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 graduate

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 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/very 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 7910 Readings in Molecular Reprod. & Chromatin Sys. Biol (1 credit; F)
   PSL 7825 PSL 7825 Membrane Physiology (Protein Transport, Lipid Metabolism & Human Diseases (2 credits; F)

   **(Note: Student may elect to substitute IBS 7015 for PSL 7640 Cell Physiology or IBS 7050 Neuroscience for PSL 7660 Neurophysiology BUT only ONE 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)