Ph.D. in PHYSIOLOGY PROGRAM
MATRICULATION GUIDE AY 2021-22

A. Required Coursework:

1. PSL 7011 Basic Integrative Physiology Lecture I (4 credits; F)
2. PSL 7031 Basic Integrative Physiology Lecture II (4 credits; W)
3. PSL 7020 Basic Physiology Lab I (2 credits; F)
4. PSL 7040 Basic Physiology Lab II (2 credits; W)
5. PSL 7060 Current Literature in Physiology (1 credit, F,W)

   Note: Students are to begin taking this course during the winter semester of their first year; and then every fall and winter semester until they successfully complete the Written Qualifying Examination.
6. PSL 7890 Physiology Seminar (1 credit/semester; F & W)

   2 credits are required ***(Note: Attendance at all seminars is mandatory for all graduate students!)***
7. Graduate level biostatistics course (FPH 7015, Fall 4 credits; Winter 4 credits online) or *Equivalent*
8. Graduate level cell course (***Note: IBS 7015 satisfies this requirement)***
9. BMB 7010 Biochemistry (4 credits; F) or equivalent
10. MBG 7010 Molecular Biology (3 credits; F) or equivalent

    Note: IBS 7015 (7 credits) satisfies MBG 7010 and BMB 7010 requirements

9. Advanced Physiology Courses (listed below) ***Minimum of 3 courses required***

Course list

PSL 7215 Nanobiotechnology (2 credits; W)
PSL 7400 Adv. Respiratory Physiology (2 credits; W/even years)
PSL 7420 Organizing and Communicating Hypothesis Testing in Physiology (2 credits; W)
PSL 7550 Adv. Renal Physiology (2 credits; F/odd years)
PSL 7600 Adv. Cardiovascular Physiology (2 credits; F)
PSL 7610 Biological Basis of Sleep (2 credits; W/odd years)
PSL 7640 Cell & Molecular Physiology (3 credits; W/even years)
PSL 7660 Neurophysiology (3 credits; F/even years)
PSL 7680 Endocrinology (4 credits; W)
PSL 7690 Principles of Reproductive Biology (3 credits, F/even years)
PSL 7700 Embryonic Stem Cell Biology (3 credits; W/odd years)
PSL 7710 Disease States and Reproduction (1 credit; SS)
PSL 7730 Reproductive Science: Teratology (3 credits; F/even years)
PSL 7740 Developmental Systems in Reproductive Biology (3 credits; W)
PSL 7770 Perinatal Biology and Reproduction (2 credits; W)
PSL 7775 Current Research Topics in the Reproductive Sciences (1 credits; F)
PSL 7825 Membrane Physiology: (Protein Transport, Lipid Metabolism & Human Diseases (2 credits; W/even years)
PSL 7910 Readings in Molecular Male Reprod. & Chromatin Sys. Biol (1 credit; F)

(Note: Student may elect to substitute IBS 7015 for PSL 7640 Cell Physiology or IBS 7050 Neuroscience for PSL 7660 Neurophysiology BUT only <u>one</u> substitution will be allowed)

10. Minor Requirements:

    Minimum of 6 credits multidisciplinary courses (non-physiology)
11. **IBS Fellows Only**-Additional Course Requirements
    a. IBS 7015 Interdisciplinary Molecular and Cellular Biology (7 credits; F)
    b. Four credits from the IBS Systems courses below:
       IBS 7030 Biomedical Functional Genomics (2 credits; W)
       IBS 7050 Biomedical Neurobiology (2 credits; W)

IBS 7090 Biomedical Immunology (2 credits; W)
IBS 7100 Biomedical Neuropharmacology (2 credits; W)
IBS 7110 Introduction to the Business of Biotechnology (3 credits; W)
IBS 7120 Fundamentals of Cancer Biology (3 credits; B:W)
IBS 7130 Systems Neuroscience: Structure and Function of the Nervous System (2 Credits; W)
IBS 7140 Foundations of Computational Biology (3 credits, F)

12. Optional Research Courses:

(These courses require prior authorization)

Special Problems PSL 7880 - 1-8 credits (max of 8 credits can be used towards degree)
Arranged Research PSL 7996 - 1-15 credits (max of 15 credits can be used towards degree)

Total didactic coursework required is 60 credits

B. Dissertation Research & Direction:

Ph.D. Program: PSL 9991-PSL 9994 (7.5 credits each). 30 credits required.

Recommended Matriculation Schedule:

- Lab research rotations (First 2 semesters)
- Select an advisor (By June 1st of 1st year)
- Plan of Work (POW) (During 3rd semester)
- Written Qualifying Exam (Winter semester of 2nd year)
- Selection & meet w/Research Advisory Committee (Spr/Sum semester of 2nd year)
- Thesis/Dissertation outline (Spr/Sum semester of 2nd year)
- Complete writing Prospectus (by the end of Spr/Sum semester of 2nd year)
- Oral Exam (by the end of Spr/Sum semester of 2nd year)
- Candidacy (Fall semester of 3rd year)
- Thesis/Dissertation Defense (final semester)