Michigan State University

Integrative and Organ Systems Pharmacology

Short Course

2005-2011
Original Goals

• Two week course
• Broad coverage of topics
• Introduce research possibilities in whole animals and organ systems
• Give students perspective of cellular and subcellular research
• Instructors from academia & industry

Current Course

• Eleven day course
  Keep the students busy - don’t let them get bored
  The “Wow factor” is important!
Current Course: Lectures

• “Being a Good Scientist”
  Responsible Conduct in Research
  Ethical Use of Animals in Research
  Statistics in Experimental Design
  Good Laboratory Practice

• Animal Models of Organ System Disease & Dysfunction
  Cardiovascular System, Central Nervous System, Respiratory System,
  Gastrointestinal, Hepatic Toxicity
Current Course: Group Activities

• Classroom
  Drug Development Game
  Computer Simulation Software

• Hands-On Laboratory
  Animal Handling
  Surgical Procedures
  Pharmacological Experiments
  Blood Pressure, Cardiac Function,
  Renal Function, GI Contractility,
  Vascular Contractility, Behavior
Current Course: Demographics

• Students - 7 Year, 72 Students
  56 Graduate Students
  5 Faculty and Postdocs
  7 Industry & 5 Academic Research Technicians
  37 Women
  9 Minorities
  6 Outside of USA
  19 West of Mississippi
  13 South of Ohio

• Faculty
  8 Academic Institutions, 4 Commercial Institutions

• Institutions – 3plus students
  AUMS, Pittsburgh, Wayne State, St Louis, & North Dakota
What’s the Future of the Course?

• Offering in Summer 2012 & 2013 with continued NIGMS funding
• Offering after 2013 without NIH funds???

What the Course Provided MSU

• Ability to offer ongoing PSM Laboratory Course
• Development of undergraduate Laboratory Course in Pharmacology
• Development of “Boot Camp” for 1st year graduate students