GRADUATE STUDENT HANDBOOK

COLLEGE OF LIFE SCIENCES

BRIGHAM YOUNG UNIVERSITY

Michael Stark, Department Chair
David Thomson, Graduate Coordinator
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I. ORGANIZATION OF DEPARTMENT

The Department of Physiology & Developmental Biology is one of seven departments in the College of Life Sciences. Within the department there are approximately 22 full-time faculty and staff members, 450 undergraduate majors, and 20 graduate students. Graduate degrees at the MS and PhD level are offered in Physiology & Developmental Biology. Graduate Faculty members are listed below:

A. PHYSIOLOGY & DEVELOPMENTAL BIOLOGY GRADUATE FACULTY

* **Arroyo, Juan A.,** *Associate Professor* (2012): BS University of Puerto Rico 1991, Ph.D. Southern Illinois University School of Medicine, 2003. Molecular signaling of trophoblast cells apoptosis and the regulation of cell invasion during pregnancies complicated with Intrauterine Growth Restriction, Preterm Delivery and Preeclampsia.

* **Barrow, Jeffery R.,** *Associate Professor* (2003): BS BYU 1990, Ph.D. University of Utah 1999. The major focus of the lab is to identify molecular mechanisms whereby the W*nt* signaling pathway regulates the outgrowth of limbs and craniofacial structures during embryogenesis and how this pathway when aberrantly activated results in tumorigenesis.

* **Bikman, Benjamin T.,** *Associate Professor* (2011): BS BYU 2003, Ph.D. East Carolina University 2008. Elucidate the molecular mechanisms that mediate the complications associated with obesity and metabolic diseases, with particular attention on lipid – and inflammation-induced insulin resistance.

Brown, Michael D., *Teaching Professor* (2003): BS BYU 1993, MS Colorado State University 1998, Ph.D. Colorado State University 1999. Regulation of axon and dendrite extension and pathfinding during nervous system development. Regeneration of the nervous system following injury. Regulation of the actin cytoskeleton during cell motility and division.

* **Busath, David D.,** *Professor* (1995): BS University of Utah 1974, MD University of Utah 1978. Mechanisms of ion channel selectivity and gating; lipid-protein interaction; Influenza M2 channel structure, permeability, dynamics and block.

* **Edwards, Jeffrey G**., *Professor* (2007): BS BYU 1994, Ph.D. University of Utah 2003. Learning and Memory- Using electrophysiology in combination with pharmacology and molecular biology techniques, the lab is identifying mechanisms in the hippocampus mediating synaptic plasticity, the cellular event resulting in learning and memory formation. The goal is to understand normal function and as a result apply this to abnormal states such as epilepsy, addictions, and Alzheimer's.

***Hansen, Jason M.,** *Associate Professor* (2014), BS, BYU, 1994; MS, BYU, 1996; PhD, University of Michigan, Anne Arbor, 2001. Cellular function is dependent upon numerous factors, including the balance of reducing and oxidizing equivalents or redox state. During periods of redox imbalance, cellular processes are perturbed, indicative of changes to cellular proliferation, differentiation and apoptosis. Our laboratory focuses on oxidative stress-related changes to cell signaling during embryonic development in efforts to better understand mechanisms of birth defects.

* **Hansen, Marc D.,** *Professor* (2005): BS BYU 1997, Ph.D. Stanford 2002. During development, cell junctions are assembled and disassembled to form tissues and organs. When control of this process is lost in cancers, metastasis results. Our goal is to understand the molecular basis of how cells control cell junction assembly and disassembly in developments and in cancer metastasis.

***Hill, Jonathon T.,** *Assistant Professor* (2015). BS, BYU, 2005; PhD Columbia University, 2010. Congenital heart defects are the most common form of birth defects in the United States. In order to understand the mechanisms underlying these diseases, we are using interdisciplinary approaches combining the zebrafish animal model, molecular biology, genetics and bioinformatics to characterize the gene regulatory network driving heart differentiation and morphogenesis.

***Kooyman, David L.,** *Professor* (1997): BS California State Polytechnic University, Pomona 1982, MS California State Polytechnic University, Pomona 1986, Ph.D. Ohio University, Athens 1993. Osteoarthritis as a multi-factoral disease involving inflammation, metabolic syndrome, primary cilia and mechanical stress. We use both transgenic and mechanical models to study this common disease, employing a number of techniques.

***Mizrachi, Dario**, *Assistant Professor*, (2017): BS and MS University of Santiago, Chile, 1995. PhD Hebrew University of Jerusalem, Israel 2002. Integral membrane proteins (IMP) represent 30% of our genome. IMPs exchange information with the environment and build barriers to preserve and protect us. Mizrachi laboratory has engineered molecular tools to make the study of IMPs more approachable and successful. We primarily focus on cellular junctions and their role in physiology, neurophysiology, & pathology.

* **Porter, James P.,** *Professor & College Dean* (1998): BS BYU 1976, MS BYU 1978, Ph.D., University of California at San Francisco, 1982. Autonomic control of the cardiovascular system, focusing on the role hormones such as angiotensin II, insulin, and vasopressin play in modulating neural regulation of blood pressure. Research emphases are on how these hormones shape the development of neuronal circuits for cardiovascular control in young adults.

***Reynolds, Paul R.**, *Professor* (2007): BS BYU 1999, MS BYU 2001, Ph.D. University of Cincinnati and The Cincinnati Children's Research Hospital 2004. Developmental role of autocrine/paracrine signaling in the lung during branching morphogenesis; pulmonary remodeling induced by epithelial/mesenchymal interactions; mechanisms of pulmonary injury and disease related to environmental tobacco or oxidative stress.

* **Silcox, Roy W.,** *Associate Professor* (1990): BS BYU 1981, MS North Carolina State 1984, Ph.D., North Carolina State University, 1986. Mammalian reproductive physiology; characterization, enhancement, and manipulation of ovarian function. On Leave thru. 07/2018.

* **Stark, Michael R.,** *Professor & Chair* (2001): BS BYU 1992, MS Idaho State University 1994, Ph.D., University of California, Irvine, 1998. Developmental Biology – how neuronal precursor cells communicate with one another during early events in nervous system development. Research in the lab focuses on identifying molecules involved in early cranial placode development. Currently, we are investigating the role of Wnts, Frizzleds, FGFs and FGF receptors in trigeminal placode development.

* **Sudweeks, Sterling N.,** *Associate Professor* (2001): BS BYU 1992, Ph.D. University of Utah, 1997. Modulation of ligand-gated ion channel physiology by gene expression. These channels are involved in synaptic transmission and implicated in several conditions (e.g., epilepsy, Alzheimer's disease, Parkinson's disease, motor disorders, and schizophrenia). They are also the pharmacological targets in many therapeutic situations (e.g., any general anesthetics, sedatives, antiemetics, and even more novel analgesics).

* **Suli, Arminda,** *Assistant Professor* (2013): BS BYU 1999, Ph.D. University of Utah, 2007. Neural Circuitry Development. The mechanisms that oversee proper development and formation of neural circuits. The development and innervation of specialized mechanosensory cells which are crucial for hearing and balance.

* **Thomson, David M.**, *Associate Professor* (2008): BS BYU 1999, MS, BYU 2001, Ph.D., East Carolina University, 2005. Intracellular signaling pathways controlling skeletal muscle growth and metabolism.

* **Woodbury, Dixon J.,** *Professor* (2001): BA University of Utah, 1980. Ph.D., University of California, Irvine, 1986. Cellular and molecular physiology, particularly vesicle membrane fusion in neuronal cells and its block by botulinum toxin.

* May serve as Committee Chair for PDBio Graduate Students

II. APPLICATION AND ADMISSION TO THE GRADUATE PROGRAM

Complete information and general procedures to apply to graduate school at Brigham Young University are contained in the Graduate Catalog (online at gradstudies.byu.edu). The following summarizes some of that information and adds departmental requirements that are supplementary to the catalog.

A. Application Procedure

A person applying to either of the MS or PhD degree programs should apply online at: https://gradstudies.byu.edu/section/prospective. A non-refundable fee of $50 is required. The Letter of Intent must explicitly state the applicant's field of interest and career goals. Doctoral applicants with a Baccalaureate degree from BYU (any campus) are generally encouraged to apply to a different institution for the PhD degree programs, although they may apply for the MS programs. There is an application addendum required summarizing your interest, fit, and desire to conduct research with at least 5 specific faculty members in the PDBio program.

B. Standardized Tests

Doctoral applicants must furnish Graduate Record Examination (GRE) scores. Master's applicants must submit scores for a national standardized exam (i.e., GRE General Test (preferred), MCAT, or DAT).

Non-US applicants must provide sufficient documentation to permit an appropriate evaluation of their previous academic performance. Applicants whose native language is not English must also successfully complete the one of the following exams with a minimum score as given below. TOEFL is preferred.

LANGUAGE TEST	MINIMUM SCORE
IELTS	6.0 in each section, 7.0 overall
TOEFL PBT (paper-based)	580
TOEFL iBT	85 (22 in Speaking, 21 in Listening, Reading, & Writing)
E3PT	79 (21 in Speaking, Reading, and Listening, & 16 in Writing).

C. Prerequisites

Research experience is strongly encouraged before entrance into one of our graduate programs. The advisor of the undergraduate research should write one of the letters of recommendation. Before entrance into graduate school, applicants should have broad exposure to the sciences and have taken **upper** division courses in their area of interest. Specifically, applicants are expected to have taken all or all but one of the prerequisite courses listed below (examples from the BYU undergraduate catalog are given after each prerequisite).

Prerequisites for MS and PhD in Physiology and Developmental Biology	
College Physics (e.g. Phscs 105,106) Cell/Molecular Biol. (e.g. PDBio 360) Biochemistry (e.g. Chem 481) One of the following: Physiology with lab (e.g., PDBio 362, 363) Developmental Biol. (e.g., PDBio 382)	

D. Application Deadlines

Application deadlines are listed in the table below. The **completed** application must be received by the deadline below.

Degree	Submission deadline*	Departmental decision	Expected date for student notification	Earliest start date	Usual start date
PhD	Jan 15	Feb 1	Feb 15	Fall	Fall
MS	April 15	May 1	May 15	Fall	Fall

* Date by which all application materials must be submitted to have application be considered as complete. Submit at Graduate Studies website (https://gradstudies.byu.edu/section/prospective).

E. Acceptance Criteria

Before acceptance, applications are screened by the Department Graduate Committee, and approved by the Department Faculty, Chair, and BYU Graduate Office. Applications will not be considered until standardized exam scores are included in the student's file. Typically, doctoral applicants have a combined GRE score greater than 1150 and master applicants greater than 1070 (V+Q). The following items are considered in the evaluation of each application to the Department of Physiology & Developmental Biology for entrance into the MS or Ph.D. program.

- Grade Point Average in upper division classes over last 60 semester hours (3.0 minimum)
- Scores on national standardized examination.
- Courses completed in Physiology, Developmental Biology, Neuroscience and related subjects.
- Letters of Recommendation (one from research advisor, if applicable)
- Letter of Intent (containing field of interest and career goals)
- Application Addendum summarizing interest level, likely fit, and desire to conduct graduate research with at least 5 specific faculty members in the program.
- Availability of an opening with a faculty member in the focal area of research interest
- Academic credentials and accompanying recommendations in comparison with those of other applicants to our department for the same date of entry

F. Financial Assistance

This section outlines what financial support is provided to graduate students by the department and how to apply for additional funds.

1. Teaching and Research Assistantships

a) MS Students

The Department does not guarantee any financial support for MS students. They may be funded through research assistantships (RA) from external funds obtained by the lab they are working in. If such funds are not available, they are eligible to apply for financial support from the department primarily in the form of teaching assistantships (TA). The department awards these TAs to MS students based on the qualifications and performance of the student as well as the availability of positions. RAs are also available through various university programs (see section 3 below) and provide the same level of support as a TA while allowing the student to work full time in the research lab. MS students may also receive up to $1,000 per semester for tuition for four semesters, depending on the availability of funds. Additional tuition monies may also be available from the Department during Spring and/or Summer Terms, but are not guaranteed. Departmental financial support beyond the second year may be considered for MS students when funds exist.

b) PhD Students

PhD students are guaranteed four years of financial support through Teaching Assistantships (TA) or Research Assistantships (RA) for Fall, Winter, and Spring/Summer. The student's Major Advisor will be expected to provide at least 1/3 of this support through external monies. Four years of full tuition support is also provided for Ph.D. students. Departmental financial support beyond the fourth year may be considered for PhD students when funds exist.

G. Graduate Student Travel Funds

Graduate Students may apply to BYUGSS for GSS Funds and/or their Committee Chair for Department funds to help defray the cost of attending a national scientific conference (see section 3 below). Priority for travel requests will be given to those students who:

- Have filed their Prospectus by the proposed date of travel.
- Are an author on the abstract (priority funding given to first authors).
- Submit a budget to your Committee Chair including transportation, registration, housing, food, and other expenses (form D-5, available from the Department Graduate Program Manager).

1. Additional Student Funding Opportunities

Graduate students may also apply for the following Department/College/University funding opportunities, depending on their needs and qualifications.

ADDITIONAL FINANCIAL ASSISTANCE AVAILABLE	Deadlines
UNIVERSITY AWARDS	
RESEARCH PRESENTATION AWARD: A travel award given by BYUGSS. Awards are around $400 and are for presenting graduate research at a national/international conference. Applications are accepted every fall and winter semester. Details and applications can be found online at https://gradstudies.byu.edu/page/research-presentation-award	Typically Feb 1 and Oct 1
DEPARTMENT AWARDS	
TUITION SCHOLARSHIPS: The Department awards 4-6 tuition scholarships yearly to both undergraduate and graduate students. Most awards provide half tuition for one semester. These funds come from the **Ted & Della Hanks Scholarship** and **Physiology & Developmental Biology Scholarship**. Scholarships are awarded based on academic and laboratory performance to students engaged in research within the Department. Applications can be obtained from https://lsscholarships.byu.edu/UserLogin?returnurl=%2f. For additional information, contact the Department Graduate Program Manager.	Feb 1
RESEARCH ASSISTANTSHIPS: The Department awards 6-8 RAs yearly to graduate students. Assistantships are awarded based on academic and laboratory performance to students engaged in research within the Department.	One month before the start of each semester
699-799 RESEARCH FUNDS: (Form D-4) $300 - $400/year for research related expenses (lab supplies, necessary software, etc). Must submit Prospectus in advance.	No deadline. Submit early in calendar year.
TRAVEL AWARD: About $600 per student per year is available for travel to present graduate research at a national/international conference. Submit request to your faculty mentor.	At least one month before travel date.

2. Qualifications for Graduate Financial Awards

To qualify for financial support (e.g., Assistantship, Travel, and Tuition Award) candidates must be in good standing with a minimum 3.0 GPA and be registered for at least 6 hours per semester or 1 hour per term (if last semester of study: 2 hours per semester and 1 hour per term).

III. INFORMATION FOR NEW GRADUATE STUDENTS

A. General Information

These guidelines have been prepared for the graduate student in Physiology & Developmental Biology, and must be used in conjunction with those contained in the BYU Graduate Catalog. The BYU Graduate Catalog can be found online at: https://gradstudies.byu.edu/section/current.

1. Keeping Current

Graduate students must keep current on changes made each year in the graduate program, at both the Department and the University level. The ultimate responsibility to comply with all department and university requirements rests with the student. Forms for requesting exceptions to graduate policy are available in the department office or at https://gradstudies.byu.edu/page/form-list. Petitions may need to be signed by the chair of the advisory committee, Department Graduate Coordinator, Department Chair, and College Dean, and sent to the BYU Graduate Office.

2. Financial Assistance

The Department strives to provide substantial financial support to all graduate students. This is typically in the form of teaching assistantships (TA) and research assistantships (RA). TA assignments are made by the Graduate Coordinator and Graduate Program Manager and specific requests to TA a particular course should be submitted by email to the Graduate Program Manager four weeks prior to each semester. Additional financial assistance is also available as described in section II. F. 3.

B. Lab Rotations and Mentor Selection

The purpose of lab rotations is to help new graduate students to identify a mentor with whom he/she would like to work. Additionally, rotations help students to select potential research projects and to learn techniques not available in their mentor's lab.

1. MS Students

There will be no laboratory rotations required if the student has selected a mentor prior to starting their MS program. However, if a student does not have a mentor selected, then they may do laboratory rotations (PDBio 649R) with eligible faculty members of their choice. If desired, the student can seek advice about possible rotation laboratories from the department Graduate Committee or other faculty members. Rotations will take place during the student's first semester in the MS program. Once an MS student decides on a mentor, no further rotations are required. Since time is of the essence in the successful completion of a Master's degree, the selection of an advisor should be completed no later than the end of the first semester. PDBio has two emphases (physiology, and developmental biology) with slightly different requirements.

2. PhD Students

To provide a broader exposure to faculty research interests, generally 3 laboratory rotations (of 3 credits each) are expected for all PhD students (for a total of at least 9 credit hours of PDBio 649R). These will occur during the first year of graduate study. For example two rotations on the block

schedule of fall semester (3 credits each), and one during the winter semester (or possibly the summer term before). **Laboratory rotations consist of active participation in the lab, with a time commitment of at least 20 hours per week** per block or 10 hours per week per semester. The student is responsible for choosing rotation laboratories, and making the arrangements to do so. If desired, the student may consult the graduate committee or other faculty members to help decide which laboratories to include.

C. Advisory Committee and Program of Study

Your Advisory Committee and your course outline are established by the same form ("Program of Study for Graduate Students", University ADV Form 3). This form is available from the Department Graduate Secretary or online at: https://gradstudies.byu.edu/page/form-list

In cooperation with your Major Advisor, you should select committee members and a program of study appropriate to your graduate program. Committee members provide support, feedback, and supplemental guidance to graduate students and should be regularly available to the student. Some faculty may not be available to serve on a graduate committee because of prior responsibilities.

1. Procedure for Committee Selection

Clear these names with your Major Advisor and the Department Graduate Coordinator. Contact each member individually and ask him/her to be on your Advisory Committee. Schedule a committee meeting after you discuss a tentative course outline with your Major Advisor (see section III.C.2). If you have declared a minor, one committee member must be from that department. If you have asked a graduate faculty member from another university to be on your committee, you must fill out a Petition for Exception stating your reason(s) and obtain the appropriate information and signatures for the Office of Graduate Studies approval. Committee members must be selected according to the following university rules:

	MS	**Ph.D.**
# Departmental Members	2 (minimum)	3-4
# Members outside Department	1 (minimum)	1-2
Total Members*	3 (minimum)	4 (minimum)

*Additional appointments may be made to suit the needs of the individual program.

2. Program of Study (Course Outline)

Consult with your Advisor about your Program of Study. The sections below (see III.D and III.E) list general university and departmental requirements for both MS and Ph.D programs, however significant latitude is allowed for individually tailored graduate programs. The final Program of Study must be approved by your committee, Graduate Program Manager, and Graduate Coordinator. You should fill out a trial Program of Study form and have it with you when you first meet with your Advisory Committee. After committee approval, you should type the official form (see III.C above), obtain the signatures of your advisory committee and return the form to the Department Program Manager. Once approved, the Graduate Coordinator will be the final approval.

3. Deadline to file Program of Study

All graduate students must file their "Program of Study for Graduate Students" form according to the deadlines given below. To maintain status as an active graduate student it is important to get this form in on time. If necessary, changes can be made by filing a change form signed by your committee and graduate coordinator.

Program	MS	PhD
Deadline to file	3rd week of 2nd Semester	3rd week of 2nd year

D. University Requirements

BYU stipulates the following minimum standard for graduate programs:

1. Credit Hours

a) MS

- The minimum requirement is for **30 credit hours** (24 course work and 6 thesis hours); 20 hours must be in the 500 series or above (can include 699R, etc.)
- No more than 10 hours of non-degree credit and no home study (except prerequisites) can be applied toward the MS degree.
- Undergraduate Credit. The Office of Graduate Studies allows up to 9 credit hours of undergraduate courses (e.g. BYU 300-400 level) if it pertains to the area of study. If more than that is needed for your course outline, a Petition for Exception is required for approval.

b) PhD

- The minimum required for students with no master's degree is **54 credit hours** beyond the baccalaureate degree; the 54 hours may not include undergraduate (100 to 400 level) or more than 18 hours of dissertation credit. Students who have earned a master's degree must complete at least 36 semester hours of additional graduate work at BYU beyond the master's degree.

2. Transfer Credit

Transfer Credit (or credit requested for classes taken but not counted in any previous degree program) should be graduate level courses or equivalent, B grades or better, and no more than 10 hours.

- No foreign credit without certification by examination
- No lower division credit
- No extension credit
- No "P" (pass/fail) credit

3. Minimum Registration

The minimum registration for all active graduate students is 6 hr/semester and 1 hr/term, especially where funding is being provided by BYU. Registration of only 2 hr/sem (1 hr/term) is possible when all course work has been completed. The University will drop any Graduate Student that does

not take at least 6 credit hours in any academic year. There may be additional circumstances if the student is receiving Student Loans. In this case, see Scholarship Office.

Students who are enrolled for Winter Semester *and* who will also be enrolled for Fall Semester are eligible to work on campus during Spring and Summer Terms without taking classes during either term. However, any student employee who is not enrolled in at least 1 hr/term must pay the FICA tax during that term.

During the semester or term in which a student finishes their graduate program they must also be registered for a minimum of 2.0 credit hours.

4. Interrupted Graduate Program

Students who desire to interrupt their graduate program at BYU must complete and have pre-approved for re-admittance either:

a) GS form 13 (for missionary, military, or medical reasons).
OR
b) GS form 6 (for students who are dropped for not maintaining continuous registration).

The student should meet university conditions as provided on the instructions and as explained in the University's Graduate Catalog under "Readmission". These forms are available from the Dept. Graduate Program Manager or from https://gradstudies.byu.edu/page/form-list. Leave will only be granted once and for not more than 2 years. This interrupted time period will still count in the University's determination of 5 years maximum for an MS program and 8 years maximum for a Ph.D. program at BYU.

E. Departmental Requirements

Requirements for all graduate programs are listed in this section.

1. Prerequisite Classes

Students are expected to have taken all but one of the prerequisite classes (or equivalent). These classes are listed above in the table under section II.C and in the next section below the course map. Any deficiencies should be made up during the first year. As specified above in section III.D "University Requirements", up to 9 credit hours of advanced undergraduate classes can be counted toward the MS degree.

2. Seminar/Presentation Requirement

MS and PhD students are required to present one seminar on their research or research interests each year to the department. Typically, presentations are 25 minutes and presented in Fall semester as part of PDBio 694R. All graduate students are expected to attend weekly seminars (PDBio 696R). Seminar attendance is recorded and at least 80% attendance is required for a passing grade.

3. MS in PDBio

a) Required Courses (24-26 hours): Credits:

Biol 503	Research orientation	1
PDBio 694R	Presentation of research in progress	2
PDBio 696R	Seminar	2
Stat 511 or PWS 633	Statistical Methods for Research 1 or Biometry and Experimental Design	3
PDBio 699R	Master's Thesis	6

One of the following Classes:

PDBio 601	Cellular and Molecular Physiology (Physiology emphasis)	3
PDBio 582	Developmental Genetics (Developmental Biology emphasis)	3

Choose at least 3 classes from the following list (7.0-9.0 hrs required):

PDBio 561	Physiology and drug mechanisms	3
PDBio 562	Reproductive physiology	3
PDBio 565	Endocrinology	3
PDBio 568	Cellular Electrophysiology & Biophysics	3
PDBio 570	Responsible Research Conduct	1
PDBio 582	Developmental Genetics	3
PDBio 601	Cellular and Molecular Physiology	3
PDBio 650R	Selected Topics in Physiology, Developmental Biology, & Neuroscience	1-3
MMBio 662	Genomics, Molc. Evolution and Devel. Biology	3
PDBio 664	Cardiovascular and Respiratory Physiology	2
Psych 586	Hormones and behavior	3

b) Elective Courses

Additional courses to meet the 30 (minimum) credit hour requirement should be determined in conjunction with your graduate committee. Some possible courses are listed below the course map in the next section. In addition, MS students may wish to consider the following courses:

PDBio 649R	Laboratory research	2 (max 6)
PDBio 550R	Advanced topics in Physiol./Devel. Biol.	1-4
Chem 462	Physical Chemistry	3
Chem 463	Physical Chemistry	3
Chem 464	Physical Chemistry Laboratory	1
Chem 468	Biophysical Chemistry	3
Chem 482	Biochemistry 2	3
Chem 489	Structural Biochemistry.	3
MMBio 430	Advanced Cell Biology	3
PDBio 689R	Practicum in Teaching/Research	3

4. PhD in PDBio

a) Required Graduate Classes: Credits:

Biol 503:	Research orientation	1
PDBio 689R	Practicum in Lf Sci Teaching or Research	1 (min.)
PDBio 694R:	Presentation of research in progress	4 (min.)
PDBio 696R:	Seminar	4 (min.)
Stat 511	Statistical Methods for Research 1	3
PDBio 601*	Cellular and Molecular Physiology	3
PDBio 582*	Developmental genetics	3
^PDBio 649R	Laboratory research (rotations)	6-9[#]
PDBio 799R	Doctoral Dissertation	18[#]

*Preparation equivalent to the prerequisites for PDBio 601 and PDBio 582 is required.

^At least one semester (3 credits) of this experience must be performed in a laboratory different than the laboratory of the student's Graduate Committee Chair. Typically, two rotations are taken during the first semester (simultaneously or sequentially).

[#]Research credit (PDBio 649R & 799R) may not exceed 27 hours.

b) Elective Courses

Additional courses to meet the 54 (minimum) credit hour requirement should be determined in conjunction with your graduate committee. Some possible courses are listed below the course map in the next section.

*F. Suggested two year course work map for **PDBio** Grad. Programs*

MS (emphasis: **Physiology)**	**MS** (emphasis: **Develop. Biology)**	**PhD.**
1. Fall Semester (10 CrHrs): **PDBio 601 (3)** Biol 503 (1) PDBio 649R-rotation/research (2) PDBio 696R (0.5) PDBio 694R (0.5) Prerequisite (e.g. PDBio 362-363) or Elective (2-4) *Funding: TA* ***File: Program of Study***	1. Fall Semester (10 CrHrs): **Stat 511 (3)** Biol 503 (1) PDBio 649R-rotation/research (2) PDBio 696R (0.5) PDBio 694R (0.5) Prerequisite (e.g. PDBio 482) or Elective (2-4) *Funding: TA* ***File: Program of Study***	1. Fall Semester (11 CrHrs): **PDBio 601 (3)** Biol 503 (1) PDBio 649R-rotation (3) PDBio 696R (0.5) PDBio 694R (0.5) Prerequisite or 2nd rotation (2-4) *Funding: RA or TA*
2. Winter Semester (5+): PDBio 649R-research(2) PDBio 696R (0.5) Elective (2-4) *Funding: TA* ***File: Prospectus***	2. Winter Semester (9): **PDBio 582 (3)** PDBio 649R-research (2) PDBio 696R (0.5) Elective (2-4) *Funding: TA* ***File: Prospectus***	2. Winter Semester (10): **PDBio 582 (3)** PDBio 649R-rotation (3) PDBio 696R (0.5) Elective (2-4) *Funding: TA or RA*
Spring/Summer (2-3) Elective (3) or PDBio 649R (2) *Funding: RA from Lab (if available)* ***Coursework Orals***	Spring/Summer (2-3) Elective (3) or PDBio 649R (2) *Funding: RA from Lab (if available)* ***Coursework Orals***	Spring/Summer (2-3) Elective (3) or PDBio 649R (2) *Funding: RA* ***File: Program of Study***
3. Fall Semester (8): **Stat 511 (3)** PDBio 696R (0.5) PDBio 694R (0.5) Elective (2-4) PDBio 699R (2) *Funding: TA*	3. Fall Semester (6): PDBio 696R (0.5) PDBio 694R (0.5) Elective (2-4) PDBio 699R (2) *Funding: TA*	3. Fall Semester (7+): **Stat 511 (3)** PDBio 696R (0.5) PDBio 694R (0.5) Elective (2-4) *Funding: RA/TA* ***File: Prospectus***
4. Winter Semester (5): PDBio 696R (0.5) PDBio 699R (4) *Funding: RA*	4. Winter Semester (5): PDBio 696R (0.5) PDBio 699R (4) *Funding: RA*	4. Winter Semester (6+): PDBio 696R (0.5) Elective (2-4) PDBio 649R (2-3) *Funding: RA/TA* ***Comprehensive Exam***
Spring/Summer: Graduate	Spring/Summer: Graduate	Spring/Summer (2-3)

*TA=Teaching Asst, RA=Research Asst.

Prerequisites:
Cell/Mol. Biol. (e.g. PDBio 360)
Organic Chemistry (e.g. Chem 352)
Biochemistry (e.g. Chem 481)
College Physics (e.g. Phscs 105, 106)
One of the following:
Physiology with lab (e.g., PDBio 362, 363)
Developmental Biol. (e.g., PDBio 482)

Suggested Electives for first year:
*CHEM 482 Biochem 2 (3) W,Sp
*Neuro 480 Adv. Neuro. (3) F,W
PDBio 561 Physiol. or Drug Mech. (3) F,W
PDBio 562 Repro. Physiol. (3) F even
PDBio 565 Endo. (3) W
PDBio 568 Cellular Electrophys. & Biophys. (3) F
PDBio 661 Molecular Biol. of the Cell (3) F

Additonal Electives:
Neuro 601 Grad. Neuro (3) W
PDBio 582 Devel. Gen. (3) W
PDBio 601 Cell and Mol. Physiol. (3) F
PDBio 650R Selected topics (when available) (1-3)
PDBio 664 Cardio. & Resp. Physiol (2) F odd
PDBio 695R Practium in Teaching (arranged)
Psych 586 Hormones and Behavior (3)
CHEM 581 Adv. Biochem. Method 1 (3) F
CHEM 583 Adv. Biochem. Method 2 (3) W
CHEM 689R Adv. Topics in biochemistry (1-3)
Stat 512 Statistical methods for research 2
MMBio 514 Advanced Immunology (2) F odd
MMBio 557 Genes and Cancer (2) W odd

*Ph.D. students do not receive credit for 400-level courses or lower.

IV. Continuing Expectations and Requirements

A. Satisfactory Progress

A graduate program is a full-time commitment. It is expected that each student will demonstrate satisfactory progress toward the degree. This includes meeting university minimums for GPA (3.0) and making timely progress in the program steps outlined below. It is also expected that the graduate student will meet with their graduate committee at least twice per year (Fall and Winter Semesters) to assess progress in the Program of Study and thesis/dissertation research (see section IV.B.3). Students should also display a cooperative attitude and adhere to the university's standards of conduct. It is expected that all students will maintain academic honesty as defined in the University Honor code (online at http://honorcode.byu.edu/index.php?option=com_content&task=view&id=5302&Itemid=5698.)

1. Performance Evaluation

To meet federal and university requirements, departments evaluate academic performance of graduate students twice annually. Three categories can be reported: *Satisfactory*, *Marginal*, and *Unsatisfactory*. Students who have been given a *Marginal* or *Unsatisfactory* evaluation will be notified in writing explaining the evaluation and expectations for satisfactory progress. Graduate students with a current *Unsatisfactory* evaluation are not eligible to receive federal aid. The university will automatically drop any student that receives two sequential evaluations that are less than *Satisfactory*. Evaluation Form D-6 must be filed at the end of each fall and winter semesters.

2. Grievance Procedures

Students that feel they have been unfairly treated or evaluated, may appeal to the Departmental Graduate Committee, then to the Department Chair and finally to the Dean of Graduate Studies.

B. Research Project

All graduate students are expected to complete a significant and publishable research project.

1. Selection of Research Project

In most instances you are expected to originate and plan your own research project that will be acceptable to your Advisory Committee. This is done by coordinating with your Research Advisor. If your interests are not commensurate with the capabilities or interests of your advisor, select another advisor or change your research plan as necessary.

2. PROSPECTUS

After selecting your research project a Prospectus of Research must be filed with the Department. This is a thorough (10-20 page) description of your proposed research and is

described below. After filing, students become eligible for additional types for financial assistance, as described in section II.F.

a) The purpose of the prospectus is to obtain committee approval to proceed with your research project. This approval is an official statement by the department that completion of the proposed project will be sufficient for a Dissertation/Thesis. The prospectus should demonstrate that the graduate student (1) understands current literature in the field of research, (2) has selected a research project that is significant and appropriate in scope, and (3) has sufficient training and resources to appropriately perform and analyze the experiments.

b) Generally, the main sections of the prospectus will include:

- COVER PAGE (Form D-1)
- TITLE (containing good "retrieval" words)
- INTRODUCTION (review of literature and background for project)
- PROPOSAL (hypothesis, objectives and an overview of the experimental design)
- METHODS (usually includes details of the experimental design, methods, and sources of uncommon materials and animals, etc.)
- ADDITIONAL COSTS (must include information which will alert the Advisory Committee members if any expensive equipment or supplies will be needed that are not already available to you, and just how such expenditures are to be met)
- REFERENCE LIST (must include sufficient references to assure Committee members that you are familiar with the proposed research area)

c) The written prospectus is to be submitted to all members of the Advisory Committee and orally presented for evaluation and approval in an early Advisory Committee Meeting.

d) A final copy with signatures on the cover page (and revisions, if necessary) of the prospectus should be submitted to the Department Graduate Program Manager. It is due before the end of the second semester of resident study for MS students and by the end of the third semester for PhD students. Students who have not filed on time lose priority for funding, may be dismissed if more than a semester late, and will receive a University Marginal on their progress review.

e) If the research emphasis changes more than in a minor way after a prospectus is approved, the student must submit a new approved prospectus to the Department as soon as possible, and no later than one semester after the original due date.

3. Periodic Review of Research

Periodic meetings with your Advisory Committee should be held 1-3 times each year. In these meetings research progress and/or difficulties should be presented and discussed. Between meetings, any member of the Advisory Committee can be consulted for help regarding the research project; however, most detailed problems should usually be worked out with your Major Advisor.

C. Examinations

1. MS Program

a) Course Work Oral Examination (CWO)

A CWO will be administered by all members of your Advisory Committee. This exam should be completed near the end of the first year of graduate study, and is absolutely due by the third semester. Students will be examined by committee members on basic principles relevant to their program of study (physiology and/or developmental biology) and concepts related to the focal area of their research, as well as on any material indicated on the official course outline. Each examiner is to evaluate on total performance and not merely on those questions which he/she asks. Upon satisfactory completion of this examination, the Committee Chair submits Form D-2, "Evaluation of Examination" to the Graduate Program Manager.

b) Oral Defense of Thesis

Each student must defend his/her thesis before their Advisory Committee in a public seminar (can count as required yearly seminar). University Form #8c ("Departmental Scheduling of Final Oral Examination") must be signed by your committee and then submitted to the Department Graduate Program Manager within the time deadlines stipulated by the University and **a minimum of 2 weeks prior to the Presentation of Thesis—No Exceptions!** Prior to that defense, however, it is expected that the Advisory Committee will be actively involved in reviewing the thesis (see section D below), and that the members of the Advisory Committee and the student will have resolved matters of thesis content, format, sentence structure, table and figure organization, etc. Although the thesis presentation is open to the public, only members of the Advisory Committee may vote on the student's performance.

2. PhD Program

a) Comprehensive Examination

This written examination will be administered by the student's advisory committee. Each member of the advisory committee prepares a set of questions for the student's response, and the answers to each set are returned to the appropriate faculty member for grading. The Chair decides on the specific format of this exam. Questions may include but are not limited to issues arising from class work and current literature related to the area of study. Class work related questions may be composed in association with other faculty, not of the committee, from whom the student took classes. However, grading should be at the discretion of the committee member, after consultation with another faculty member if necessary. Each examiner is to evaluate on total performance and not merely on those questions which he/she asks. The written examination will be followed by an oral examination that will delve deeper into the student's area of research emphasis.

Upon satisfactory completion of both examination, the Chair submits form D-2 "Evaluation of Examination" to the Department Graduate Program Manager.

The written examination is to be given after completion of PDBio 582 and 601 and is due no later than the beginning of the 3rd year (5th semester). It will assess the student's understanding of basic physiological principles with emphasis in both developmental biology and physiology, as well as on any material indicated on the official course outline.

b) Professional Development Requirement. See Departmental Form D-3. Depending on the student's career goals (teaching versus research), a professional development requirement must be completed during the 3rd year of the program. This will include either teaching 10 hours of lecture in an appropriate course (with faculty mentor guidance) or submitting a graduate research fellowship application to an appropriate funding source (BYU Graduate Office, NSF, NIH, etc.).

c) Defense of Dissertation.
Defense of Dissertation before your Advisory Committee: Each student must defend his/her dissertation before their Advisory Committee in a public seminar (can count as required yearly seminar). University Form #8c ("Departmental Scheduling of Final Oral Examination") must be signed by your committee and then submitted to the Department Graduate Program Manager within the time deadlines stipulated by the University and **a minimum of 2 weeks prior to the Presentation of Thesis—No Exceptions!** Prior to that defense, however, it is expected that the Advisory Committee will be actively involved in reviewing the thesis (see section D below), and that the members of the Advisory Committee and the student will have resolved matters of thesis content, format, sentence structure, table and figure organization, etc. Although the thesis presentation is open to the public, only members of the Advisory Committee may vote on the student's performance.

D. Thesis/Dissertation

It is strongly recommended that writing of the Thesis/Dissertation begin at least 4-6 months in advance of graduation since it frequently requires more time than anticipated. Typically, the prospectus forms the draft for the introduction section of the Thesis/Dissertation. The exact content of the Thesis/Dissertation is set at the discretion of the committee, but University, College and Departmental guidelines listed below must be followed. The final responsibility for compliance with all regulations for thesis/dissertation preparation rests solely with the graduate student. Theses and Dissertations must be submitted electronically through http://etd.byu.edu after final approval is given.

1. Format Requirements

Exact requirements for format are set by the university and described in:
"Minimum Standards for Submitting Dissertations, Theses, or Selected Projects."

This guide can be obtained from the Department Graduate Program Manager or online at: https://gradstudies.byu.edu/page/form-list. The following are additional Departmental guidelines.

a) All university required pages are single-sided; the remainder of the work is to be double-sided. A current curriculum vitae should be appended to the end (double-sided).

b) Typically four sections (single-sided) should follow the Abstract and be numbered with lowercase Roman numerals: Acknowledgements (may include grant support), Table of Contents, List of Tables, and List of Figures. These last three sections may follow the format used in this document (page 2) but should be double-spaced. Most word processors have built-in features for creating such tables automatically.

c) An approved style guide for the Department needs to be followed, which is according to the writing style in the latest edition of the CBE Style Manual[1]. Alternatively, if sections of the thesis/dissertation have been (or are going to be) submitted for publication in a refereed journal, the journal's format for submitted manuscripts may be followed.

2. Review and Approval

Meet with the Department Graduate Program Manager for a list of all submission steps.

a) Complete **Departmental Scheduling of Final Oral Examination** (University Form #8c) and submit it to the Department Graduate Program Manager to schedule your Presentation of Thesis or Dissertation. This form must be submitted a **minimum of two weeks prior to your examination** and within the University time limit.

b) Submit an electronic copy of your thesis/dissertation (including all ancillary pages required by the BYU Office of Graduate Studies), a curriculum vitae, and a copy of an example of a recent reprint from your preferred journal (if thesis/dissertation is in manuscript format) to each member of your Advisory Committee and the Graduate Program Manager at least two weeks prior to your defense.

[1]Science Reference Desk at HBLL Library, 2nd Floor, Call No. T 11.S386 (6th ed. 1994); or Call No. QH 304.C33 (5th ed. 1983, 2 copies available at HBLL).

c) The first part of the examination will be a presentation of your research and will be open to all interested individuals. The second part will be an examination of your research and your thesis/dissertation by the faculty members in attendance. The final voting will be done ONLY by members of the Advisory Committee (as described above in section IV.C.1.a).

d) After working on formatting revisions and final changes, submit an electronic copy of the thesis/dissertation in final form to the Department Graduate Program Manager. When final approval is received, a hard copy will be sent to the Dean's office for approval.

e) Submit an etd (electronic thesis dissertation) at etd.byu.edu. Instruction are on site.

f) PhD students complete UMI and Survey of Earned Doctorate. Forward receipts to Graduate Program Manager.

g) Submit signed University Form #8d "Departmental Approval for Submission of Dissertation, Thesis, or Selected Project to Graduate Studies. This form will be retained by the Graduate Program Manager until time to submit it.

h) Submit binding online with the help of the Graduate Program Manager.

E. Program Deadlines

Plan to finish each step before the absolute deadline. Do not count on holding any committee meeting or examination at a time when school is not in session (including Reading Days). It is the responsibility of the student to make sure the committee members will be available.

1. MS Students

Event	Time	Form*
Advisory Committee and Program of Study	No later than 3rd week of 2nd semester (student subject to dismissal if not submitted during 3rd semester)	U-3
Prospectus (present to Advisory Committee)	No later than end of 2nd semester (student subject to dismissal if not submitted during 3rd semester)	D-1
Course Work Oral	No later than end of 3rd semester	D-2
Seminar presented to Department	Once per year	
Application for Graduation	During first month of semester of planned graduation	U-8a
Scheduling of Defense of Thesis and submission of Thesis to Department	At least 2 weeks before final Presentation of Thesis	U-8c
Defense of Thesis	Before Department/College/University deadline	See GPM
Submission of final thesis to Graduate Program Manager	Within one week after passing defense and before deadlines	
Submission of etd.	Within 2 weeks following DOT	U-8d

2. Ph.D. Students

Event	Time	Form*
Advisory Committee and Program of Study	No later than 3rd week of second year (student subject to dismissal if not submitted during 2nd year)	U-3
Prospectus (present to Advisory Committee)	No later than end of 3rd semester (student subject to dismissal if not submitted during 2nd year)	D-1
Comprehensive Examination	No later than end of 2nd year (student subject to dismissal if not completed during 3rd year)	D-2
Seminar given to Department	Each year	
Application for Graduation	During first month of semester of planned graduation	U-8a
Scheduling of Defense of Dissertation and submission of Dissertation to Department for reading	At least 2 weeks before final Defense of Dissertation	U-8c
Defense of Dissertation	Before Department/College/University deadline	See GPM
Submission of final dissertation to Graduate Program Manager.	Within one week after passing defense.	
Submission of etd	Within two weeks following defense of dissertation. By deadline	U-8d
Submission of Form 8d, Doctoral Survey, & UMI to Office of Graduate Studies	Within 1 week after final submission of dissertation	

* U = University form (available online); D = Department form (available from Dept. Grad Program Manager)

V. Forms

A. University Forms (available online)

The following university forms are available from the Department Graduate Secretary and may also be printed online at: https://gradstudies.byu.edu/page/form-list.

B. Departmental Forms

Examples of departmental forms are included on the following pages. They are available from the Department Graduate Program Manager.

APPROVAL OF PROSPECTUS

_____
Name of Student

_____
Date Approved

_____
Major Advisor

_____
Committee Member

_____
Committee Member

_____
Committee Member

_____
Committee Member

EVALUATION OF EXAMINATION

☐ Coursework Oral Exam for MS Degree
☐ Comprehensive Exam for Ph.D. Degree

Name of Student: _____ Date of Exam: _____

Major Field: _____ Major Advisor: _____

Recommended Action:

1. [ ] Pass Without Qualification. Comments, if any:

2. [ ] Pass With Qualification. List in detail any qualification imposed upon the student:

   Retake date _____ (one time only)

3. [ ] Not Pass but allow retake. List in detail any qualification imposed upon the student:

   Retake date _____ (one time only)

4. [ ] Fail. Terminate from program.

_____
Major Advisor

_____ _____
Committee Member Committee Member

_____ _____
Committee Member Committee Member

PROFESSIONAL DEVELOPMENT REQUIREMENT

Department of Physiology & Developmental Biology

(Ph.D. Program only)

Name of Student: _____

Major Advisor: _____

Lecture Requirement

Lectures Given: _____ Course: _____

Dates: _____

Faculty mentor: _____

OR

Fellowship Application Requirement

Date Application Submitted: _____

Funding Source: _____

_____ _____
Major Advisor Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

APPLICATION FOR 699-799 FUNDS

Name of Student: _____ Date Submitted: _____

Program: □ MS □ Ph.D. Phone: _____
Email: _____

Prospectus is on file in the PDBio Department Office: □ Yes □ No

Course Outline is on file in the Graduate School Office: □Yes □ No

Research Title: _____

_____

_____

What percent of your data collection is completed? _____

What percent of your thesis/dissertation writing is completed? _____

When do you plan to graduate? _____

Total amount requested: _____

Please itemize your specific budget requests:

_____
_____
_____
_____
_____

Major Advisor: _____ _____
(Print) (Signature)

Total amount awarded: _____

Authorized Signature: _____ Date:_____

REQUEST FOR STUDENT TRAVEL

Please Submit to Your Committee Chair

Name of Student: _____ Date: _____

Email address: _____ Phone number: _____

Name of conference or appropriate activity: _____

_____

Destination: _____

Dates of travel: _____

Departmental Account (for office use): _____

Cost Sharing Account: _____

If graduate student, have you filed your prospectus? □ Yes □ No

Title and author(s) of paper to be presented or justification of how this travel will enhance your professional development (please use reverse side of paper if needed):

Budget	Projected Cost	Actual Cost (office use only)
Air Far		
Car Rental		
To/From airport		
Motor Pool Vehicle		
Personal Vehicle		
Meals		
Lodging		
Registration		
Other		
Total		

Major Advisor: _____ _____
(Print) (Signature)

Signature of
Departmental Travel Coordinator: _____ Date: _____

Department of Physiology & Developmental Biology FORM D-6 MS ____ entered

MS GRADUATE PROGRESS REVIEW

Name of Student_____ Date _____

Program: □ PDBio □ Neuroscience

Part Ia

*To be completed by the student **prior** to the Progress Review and then submitted to the Advisory Committee at the time of the Review.*

1. Please mark under your current semester of enrolment if you have completed each of the items listed below. Indicate date, if completed this semester.

Semester	1st	2nd	3rd	4th	5th or more
Current Enrolment					
Program of Study					
Prospectus					
Course Work Oral Exam					

2. Any item not completed above (exclude gray areas) indicate expected completion date (Should be within 30 days).

3. If you were accepted on provisional basis, have you completed the provisions?

4. What is your program GPA? How many credit hours have you completed?

5. List the classes you are currently taking.

Part Ib

6. What labs have you worked in during the last year?

7. List your research accomplishments; attach copies of any abstracts or publications in the last year.

8. When do you anticipate you will be completing your degree?

9. What obstacles do you face in completing your program?

10. What are your goals for the next year?

*(Committee completes **Part II** on back)*

Part IIa

To be completed and signed by the Chair and Committee following review.

☐ After meeting jointly with the student (at least once a year), or

☐ After meeting individually with the student,

The Committee Recommends:

☐ Satisfactory progress and continuance in the graduate program (Mark only if Part Ia2 is blank).

☐ 30 day marginal progress*
☐ University marginal progress } (complete Part IIb)
☐ Unsatisfactory progress

Signatures:

_____ Committee Chair or Rotation Advisor	_____ Date	_____ Member	_____ Date
_____ Member	_____ Date	_____ Member	_____ Date
_____ Member	_____ Date	_____ Member	_____ Date

_____ _____
Department Graduate Committee Date

*Mark 30 day marginal if Part 1a2 date is within 30 days.

Part IIb

Please detail below the conditions/requirements that must be finished if student is to receive a Satisfactory progress report at the next review in ☐ 30 days or ☐ in one semester. Note that Satisfactory progress requirements include both deficiencies for the current semester AND expectations for the next.

_____

_____

_____

_____

_____

_____

_____

I have read and understand these conditions/requirements _____ _____
Signed by student Date

*30 Day Marginal Completion Date: _____

Department of Physiology & Developmental Biology FORM D-6 PhD ____ entered

PhD GRADUATE PROGRESS REVIEW

Name of Student_____ Date _____

Program: □ PDBio □ Neuroscience

Part Ia

*To be completed by the student **prior** to the Progress Review and then submitted to the Advisory Committee at the time of the Review.*

1. Please mark under your current semester of enrolment if you have completed each of the items listed below. Indicate date, if completed this semester.

Semester	1st	2nd	3rd	4th	5th or more
Current Enrolment					
Program of Study					
Prospectus					
Comprehensive Exam					

2. Any item not completed above (exclude gray areas) indicate expected completion date (Should be within 30 days).

3. If you were accepted on provisional basis, have you completed the provisions?

4. What is your program GPA? How many credit hours have you completed?

5. List the classes you are currently taking.

Part Ib

6. What labs have you worked in during the last year?

7. List your research accomplishments; attach copies of any abstracts or publications in the last year.

8. When do you anticipate you will be completing your degree?

9. What obstacles do you face in completing your program?

10. What are your goals for the next year?

*(Committee completes **Part II** on back)*

Part IIa

To be completed and signed by the Chair and Committee following review.

☐ After meeting jointly with the student (at least once a year), or

☐ After meeting individually with the student,

The Committee Recommends:

☐ Satisfactory progress and continuance in the graduate program (Mark only if Part Ia2 is blank).

☐ 30 day marginal progress*
☐ University marginal progress } (complete Part IIb)
☐ Unsatisfactory progress

Signatures:

_____ Committee Chair or Rotation Advisor	_____ Date	_____ Member	_____ Date
_____ Member	_____ Date	_____ Member	_____ Date
_____ Member	_____ Date	_____ Member	_____ Date

_____ _____
Department Graduate Committee Date

*Mark 30 day marginal if Part 1a2 date is within 30 days.

Part IIb

Please detail below the conditions/requirements that must be finished if student is to receive a Satisfactory progress report at the next review in ☐ 30 days or ☐ in one semester. Note that Satisfactory progress requirements include both deficiencies for the current semester AND expectations for the next.

_____

_____

_____

_____

_____

_____

_____

I have read and understand these conditions/requirements _____ _____
Signed by student Date

*30 Day Marginal Completion Date: _____