Graduate Training in Pharmacology
Creighton University
Margaret Scofield
Graduate Director
Department Pharmacology
School of Medicine

• Chair
  – Thomas F. Murray, Ph.D.
  – Total 9 primary faculty

• Faculty overview
  – Half are tenured
  – Five have pharmacology degrees
Department Pharmacology
School of Medicine

- School of Medicine Basic Science Departments
  - Pharmacology
  - Biomedical Science (Anatomy, Physiology, Biochemistry)
  - Medical Microbiology and Immunology
- 8 graduate students/6 postdoctoral fellows
- No graduate student umbrella program
- Pharmacology teaching commitments
  - School of Medicine (Systems Based Education)
  - School of Pharmacy and Health Sciences
  - School of Nursing
  - School of Dentistry
  - Graduate School
Graduate Pharmacology Education

• 90 credit hours for graduation
• Pharmacy Pharmacology
  – Two semesters, 4.5 credit hours per semester
    • Change from 5 credit hours
  – Challenges
    • Integrating with medicinal chemists and new pharmacy curriculum
  – Advantages of association with Pharmacy School
    • Toxicology
    • Pharmacokinetics
Graduate Pharmacology Education

• Receptor Pharmacology
  – One semester, 3 credits

• Challenges
  – Offered once every two years

• Advantages
  – Small class
Other Required Courses

• Molecular Biology in Pharmacology
  – 2 credits

• Responsible Conduct in Research
  – 1 credit
  – Team taught between 3 basic science departments

• Introduction to Biostatistics and its Applications
  – 3 credits
  – Taught outside the department

• Research Methods in Pharmacology
  – 1 credit
Other Required Courses

• Research and Dissertation
• Research Rounds in Pharmacology
  – Student research presentations each semester
  – 1 credit
• Pharmacology Seminars
  – 1 credit
Specialized Courses

- NIH—Short Course
  - Integrative and Organ Systems Pharmacology
- Renal Physiology
- Advanced Cell Biology
- Cancer Biology
- Advanced Molecular Biology
- Developmental Biology

Outside Pharmacology Department
Other Ph.D. Candidacy Requirements

- Preliminary Written Examination
- Research Proposal
  - based on research to be completed by student
- Submission of fellowship application
  - based on research proposal
- Oral examination
  - based on research proposal
Graduate School

- Graduate student organization with activities
- Special topic seminars geared toward student needs
  - Teaching
  - Writing
  - Careers
Challenges

• Undergraduate recognition of the field of Pharmacology
  – New undergraduate 3 credit course

• Students acquiring basic prerequisites
  – Biochemistry, physiology, and cell biology, etc.

• Student knowledge of
  – Microbiology
  – Pathophysiology
  – Pharmacokinetics
  – Toxicology

• New faculty not trained in Pharmacology
  – Shadowing senior faculty in the classroom
Strengths

• Small department
  – Facilitates student collaboration between laboratories
• Attract students from the Midwest
• Recent departmental growth
• Close proximity to another medical center (UNMC)
  – Networking and sharing expertise
  – Opportunity for shared courses and journal clubs