In the first year, students are REQUIRED to complete a core curriculum that includes the following courses:

**Quarter I:**
- **PHAR 5012 01** Essential Principles of Pharmacology *(One week introduction to pharmacology)*
  - Dr. Inturrisi, Director along with other Pharmacology Faculty
- **PHAR.5005.01** Principles of Pharmacology I: Chemical Biology
  - Drs. Sauve and Luo, Co-Directors
- **NEUR 5005 01** Next-Gen Methods For Neuroscience and Pharmacology
  - Dr. John Wagner (Neuroscience), Director, Dr. Michael Kharas, Course Co-Director
- **PHAR.5012.01** Critical Analysis of the Scientific Literature in Pharmacology
  - Drs. Jaffrey and Gross, Co-Directors

**MANDATORY COURSE:** Tri-Institutional Course - *(Responsible Conduct of Research, RCR)*
  - Dr. Randi Silver, Associate Dean

**Quarter II:**
- **PHAR.5012.01** Principles of Pharmacology II: Signal Transduction
  - Drs. Jaffrey and Gross, Co-Directors
- **PHAR 5012 01** Critical Analysis of the Scientific Literature in Pharmacology
  - Dr. Jaffrey and Gross, Co-Directors

**Quarter III:**
- **PHAR.5007.03** Principles of Pharmacology III: Principles and Systems Pharmacology
  - Drs. Levi and Levin, Co-Directors
- **PHAR.5002.03** Neuropharmacology I: Genes, Drugs and Behavior
  - Dr. Toth, Director, Dr. Hochrainer, Co-Director
- **PHAR.9501.03** Pharmacology Seminar Series
  - Dr. Rifkind, Director

**Drug Development Course: FROM MOLECULE TO PRESCRIPTION (NEW IN 2018)**
  - Dr. Ignacio Rodriguez, Director & Dr. Gudas & Dr. Heller (Course Facilitators)

**Quarter IV:**
- **PHAR.5008.04** Principles of Pharmacology IV: Molecular Pharmacology of Cancer
  - Drs. Li and Scheinberg, Co-Directors
- **PHAR.5011.04** Neuropharmacology II: Neuropeptides and Pain and Drugs of Abuse
  - Drs. Inturrisi, Director
- **PHAR.9501.03** Pharmacology Seminar Series
  - Dr. Rifkind, Director

**Drug Development Course: FROM MOLECULE TO PRESCRIPTION (NEW IN 2018)**
  - Dr. Ignacio Rodriguez, Director & Dr. Gudas & Dr. Heller (Course Facilitators)

Students will also complete one 2-quarter elective and a 1-quarter required course titled, Quantitative Biology by course director, Dr. Jason Banfelder by June of their second year. The 2-quarter elective must be selected from the following:

- Fundamental Immunology (Qtrs. I and II)
- Gene Structure and Function (Qtrs. III and IV)
- **PHAR.5009.01** From Bench to Bedside: Business Fundamentals for Entrepreneurial Scientists (Qtr. I)

*If you wish to request to take an elective not listed, you must email the program director & coordinator regarding this request*.