

Medical Sciences: Pharmacology & Toxicology

Day	Session	What	How
1	Morning	Introductions Ice-Breaker Pre-Test Syllabus/Honor Code	Discussion Famous Pairs Pre-Test Assessment Discuss, create class constitution, sign contract
	Afternoon	Lab Safety Scientific Method & Well-Designed Experiment	JHU Safety Contract, Worksheet PowerPoint, Discussion
	Evening	Group Activity: What is Pharmacology & Toxicology? READ: PHARM CH.1 & TOX CH. 2	Posters graphically representing an inclusive definition of Pharmacology & Toxicology (use texts).
2	Morning	What is Pharmacology? What is Toxicology? Anti-depressants and the placebo effect.	Poster presentations followed by PowerPoint lecture. Jigsaw activity with various articles followed by discussion.
	Afternoon	Basic trial design Planning a well-designed trial	PowerPoint lecture Students will be divided into 2 groups and asked to plan trials based on given topics.
	Evening	Power of placebos vs. powerlessness of anti-depressants	Reflect on morning jigsaw activity; discussion and mini-paper.
3	Morning	Intro to cell division and genetics Protein synthesis	PowerPoints, Discussion
	Afternoon	Carryout well-designed trials	Students perform their trials on the alternate half of the class.
	Evening	Analysis of results from well-designed trials	Compile data, write-up experiment, create presentation
4	Morning	Well-designed trial results Enzyme Catalysis, Inhibitions of enzymes Enzyme Catalysis Models	Class presentations PowerPoint, Discussion Hands-on model building
	Afternoon	Catalase Investigation	Laboratory
	Evening	READ: PHARM CH.2 & TOX CH. 5	Mini-paper: Identify common themes relating to the absorption, distribution, and excretion of both drugs and toxicants
5	Morning	Cellular Transport Principles of basic drug design	PowerPoints, Discussion
	Afternoon	Analysis of over the counter drugs	Laboratory
	Evening	Week 1 debriefing Week 1 QUIZ READ: PHARM CH.4	PowerPoint, Discussion Formative assessment Notes

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6	Morning	Intro to NSAIDs Inflammatory Response	PowerPoint, Discussion
	Afternoon	Synthesis of aspirin	Laboratory
	Evening	Naming of organic compounds	PowerPoint, Worksheet
7	Morning	Intro to Bacteriology	PowerPoint, Discussion
	Afternoon	Effects of disinfectants and antiseptics on bacteria Food Bacteria	Laboratory Culturing bacteria from food samples
	Evening	Meat Adulteration READ: PHARM CH.13, TOX CH.30	Laboratory Notes
8	Morning	Food Toxicology Principles of Gram Staining	PowerPoint, Discussion
	Afternoon	Gram Staining	Staining of cafeteria bacteria cultures and visualization under microscope
	Evening	Perspectives on OxyContin regulations and cosmetic drug application	Debate
9	Morning	Antibiotics & Resistance	PowerPoint, Discussion
	Afternoon	Antibiotic resistance testing on <i>E. coli</i> and <i>B. cereus</i>	Laboratory
	Evening	Cholesterol determination	Laboratory
10	Morning	Mosquito-borne diseases Research on mosquito-borne diseases	PowerPoint, Discussion Group assignment; internet research and poster presentation
	Afternoon	Mosquito larvae hunt	Outdoor activity; gather mosquito larvae for next week's lab
	Evening	Week 2 Debriefing Week 2 QUIZ READ PHARM CH.17	PowerPoint, Discussion Formative assessment Notes
11	Morning	Introduction to Virology	PowerPoint, Discussion
	Afternoon	The Epidemic	Simulation of worldwide epidemic
	Evening	Principles of ELISA	PowerPoint, Discussion
12	Morning	HIV Biology and treatment	PowerPoint, Discussion
	Afternoon	Simulation of HIV-1 Detection	Laboratory
	Evening	<i>I Am Legend</i>	Movie night
13	Morning	Calculating LD50 Effect of bioinsecticides on mosquito larvae	Laboratories
	Afternoon	Medical Etymology; disease creation	Interdisciplinary lecture/activity with etymology class
	Evening	Week 3 debriefing Week 3 QUIZ	Formative assessment

Day	Session	What	How
14	Morning	Final exam review	Review game
	Afternoon	FINAL EXAM	Summative assessment
	Evening	Course evaluation, clean-up	
15	Morning	Course debriefing and goodbyes	Discussion