# PMCB ACADEMIC GUIDELINES

The following guidelines apply to all students who enter the Program in Molecular and Cellular Biosciences (PMCB) and comply with the guidelines and requirements in the **By-Laws of the Graduate Council**, **By-Laws of PMCB** and the **regulations and guidelines for thesis preparation and defense**. Additionally students should be familiar with important guidelines contained in the **OHSU Graduate Studies Handbook**.

**During the first two years of the PMCB program a student will:**

**Year 1:**
register for a minimum of 9 and maximum of 16 credits per term
complete PMCB conjoint course requirements
complete three laboratory rotations
give one presentation based on a rotation in the Research Rotation Talk Course
attend department seminars for rotation laboratory
attend all PMCB sponsored seminars and participate in associated journal clubs
choose thesis advisor and select departmental program for completion of Ph.D.
take the Comprehensive Exam

**Year 2:**
register for a minimum of 9 and maximum of 16 credits per term
work with department to form Qualifying Exam Committee
complete PMCB conjoint course requirements if necessary
complete required and elective courses for selected department
attend all PMCB sponsored seminars
take the Qualifying Exam

## REQUIRED PMCB GRADUATE COURSES FOR YEAR ONE

**Fall Term**

| | | |
|---|---|---|
| CONJ 601 | Research Rotation | variable credits |
| CONJ 607 | PMCB Seminar Series | .5 credits |
| CONJ 650 | Practice & Ethics of Science | 1 credits |
| CONJ 661[1] | Structure & Function of Biological Molecules | 4 credits |
| CONJ 662[1] | Genetic Mechanisms | 4 credits |
| | Fall Term Credit Total | up to 16 credits |

**Winter Term**

| | | |
|---|---|---|
| CONJ 601 | Research Rotation | variable credits |
| CONJ 607 | PMCB Seminar Series | .5 credits |
| CONJ 660 | PMCB Research Rotation Talks | 1 credit |
| CONJ 663[1] | Bioregulation | 4 credits |
| CONJ 664[1] | Molecular & Cell Biology | 4 credits |
| | Winter Term Credit Total | up to 16 credits |

**Spring Term**

| | | |
|---|---|---|
| CONJ 601 | Research Rotation | variable credits |
| DEPT 606[2] | Department Journal Club | variable credits |
| DEPT 660 | PMCB Seminar Series | .5 credits |
| CONJ 665[3,5] | Development, Differentiation and Cancer | 3 credits |
| CONJ 667[3,4,5] | Organ Systems | 3 credits |
| CONJ 668[3,5] | Molecular Biophysics & Experimental Bioinformatics | 3 credits |
| CONJ 669[3,5] | Principles of Chemical Biology | 3 credits |
| | Spring Term Credit Total | up to 16 credits |

**Summer Term**

| | | |
|---|---|---|
| CONJ 608A | PMCB Comprehensive Exam | 8 credits |
| DEPT 601 | Research Rotation | 8 credits |
| | Summer Term Credit Total | 16 credits |

NOTES TO COURSE REQUIREMENTS

1. Students may test out of CONJ 661-664. One week before fall term, a student may request permission from the PMCB director and relevant CONJ course directors to take all of the previous year's exams for a particular course. Students must receive a score of 80% or better on the entire exam to place out of the course. This option is available once a year only in the week prior to fall term. Students must still register for the required number of credits.
2. Students choose a journal club offered by one of the five basic science departments. You are encouraged to register for a journal club in the department in which you plan to join.
3. Students complete two out of the following four courses, CONJ 665, 667, 668, or 669, and have until the end of spring term of the second year to complete them. Some courses may not be offered every year.
4. For MD/PhD students only: MSCI 613, Systems Processes and Homeostasis will be accepted instead of CONJ 667 Organ Systems. Students must make the request in writing to the PMCB Director to make the substitution.
5. A student may request permission to substitute an advanced graduate course of equal or greater credit for <u>one</u> of the required CONJ spring courses. They must identify which course they want to substitute for the CON course and the reason for the substitution. After approval is given from the program director, the student must register for that course by the end of the spring registration period. This option is valid for ONE Spring term course ONLY. Requests must be made to pmcb@ohsu.edu at least one week in advance of the Spring term registration deadline.

## REQUIRED PMCB GRADUATE COURSES FOR YEAR TWO

**Fall, Winter, and Spring terms**

Courses, seminars, and research requirements in the second year of study vary depending on the program the student selects for completion of their Ph.D. Details for the individual programs for the second and subsequent years are available from the individual member departments. If necessary, students complete their spring CONJ course requirements in the Spring term of their second year (see note #3 above). Up to 16 credits will be taken each quarter.

**Summer term**

| | | |
|---|---|---|
| CONJ 608B | PMCB Qualifying Exam | 8 credits |
| DEPT 601 | Research Rotation | 8 credits |
| | Summer Term Credit Total | 16 credits |

## GPA AND ACADEMIC PROBATION

(for more information see the Graduate Studies By-Laws)

The School of Medicine requires students to **maintain a grade point average of 3.0**. A student receiving a cumulative GPA below 3.0 is automatically put on academic probation. The grade of **Incomplete** is reserved for circumstances beyond control of the student (i.e. illness) preventing completion of course requirements by the end of term AND where it is possible to complete requirements within one subsequent term.

Students **failing a semester of research** credits (i.e. receives a NP-No Pass) are immediately placed on academic probation. To return to good standing, the student must obtain a passing grade on the next term of the Research (and all subsequent terms). Failure to do so constitutes grounds for termination from the program.

A student placed on academic probation because of grades must obtain a cumulative grade point average of at least 3.0 within one academic term. A student that fails to do so may be recommended for dismissal for inadequate scholarship, at the discretion of the graduate studies program in which he or she is enrolled.

Students placed on academic probation will be required to meet with the PMCB Steering Committee to discuss their remediation plans for removing themselves from probation.

## PMCB ADVISORY COMMITTEE (PAC)

Initial advising will be provided by members of the PMCB Advisory Committee (PAC) made up of PMCB faculty knowledgeable in all aspect of graduate training in the School of Medicine at OHSU. PAC advising and mentoring provides consultation for PMCB students for academic and non-academic concerns. At the time of matriculation, each student is assigned a PAC advisor. PAC advisors are familiar with academic requirements of all five participating graduate programs, as well as the Graduate Council By-Laws, Student Handbook and general School of Medicine regulations.

**PAC Advisors**:

1. Meet with the student during Orientation.
2. Meet with the student at least once each term.
3. Review and advise regarding rotation decisions, course choice, and registration.
4. Review the student's academic record and written rotation performance summary at the end of each term.
5. Promptly meet with student placed on academic probation to formulate a plan for amelioration.

6. Report any concerns to the PMCB Steering Committee and/or the PMCB Director.

Advising responsibilities transfer from PAC advisor to thesis advisor once a student has selected and joined their thesis lab and department.

## FIRST YEAR LAB ROTATIONS

All PMCB students undertake research rotations in three different laboratories during the first nine months (three academic terms) of the graduate program. Students are eligible to rotate in PMCB member faculty labs only. Information used to help identify labs of interest for research rotations can be obtained by speaking with potential mentors, first year advisors, faculty and students, and by viewing faculty profiles online. Rotation arrangements are made by the student directly with the mentor, but all students must comply with the following requirements when arranging rotations.

Requirements for Requesting a Research Rotation:

1. PMCB faculty status for the potential research mentor must be confirmed by the PMCB office prior to arranging a rotation. It is the student's responsibility to inquire about PMCB faculty status well in advance of arranging a rotation.
2. Proposed rotations must be approved in advance by the PMCB director. The request for approval can be made by email.
3. The PMCB Pre-Rotation form must be completed by the prospective faculty mentor. This is initiated by the student.
4. The Pre-Rotation form must be signed by the student's first year advisor.
5. The completed Pre-Rotation form must be turned into the PMCB office two weeks before the start of each term. The only exception to the two week deadline is the first rotation, which must be set up by the first week of fall term.

Students are strongly encouraged to start considering options for subsequent rotations well in advance of each term. Students should discuss the specifics of their rotation project with the mentor prior to joining the lab. The ultimate purpose of lab rotations is for the student to identify a thesis mentor. Rotations should be chosen carefully and be undertaken with faculty who will be able to support the student during their thesis study, and who can provide a well-defined project as the basis of the thesis.

It is possible for students to begin their first rotation in the summer term prior to fall term of the first year. To do so, students must contact the PMCB Director at least two weeks prior to the start of summer term to get permission for an early start and approval of their summer term rotation mentor. Students considering rotations on the West Campus are encouraged to do those rotations either the summer term prior to the first year or spring term to avoid the complications of commuting to the main campus to attend the required courses. Students who do a summer term rotation are required to join a thesis lab at the end of their third rotation winter term. It is critical to inform rotation mentors that you have done a summer rotation and make certain they are aware that they must make a decision about the availability of their lab by the end of winter term. Students who do summer term rotations should avoid rotating with mentors who are not willing to commit to the start of a thesis commitment spring term.

Students are expected to spend a minimum of three hours for every research credit hour per week in the lab. For example, if a student is registered for 8 credits of research they should spend a minimum of 24 hours per week engaged in lab activities to familiarize themselves with research projects and the laboratory environments of PMCB faculty. In consultation with rotation mentors, students are strongly encouraged to establish expectations prior to each rotation.

Each student and faculty rotation mentor will complete a written evaluation of the rotation that may be shared with student advisors, program directors, and Qualifying Exam committees. Students and their rotation mentors are required to meet to discuss the evaluation of the student's performance at the end of the rotation. Students' evaluations of mentors will be sent to the student's first year advisor, but held by the PMCB office for one year prior to release to mentors. This is to encourage an honest and constructive evaluation of the mentor and the rotation experience. Evaluations will be kept in the student file by the PMCB Coordinator.

After successful completion of three research rotations, students select a faculty member to serve as their thesis mentor. The decision of a student to enter into a laboratory to pursue thesis research is dependent upon a joint agreement between the faculty member and the graduate student, and is subject to approval by the PMCB Director. Conditional approval based on an agreement that there will be a co-mentor will be at the discretion of the PMCB Director. The thesis mentors must be members of both School of Medicine Graduate Faculty and PMCB faculty.

## THESIS LAB SELECTIONS/DEPARTMENT SELECTIONS

As a student approaches the end of their third research rotation decisions about joining a thesis lab and PMCB member department are made. It is the student's responsibility to secure a position with a thesis mentor, selected from one of the three rotations done in the previous nine months. Once a mentor has agreed to accept a student into their lab the mentor and/or department take over funding responsibilities and the student notifies the PMCB Coordinator to initiate the Mentor Assignment Form. This process should be completed by the beginning of the appropriate term; if a student begins their rotations in the summer, Spring term; for students who begin their rotations in the fall, Summer term. Once a thesis mentor has been selected registration for research credits transfers from CONJ 601 to DEPT 601 with the selected mentor.

## FIRST YEAR ROTATION PRESENTATIONS

Once a year, generally during the Winter term, first year students make a presentation in a public forum. The Research Rotation Talk Course offers the opportunity for first year students to summarize their laboratory rotation experience in a formal setting, while providing them with both a speaking opportunity among their peers and a forum in which to ask probing questions during presentations. Presentations will be ten minutes in length followed by a five minute question and answer period. Students are strongly encouraged to practice their presentations with lab mates and seek input from their rotation mentors. Attendance is required by all first year students.

## PMCB SEMINARS/ DEPARTMENT SEMINARS

A wide variety of experts in the field visit campus throughout the year giving seminars that are open to all students. First & second year students are required to attend all PMCB sponsored seminars and encouraged to attend all seminars sponsored by member departments. Flyers announcing visiting seminar speakers can be found posted campus-wide and member department coordinators and websites also have information about schedules for visitors. These seminars provide excellent opportunities for interaction with leading researchers and educators. Small groups of students are also invited to luncheons and dinners with visiting speakers.

## PMCB JOURNAL CLUBS/DEPARTMENTAL JOURNAL CLUBS

First year students are required to attend PMCB Journal Club meetings that are incorporated into their Fall and Winter CONJ Courses. PMCB Journal Club meets on Thursday afternoons and reviews material related to one of the CONJ Courses that week. First year students are required to register for a Departmental Journal Club during Spring Term. The Spring Journal Club can be of the student's own choosing, but students are encouraged to choose a Journal Club in the Department they are interested in joining.

## YEARLY RETREAT

Each September, typically the week before the beginning of the fall term, PMCB holds a yearly retreat for PMCB students and faculty. Activities during the retreat include orientation for incoming students, student poster sessions, awards presentations, workshops, guest lecturers, and social activities. Member departments also host open houses and social events during the week preceding the beginning of Fall term. Retreat attendance is required by first year students and strongly encouraged for advanced students.

## PMCB COMPREHENSIVE EXAM (end of year 1)

All first year PMCB students are required to take the written comprehensive examination at the scheduled time following completion of their first year of graduate studies. This examination tests the student's ability to think scientifically using concepts covered during the first year of coursework. The comprehensive exam is prepared by the PMCB Comprehensive Exam Directors. The exam consists of the following:

1. Part one - A review of the scientific literature which gauges the student's ability to read and interpret scientific literature. Students are tested on their ability to interpret the data, explain methodologies, identify strengths and weaknesses, and integrate results into larger fields of molecular and cell biology.

2. Part two – A sitting, written exam with questions that tests the student's ability to apply core principles learned in the CON courses; and questions designed to assess the breadth of knowledge within the disciplines represented within each CON course. Exam questions will consist of several components and be designed to test broad as well as specific aspects of

student's knowledge. Effort will be made to integrate key concepts across traditional discipline boundaries. Answers will be evaluated for breadth and depth of knowledge.

Students with a cumulative GPA of 3.5 or greater for the required CONJ courses (fall/winter terms) and are in good academic standing may opt out of part two of the exam in which case their cumulative exam grade will be based solely upon the review of scientific literature. If a student wishes to opt out of part two of the exam, they must submit a written request to the PMCB director (email is acceptable).

**PMCB Comprehensive Exam Directors and Responsibilities:** Two faculty members will be director and co-director of the Comprehensive Exam. These are rotating positions lasting two years, with one new faculty member cycling on as co-director each year. The Exam Directors will assemble the exam, administer it, and assess and report test scores to students, to the PAC committee, and the PMCB Program Director. The Exam Directors may also make recommendations to the PMCB Steering Committee regarding passing, remediation, or dismissing a PMCB student.

The Exam Directors will request exam questions and literature for review from course directors of the CONJ 661-664 courses. Final assembly of the exam is the responsibility of the PMCB Comprehensive Exam Directors.

**Examination format:** The exam will typically be given approximately four weeks following the completion of spring quarter. The exam will consist of two parts. One based upon assessing literature and the second will be answering essay questions covering material covered in CONJ 661-664.

**Part One**: At least two weeks before the written exam, students will be given four research articles that are thematically related and equally distributed among CON course themes.
Students may read and discuss these papers with others. On a Friday, two weeks after receiving the research articles students will be given multi-part questions for each of the four articles. Students must answer these questions independently, but may use all resources (except people) to answer the exam questions. Answers will be turned in the following Monday at the start of the second part of the exam.

**Part Two:** The sitting exam will consist of a series of short answer questions per CON course. The number of questions may vary between CON courses and will be determined by the CON course directors and approved by the Exam directors. This exam will be closed book and will be divided into two three-hour sessions with a break between. During the first session, students will answer exam questions from CON 661 and 662. During the second session, students will answer questions from CON 663 and 664.

**Grading**: The primary grading of exam questions will be done by participating faculty members and reviewed as necessary by the Exam Committee Directors. Results of the student's comprehensive exam will become part of the student's permanent record and be shared with the PAC committee, the student's thesis mentor, the PMCB Program Director, and PMCB Steering Committee.

**Outcomes**: The Comprehensive Exam Directors will analyze exam scores and assign a final grade of **Pass** or **Fail.** A passing grade is awarded to students who successfully pass both sections of the exam. Students who receive a passing grade will advance to their second year of studies.

Students who do not pass one or more sections of the exam will be discussed on an individual basis by the Exam Directors, in consultation with the PMCB Advisory Committee and PMCB Program Director. Students on academic probation before taking the exam and who fail the exam may be subject to dismissal from the PMCB.

Those students who fail the exam, but with otherwise good academic records, will be required to remediate their deficiencies. This may involve assigned reading, writing a paper that covers areas of weakness and demonstrating in discussions with faculty that the student has mastered these areas. The remediation plan with completion dates will be agreed upon between the student, the student's advisor, the student's member department, Exam Directors, and the PMCB Director. Remediation will be completed by the end of the winter term following the exam (or sooner if possible). If the remediation is found to be satisfactory, the student's grade will be changed accordingly. Any student who has not demonstrated mastery of the material at end of the remediation agreement may be recommended for dismissal.

## PMCB QUALIFYING EXAMINATION (end of year 2)

**Eligibility:** To be eligible to take the PMCB Qualifying Examination (QE), students must have successfully completed all coursework required in the first two years of the PMCB curriculum, and they must have received a passing grade on the PMCB Comprehensive Examination. Students may not take the qualifying examination if they are on academic probation or if an incomplete grade remains on their transcript.

**Format:** The QE consists of a written and oral component. The candidate must pass both the written and oral portions of the examination in order to pass. The written component will resemble a NIH-style NRSA grant proposal on any topic chosen by the student, including the student's proposed thesis research. The oral component will consist of a 20-30 minute presentation by the student on the topic of the written proposal. Members of the student's Qualifying Exam Committee (QEC) will ask the student a series of questions on the proposal and related scientific areas.

**Timeline and description –** Specific dates for the exam will vary slightly from year to year, but the following are general guidelines for stages of the QE; earlier completion is encouraged. Extension of these deadlines for any reason will only be considered by written request to the student's QEC (or PMCB Director if the QEC has not been formed). Students may request permission to take the QE earlier than the schedule below. The request must be made in writing to the PMCB Director at least two months prior to the proposed exam date. The request must be pre-approved by the student's thesis advisor and department program director before submission to the PMCB Director. A timeline similar to that below should be adhered to in the case of early exams.

> **July 13 -** Students submit a two-page, single-spaced prospectus to their department, the PMCB office (pmcb@ohsu.edu) and to all members of their QEC that defines the topic for their QE proposal describes potential questions to be addressed and outlines an experimental plan on their topic. Students should also note whether or not the QE subject material is part of their current research. Department program directors will oversee selection of the student's QEC.

Students may suggest names of three faculty members to be part of their QEC (although there is no obligation on the part of the department to choose the suggested individuals for the panel).

**July 19** – The QEC, responsible for conducting the student's qualifying examination, is appointed by the department and the student is notified of the names of the panel members. The student is responsible for ensuring all members have a copy of their prospectus.

**July 26 –** The QEC notifies the student in writing of acceptance or of any weaknesses or specific suggestions for improvement to their proposal.

**August 6** – Student schedules a date for the oral examination in consultation with his/her QEC.

**at least one week prior to Oral Exam –** Student submits final written proposal to the QEC and their thesis advisor.

**at the Oral Exam** – Student submits a letter to the QEC from their thesis advisor, describing their role during preparation of the proposal (see "Role of Thesis Advisor and Other Faculty" below).

**at least ten days before the beginning of Fall term** – Oral examinations completed.

If scheduling difficulties exist and the exam cannot be completed by the time grades are due (one week after the end of the term) the student will receive an incomplete "I" grade. Incomplete grades remaining on the student's record after one subsequent term will convert to a no pass "NP".

**Format of Written Proposal:** The proposal shall be written following current general guidelines of a NRSA application. It is the student's responsibility to check on the guidelines, which are available on the NIH website. It shall consist of a hypothesis-driven series of experiments bearing directly on the question or hypothesis of the proposal, with a discussion of probable outcomes, interpretations and alternative approaches. The proposal shall be no longer than 7 pages, including figures and references (single-spaced; 1 page for the specific aims section and 6 additional pages for the rest of the grant). Students may discuss topics and proposed experiments with all sources (fellow students, post-doctoral fellows, faculty, and visiting scientists), but none of them may be involved in any aspect of the student's written proposal. Students may also seek general assistance in scientific writing and proofreading. However, it must be remembered that the written proposal is an examination, and must represent the student's ideas and development of the research topic. Students are expected to adhere to established guidelines for professional ethical conduct in the preparation of their QE proposal topics.

**Role of Thesis Advisor and Other Faculty:** To facilitate an objective examination, the student's mentor is not permitted to edit or comment on the written proposal. Neither is the mentor, nor any other faculty member, permitted to coach the student in a rehearsal of their oral presentation. The student must submit a signed letter from their thesis advisor describing in specific detail the role of the advisor and of the student in the development of the hypothesis and research plan in this proposal. The thesis advisor must confirm that they have NOT contributed to the written portion of the exam, and that the student has NOT used any of the advisor's prose within the proposal. The QEC has two weeks

from receipt of the written proposal and thesis advisor letter to request more information from the thesis advisor if deemed necessary.

**Format of Oral Examination:** The oral examination will probe the breadth of the student's knowledge and also the depth of the student's understanding of his/her research proposal. Students are expected to begin the oral examination by giving a short (20-30 minute), formal presentation summarizing the written proposal. Audio-visual aids may be used during the summary of the proposal. During the oral examination by the panel, the use of prepared visual aids, textbooks, or other reference material is not permitted. Slides and figures from the oral summary may be referred to if they are the subject of a question from the exam panel. Questions from the Examination Panel should focus primarily on issues pertaining to the proposal; however, the student is responsible for all areas of cellular and molecular biology that have been covered during the first two years of graduate study. Therefore, students also should expect questions on general knowledge in addition to questions relating to the scientific background pertinent to their areas of specialization, as well as more general issues related to the proposed experiments. Students may be asked about the choice of methodologies, their relative advantages and disadvantages, and potential alternative strategies (when appropriate). Students will be expected to understand and be ready to explain the scientific basis of technical methods they intend to employ. The student should be prepared to discuss the rationale for the proposed study, the strengths and limitations of the proposed experimental strategies, and potential pitfalls and alternatives.

**Preparation for the Oral Examination:** Students should be thoroughly familiar with key historical and background publications that provide the foundation for their proposal, as well as any current literature that directly pertains to their specific aims. In addition, students are encouraged to review the more general areas of cellular and molecular biology that provide the conceptual framework for their proposal. Once a student has submitted their final written proposal to their QEC, they may contact panel members for guidance in preparing their oral exam presentation.

**Outcomes:** The outcome will be decided by majority vote of the QEC and be recorded on the PMCB Qualifying Examination form. The form shall be signed by all voting members of the examination panel and returned promptly to the PMCB office. PMCB will inform students of the outcome immediately after the results are received. Possible outcomes include:

> **Pass** –The student passes both the written and oral examination. In certain circumstances, the QEC may identify specific areas of weakness that the student needs to address during subsequent thesis work. This information will be communicated in writing to the student, thesis advisor, and PMCB by the chair of the examination panel.
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> **Conditional Pass** – A conditional pass may be given for either the written or oral components of the examination if significant deficits are identified. In this case, the student will be provided with specific requirements that must be met within a prescribed time frame. A variety of requirements may be assigned at the discretion of the QEC to correct a perceived deficit, including (but not limited to) additional coursework; revision of some or the entire written proposal; assignment of additional directed reading; preparation of a written review of a particular topic; or presentations in journal club formats. In the case of assigned additional coursework, the student must complete the assigned course(s) with a grade of "B" or better.

Within one week of the oral examination, the chair of the QEC will prepare a written statement to the student describing the conditions required to remove the conditional pass.

The chair of the student's QEC will be responsible for notifying the student, the student's thesis advisor, and the PMCB office when the student has successfully completed the requirements of the conditional pass. Failure on the part of the student to complete the requirements within the prescribed time frame will be considered unsatisfactory progress, and the student may be subject to dismissal from the PMCB.

**Fail** – If the student fails either portion of the examination, the student fails the Qualifying Examination. Within one week of the examination, the chair of the Examination Panel will provide a written statement to the student, the thesis advisor and the PMCB office, describing the deficiencies that led to failing the qualifying examination. The student may petition the QEC to take the qualifying examination (written and oral) again within the subsequent three months, or alternatively may resign from the graduate program. The QEC may also elect to offer the student the option to complete a Master's Degree, rather than re-taking the Qualifying Examination. In such a case, students will be obligated to complete all the requirements for the Master's Degree of their home department. The QEC will counsel the student with respect to the most prudent course of action. If the student decides to re-take the Qualifying Examination, then he/she must submit a revised or new proposal to the QEC as summarized above; and will have five weeks to complete the full proposal.

**Timeline for re-examination:** The re-examination procedure must be completed within three months of the original examination, but no later than the end of Fall term of that year.

**Outcome for re-examination:** Students will be assigned a "pass," "conditional pass," or "fail" by the same criteria as summarized above. Failure to pass the QE after two attempts will automatically result in dismissal from the graduate program.

**Qualifying Examination Committee involved in the administration of PMCB Qualifying Examinations (QEC - 5 members):** This committee is responsible for administering a specific qualifying examination. For each student, the Department Program Director will appoint an examination panel of five faculty members and assign one panel member to serve as chair. PMCB recommends that three of the panel members have primary appointments in the department. Each of the five members of the QEC will participate in the examination process and vote on the outcome. In addition, a non-voting member representing PMCB may attend all deliberations and meetings of each QEC. The student's advisor/mentor may NOT be appointed to the panel. The advisor/mentor may attend the qualifying examination as a non-voting, silent observer. The advisor/mentor may NOT attend sessions when the panel privately discusses the student's performance, except at the unanimous invitation of the panel. The QEC will be responsible for evaluating the written and oral components of the examination, for determining the outcome, and for identifying any requirements that a student must complete in the case of a conditional pass. Each student will have their own QEC, though PMCB faculty may serve on multiple panels. All students should refer to individual department QE guidelines as well to ensure compliance.

**Advancement to Candidacy:** Upon successful completion of the qualifying examination, students will become eligible for recommendation for advancement to candidacy. The PMCB Director will sign the Qualifying Examination form indicating successful completion of all PMCB requirements and forward the form to the relevant department. The department chair or graduate program director will have responsibility for recommending students for advancement to Ph.D. candidacy when all of the department's academic requirements have been fulfilled.

## GUIDELINES AND EXPECTATIONS FOR Ph.D. STUDENTS (Years 2 and beyond)

PMCB and the basic science departments follow the minimum guidelines set out in the Graduate Studies By-Laws. However, departments may have additional requirements for advancement to candidacy, required course work, attendance and grading, etc. It is the student's responsibility to be familiar with the guidelines for Graduate Studies and for their member department. Department expectations can be found on the individual department website or by contacting the department coordinators.

### BIOCHEMISTRY AND MOLECULAR BIOLOGY (BMB)

Peter Rotwein, MD, Department Chair
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Jeni Wroblewski, Program Coordinator (wroblews@ohsu.edu)

### CELL AND DEVELOPMENTAL BIOLOGY (CDB)

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### MOLECULAR AND MEDICAL GENETICS (MMG)

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### MOLECULAR MICROBIOLOGY & IMMUNOLOGY (MMI)

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### CANCER BIOLOGY (CANB)

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