cumulative graduate GPA to fall below 3.0 a second time will have their admission to the program cancelled.

Students must be registered every term (Fall, Winter, and Spring) during the academic year (minimum 1 credit with the advisor) while working on any phase of the dissertation (research,
writing, and revision). Students must also register in Summer term (minimum 1 credit) if the student is going to complete a milestone in that term, i.e., appointment of the Dissertation Committee, prospectus exam, or dissertation defense. Students must be continuously registered for a minimum of 1 graduate credit per term (excluding Summer) through to graduation.

**Forms:** [PHY 100 Selection of Research Advisor (pdf)]

### C. Maintenance of Graduate Assistantship

All graduate students must remain in good academic standing. Students on academic probation are ineligible to hold a graduate assistantship, either TA or RA. Students on a graduate assistantship must enroll in and successfully complete 9 graduate level credits each term. A student may request the Department to register for more than 9 credits but the tuition remission granted by the department covers the minimum required by the GEU contract (currently 9 credits) and the student will need to pay the extra tuition costs out-of-pocket. Course audits are not counted as credits. Graduate assistants are expected to devote full time to their studies, teaching, and research duties. It is strongly recommended that while on assistantships (RA or TA), students do not have outside employment. The graduate assistant must inform their Research Adviser, the Department Chair, and the GAC if they have or seek outside employment. In addition, students on a graduate assistantship in the form of a TA must perform teaching duties satisfactorily each term in order to qualify for reappointment by the Department Chair.

TAs are assigned as the Instructor of Record for:

**General Physics labs:** PH 214 (Fall term), PH 215 (Winter term), and PH 216 (Spring term). The General Physics labs are one Student credit hour and have an estimated enrollment of 20-28 students. The lab courses are 2h 50 min long. TAs will be assigned a time that does not conflict with the TAs course schedule, which needs to be shared with physics department’s TA supervisor prior to the start of term.

As the Instructor of Record, TAs have a direct and primary responsibility for the delivery of instruction and responsibility or shared responsibility for assessing students for a final grade. Assigned duties include, but are not limited to, leading lectures and/or laboratory sections, grading lab reports, designing and grading final exams, proctoring, tutoring, holding office hours, leading discussion groups, communicating with students regarding the academic subject matter of one (1) or more course sections included in your work assignment, or generally assisting in the delivery of curriculum.

TAs are expected to have satisfactory student evaluations. Non satisfactory student evaluations will be addresses by the Physics Department chair or the TA supervisor. Gross misconduct or repeated poor student evaluations can lead to the loss of the TA position.

TAs will help with the setup and maintenance of General Physics lab equipment. They will help with the assessment and further development of the General Physic lab curriculum. TA that are instructors of record will maintain their d2l course site.

In addition to acting as Instructor of record for one or two General Physics labs, TA will have
other duties each term. The main anticipated duties are listed below:

**Lab support**
Experimental Physics I, II, III (PH 314, 315, 316), as well as Experimental Methods in Applied Physics (Ph 585) typically have a regular faculty member as the Instructor of record, but have a TA to assist with the development, set-up, operation, and maintenance of the lab, as well as supervising and assisting students in the lab. Different instructors may have different expectations for the details of your support.

**Grading**
TAs teaching one (1) General Physics lab course will additionally have one (1) or two (2) grading assignments. TAs teaching two (2) General Physics lab courses will additionally have a maximum of one (1) grading assignment. The expectations of the grading assignments will be communicated by the course instructor prior to the start of the term. A single grading assignment is equivalent or less to the time spent teaching one (1) General Physics lab course.

**Proctoring**
TA will assist with proctoring exams. Typically proctors are assigned for large enrollment courses PH 201, PH 202, PH 203, PH 211/221, PH 212/222, and PH 213/223.

**Office hours:**
TAs are expected to have one office hour per week while classes are in session.

**Expected Preparation**
To adequately perform the duties described above TAs are expected to review course materials for the courses the TA teaches or grades for.

**Required Trainings and Orientations**
As the instructor of record, TA may access Banner to enter student information, including grades. TAs are expected to become familiar with using Banner. TAs are expected to know and comply with FERPA as it pertains to their employment as the Instructor of Record. TAs are required to complete PSU’s [FERPA Student Records Privacy Tutorial](#) prior to working with student information and records. TAs will also need to complete the "Creating a Culture of Respect: Preventing Prohibited Discrimination and Unlawful Harassment" learning module and email a copy of the certificate of completion to the physics office.

First year TAs are required to attend Physics’ Graduate Teaching Assistant Orientation. This will take place the week before classes begin each fall term. Returning TAs will need to attend some part of this training every year.

TAs are required to attend the weekly preparatory meeting for PH 214, PH 215, and PH 216. TAs will need to present a lab during this meeting once every term. This meeting is currently scheduled every Monday from 9-10:50am while classes are in session. This time can be subject to change.

**Health and Safety Information**
TAs will use standard physics lab equipment (e.g. power supplies, lasers, or heating plates). It is
essential for TAs to be familiar with this lab equipment prior to using it.

Work Schedule
TAs will teach (PH 214, PH 215, PH216) or assist (e.g. PH 314, PH 315, PH 316, PH 585) at least one (1) and no more than two (2) lab courses per term. Additionally TA may have additional grading assignments. The work load for grading assignments will fluctuate throughout the term and will increase after midterms and final exams. The instructor of the course will share the grading schedule at the beginning of each term. Specific assignments will be determined prior to each term.

TAs and Gas will receive a Work Assignment Notice (by GEU CBA section 17.5) that outlines what the individual's duties will be.

Ph.D. students in good standing will only be supported on teaching assistantships for a maximum of fifteen (15) terms assuming sufficient funding from the University. A special extension may be granted by the GAC and the Department Chair following petition by the Research Adviser on the student’s behalf. Failure to adequately perform the duties as outlined in the notice of appointment may lead to the loss of a graduate teaching assistantship.

D. Residency Requirement

Students must meet the university’s residence requirements, which may be found in the PSU Bulletin. In a doctoral program, the residency requirement can be satisfied in one of the following ways:

- Three terms of full-time enrollment (minimum 9 graduate credits applicable to the degree program each term) during the first two years after admission to the program. This may include one or more summer terms.
- Six terms of part-time enrollment (minimum 1 graduate credit applicable to the degree program each term) during the first two years after admission to the program. This may include one or more summer terms.
- A doctoral student who was enrolled in the Physics MS program at PSU, and whose matriculation to the doctoral program immediately follows (within one calendar year) the master's degree program, may fulfill the residency requirement during the period in which the student was enrolled in the master's program.

E. Leave of Absence

Under special circumstances, such as parental leave, requests for a leave of absence of up three terms (excluding summer) may be approved by the Department Chair in consultation with the student's Research Adviser and the Graduate Affairs Committee. An admitted graduate student in good academic standing may request a leave of absence. A leave of absence provides a guarantee that the student will be allowed to return to their graduate program at the agreed-upon time and exempts the student from the continuous enrollment requirement (applicable only to advanced doctoral students). However, a leave of absence does not constitute a waiver of the time limit for completion of a graduate program nor the one-year limit for completion of a course (i.e., the clock does not stop).
A leave of absence is granted for a specific time period, up to a maximum of three terms (excluding summer). Students may request a second leave of absence, also for a maximum of three terms. A student with an approved leave of absence cannot register for any coursework or engage in any activities that require faculty time or use of University resources. It is the student's responsibility to drop or withdraw from all courses as well as notify other appropriate offices on campus of their leave status (Financial Aid, etc.).

A Graduate Leave of Absence Request must be submitted to the Graduate School no later than the Friday of the second week of the term for which the leave of absence should take effect. A leave of absence will not be approved retroactively.

*Forms:* [Graduate Leave of Absence (pdf)](link)

**F. Addition of the M.S. degree or withdrawal from Ph.D. and change to the M.S. Program**

Ph.D. students are encouraged to obtain a MS degree en route to the Ph.D. For specific details related to the M.S. degree, please see sections II and III.

Students wishing to change to the M.S. degree program should file an M.S. degree program admission application with the Graduate Affairs Committee and consult with the GAC or Department Chair.

*Forms:* [GO-19, Request for Change of Program (pdf)](link)

**G. Completion of Program**

The awarding of a degree during a specific term involves the following steps, which must be met by certain deadlines.

- Apply for graduation by the date listed for the desired term in the University’s [Graduate Candidate Deadlines](link) calendar.
- Submission of the completed dissertation/thesis to the DC at least two weeks prior to the defense.
- Passing the dissertation/thesis defense before the deadline for the term deadline.
- Completing all dissertation/thesis revisions to the satisfaction of the DC prior to the term deadline.
- Ensuring that you have met all Ph.D. degree requirements.
- Complete the ETD formatting and submission process.

Exact due dates are posted by the Graduate School but it is advisable for the student to finish the requirements well ahead of the deadline to allow leeway for unexpected delays. All of the forms below should be turned in to the Physics Departmental Office for routing to the Graduate School by the posted deadlines. Any Incomplete or In Progress grades (except 603) must be removed no later than two weeks before graduation.
**H. Satisfactory academic progress**

It is expected that students make adequate progress towards their Ph.D. degree. Progress will be evaluated at least each spring term on the SPE form. The University has policies pertaining to academic standing for graduate studies that the student should be familiar with, outlined in the [Academic Standing section of the Bulletin](#). Besides the annual evaluation, the Department will look at other markers of progress. Lack of progress will result in cancellation of the admission to the Ph.D. program. Lack of progress will be assessed by the Department as follows:

- A student whose GPA is fine, but has multiple I, W, X, or NP grades over multiple terms which have no impact on GPA but clearly demonstrate lack of progress;
- A student whose annual GPA is below 3.0 but still has a cumulative GPA of 3.0 or above;
- A student who does not complete adviser approved coursework;
- A student whose GPA is satisfactory, yet is not making progress toward the degree: is not completing degree requirements (no or little core coursework completed), is registering for 603 Dissertation credits, but has nothing to show for it at the end of term yet asks to keep registering for 603 credits term after term. etc.;
- A student who fails to meet with their chosen advisor during a term;
- A student who fails to have an adviser after the Fall term of their second year or after terminating working with their chosen advisor and who does not get a new advisor within one term;
- A student who fails to be registered for two (2) academic terms without filing a Leave of Absence;
- A student who fails to comply by the time limits as specified in section IV F including any Leave of Absence requests;
- A student who violates the regulatory and safety rules;

**I. Dismissal from the Ph.D. program**

The student will be notified in writing (email to their PDX-email account) that they are not making satisfactory progress. The student is to respond to this written notice within thirty (30) days. Failure to respond will cause dismissal from the program. The requirements to achieve satisfactory progress which will include measurable outcomes and a time frame to achieve them, will be laid out in the notice. Failure to meet the outcomes and time frame will lead to termination from the program.

If after having met those requirements for satisfactory progress, the student would become subject to a second notice, the student’s admission to the Ph.D. program will be cancelled and they will receive a written notice to that effect.

The student can appeal the process by sending a written notice to the Department Chair and the Graduate Affairs Committee. The appeal will be considered by the whole Department within sixty (60) days. Following that appeal, the student can request a review by the Dean of the College of Liberal Arts and Sciences and by the Dean of the Graduate School to ensure the departmental process was followed.

**J. Appeals**
The student can appeal any aspect of the departmental guidelines by sending a written notice to the Department Chair and the Graduate Affairs Committee. The appeal will be considered by the whole Department within sixty (60) days. Following that appeal, the student can request a review by the Dean of the College of Liberal Arts and Sciences, and if so requested, a review by the Dean of the Graduate School to ensure the departmental process was followed.

Students are responsible for knowing all regulations and procedures required by the University as well as the departmental requirements for the graduate certificate or degree program being pursued. A graduate student may petition the Graduate Council for the waiver of a University graduate academic regulation or degree requirement. The petition process is an option in unusual cases with extenuating circumstances. A petition is not a remedy for poor advising on the part of an academic unit or poor planning by the student. In no case will a regulation be waived or an exception granted because of ignorance of the regulation or of the assertion that the student was not informed by the adviser or other authority.

The responsibility for initiating the petition rests with the student. The decision of the Graduate Council is final.

*Forms: [Graduate Petition (pdf)](#)*

### VII. Regulatory Compliance and Safety

The Office of Research Integrity (ORI) supports PSU’s compliance with state and federal regulations governing research activities in specified areas. ORI provides administrative support to PSU committees that execute regulatory compliance reviews and determinations for University research conducted in support of the University’s academic mission. ORI develops and implements policies and procedures for the University while overseeing research integrity for research faculty, graduate students, and undergraduate students engaged in research that involves the following compliance areas:

- Animal Care and Use
- Bio-Safety
- Chemical Hygiene/Laboratory Safety
- Financial Conflict of Interest
- Human Subjects
- Radiation Safety
- Research Misconduct
- Responsible Conduct of Research
- Training
- Machine shop

The adviser is ultimately responsible that the student has the appropriate training. The adviser themselves must have taken all the required training and be aware of all the rules and make sure that the student has the required knowledge to do the work for their degree. Oftentimes,
undergraduate students are involved in the laboratory. The graduate student and the adviser should make sure that they are fully trained. There is a simple lab safety training available on D2L.

The Chemistry Department offers routinely an introductory safety training that all physics graduate students should take. This training does not only deal with chemicals, but also how to deal with gas cylinders, electrical rules and regulations, and what to do in case of an accident during business hours and after business hours. Certain advanced training and/or advice (radioactivity, biohazards, laser safety, and advanced chemical safety) is available. For information the adviser and student must contact Environmental Health and Safety.

For use of the machine shop, the student should contact the machinist for availability of the next training.

The adviser can impose stricter rules on laboratory work than are required by PSU. If so, the student is required to follow those rules, without exception. Violation of safety rules might lead to immediate dismissal from the university.

If the student needs to work in a different faculty member’s lab, they should acquaint themselves with the required rules to follow in that lab and abide by them or the stricter ones as they apply in their advisor’s lab.

Another important regulatory aspect of research concerns academic misconduct or dishonesty. Academic misconduct can be fabrication, which is the falsification of data or information. Data falsification is a form of academic dishonesty, in which false claims are made about research performed, including selective submitting of results to exclude inconvenient data to generating bogus data. Committing of academic misconduct might lead to immediate dismissal from the university.

To become aware of such issues, the Responsible Conduct of Research (RCR) training is available via CITI Collaborative Institutional Training Initiative. This training has been certified by PSU to meet the NSF training requirements for postgraduates, graduates and undergraduates engaged in NSF funded research activities. Principal Investigators are responsible for maintaining these training records for all individuals requiring this training to remain in compliance with NSF funding requirements. Some NIH grants have additional face to face training requirements; please review the NIH RCR policy for further information.

**VIII. APPENDIX A – Responsibilities**

**A. Summary of Responsibilities**

The following summary of responsibilities of the various people and entities involved in the Applied Physics Ph.D. program in the Department of Physics is intended to serve as a quick reference guide and may not be considered all-inclusive or binding. It is still contingent upon the students and advisers to acquaint themselves with the particulars of their duties.
B. Student’s Responsibilities:

It is the student’s responsibility to acquaint themselves with all of the requirements associated with the various levels of governance (University, Department of Physics) of their graduate program. This document along with the PSU Bulletin should be considered the primary source of information. Additional information, including answers to specific questions and term specific deadlines, can be obtained from the Department of Physics and the Graduate School.

Specific responsibilities include:
1) Preparation for and successful completion of all of the requirements listed above.
2) Filing the Annual Summary reports with the faculty advisor and
3) An initial individual literature search of material applicable to the proposed research and
4) An ongoing familiarity with recent developments in the field.
5) Competent independent execution of the research project.
6) Preparation and presentation of the dissertation.

C. Research Adviser’s Responsibilities:

1) Primary advising of the student in terms of both the course of study and the research project. The research adviser should thus be aware of the coursework requirements of the Applied Physics Ph.D. degree program.
4) Filing the Annual Summary reports with the department.
5) Filing the Graduate School forms (especially GO-16D and 17D.)
6) Providing advice on regulatory and safety rules and making sure they are followed.

D. Entry Committee (EC) Responsibilities:

1) Oversee the student’s initial academic progress in the degree program until a research adviser has been identified.
2) Provide advice regarding the preparation of the comprehensive exam.
3) Provide final approval of the student’s course of study.
E. Research Committee (RC) Responsibilities:

1) Oversee the student’s academic progress in the degree program.

2) Provide advice regarding the preparation of the comprehensive exam.

3) Provide final approval of the student’s course of study.

F. Dissertation Committee (DC) Responsibilities:

1) Oversee the student’s academic progress in the Ph.D. program.

2) Provide advice regarding the preparation of the research prospectus and dissertation.

3) Provide final approval of the student’s course of study, research prospectus, and dissertation.

4) Administer the oral research prospectus exam and dissertation defense.
IX. APPENDIX B – Dissertation Timeline

A. Dissertation Timeline Summary

The following is the expected 5-year Ph.D. degree program for full-time students:

Fall term, year 1:
- Formal coursework (2 classes)
- Survey of Faculty Research and advisor selection

Winter term, year 1:
- Formal coursework (1 or 2 classes)
- Lab work

Spring term, year 1:
- Formal coursework (1 or 2 classes)
- Lab work

Fall term, year 2:
- Formal coursework (1 or 2 classes)
- Lab work
- Preparation for written Comprehensive examination

Winter term, year 2:
- Formal coursework (1 or 2 classes)
- Lab work
- Comprehensive exam

Spring term, year 2:
- Formal coursework (1 or 2 classes)
- Lab work

Fall term, year 3:
- Lab work
- Prospectus exam, for students who have passed comprehensive exams

Winter term, year 3:
- Re-take of comprehensive exam(s), if needed
- Lab work
- Prospectus exam, for students who have passed comprehensive exams.

Spring term, year 3:
- Lab work
- Prospectus exam, if needed (should be done before the end of their fourth year at the latest).

Fall term, year 4:
- Prospectus exam, if needed (should be done before the end of their fourth year at the latest).
● Lab work

Winter term, year 4:
● Prospectus exam, if needed (should be done before the end of their fourth year at the latest).
● Lab work

Spring term, year 4:
● Prospectus exam, if needed (should be done before the end of their fourth year at the latest).
● Lab work
● Departmental seminar on research

Fall term, year 5:
● Lab work

Winter term, year 5:
● Lab work and dissertation writing

Spring term, year 5:
● Dissertation writing
● Ph.D. defense

The expected Ph.D. degree program for part-time students will be established by the DC.