



Pharmacognosy and How Drugs Work

Biology or Chemistry 491, Special Topics for 3 credits in Winterim '00-'01
1:00 PM-4:10 PM, P007

Instructor: Scott C. Hartsel, Ph.D.

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Texts: "*Pharmacognosy and Phramacobiotechnology*", 1996, by Robbers, Speedie and Tyler and "*Pills, Potions and Poisons*" by Stone and Darlington. "*Integrated Pharmacology*" handout

"LIBRARY": There will be a pharmacognosy and pharmacology "Library" set up in my research lab, P465A. Probably ALL of the materials you will need for extra study and for your final presentation can be found there. Don't even think about removing material from this room without signing the log. Only under special circumstances with my permission can materials be removed overnight.

Web Site: This web site will be a critical reference for this class

http://www.chem.uwec.edu/Chem491_W01/pharm0.html

Examinations: There will be 2 hour exams, each 100 pts. There could be a take-home portion for each. They will cover the general areas of Pharmacology (#1) and Pharmacognosy(#2). There may be other point (in class problems, homework, etc amounting to <25 pts)

Final Exam: The final exam will be your group presentation (100 pts; 80% scored by Me, 10% class eval, 10% group eval)

Grading: In general, the grade scale below will apply. However, the class average may be used to adjust the scale.

A	92-100%
A-	89-91%
B+	87-88%
B	80-86%
B-	78-79%
C+	75-77%
C	69-74%
C-	67-69%
D+	64-66%
D	60-63%
D-	58-59%

Materials on which you will be tested: You will be responsible for the materials we cover in class, any assigned text or web readings and especially in-class questions and study questions, and study guides. There is a mountain of material in this class, so don't fall behind in readings.

Examinations and Make-up Policies: If you miss an exam **without a reasonable excuse**, you will not be allowed to make up that exam. Reasonable excuses include

emergencies and serious illness that have occurred to you, your family, a close relative or friend; in these cases a verification from a physician or authority officer at the event will be required. YOU MUST LET ME KNOW PRIOR TO AN EXAM IF YOU HAVE A PLANNED ABSENCE. I have an email address (hartsesc) phone and mailbox. There's no excuse. REMEMBER EACH DAY IS A WEEK! So don't miss any.

Tentative(!) Schedule:

Week 1-Pharmacology ;How Drugs Work

Selected Chapters from *Pills, Potions and Poisons* by Stone and Darlington.

Day /Date	Chapters in <i>Pills, Potions and Poisons</i> (read by this date)	Chapter in <i>Integrated Pharmacology</i> (handout)
1 1/2/01	1	1-3
2 1/3	"	1-5
3 1/4	2. Breathing: allergies, asthma 4. Digestion 6,20. Painkillers,,Rheumatic Diseases 11. Depression	Reference
4 1/5	16. The heart 17. Infections and Infestations 18. Cancer	Reference
5 1/6 (SATURDAY!)	19 Steroids 23. Love Potions and Aphrodisiacs	Reference
6 1/8	24. Drugs of recreation and misuse EXAM 1	Reference

Weeks 2 and 3-Pharmacognosy

Selected Chapters from , "*Pharmacognosy and Phramacobiotechnology*", 1996, by Robbers, Speedie and Tyler

Day/Date	Chapter in <i>Pharmacognosy and Pharmacobiotechnology</i> (read by this date)
7 1/9	Chapter 1: Introduction to Pharmacognosy , Chapter 3: Complex Polysaccharides
8 1/10	Chapter 4: Glycosides, Chapter 5: Lipids
9 1/11	Chapter 6: Terpenoids, Chapter 7: Steroids
10 1/12	Chapter 8: Phenylpropanoids ,Chapter 9: Alkaloids
1/15	HOLIDAY! (but work on final paper!)
11 1/16	Chapter 10: Proteins and Peptides
12 1/17	Chapter 11: Antibiotics
13 1/18	Chapter 12: Biologics and Immunomodulators EXAM 2
14 1/19	GROUP PRESENTATIONS

Final Group Presentation/Paper: Choose from given ideas or choose your own for my approval. It will be an oral presentation with handout and must include information from the basic categories below. The depth and availability of this information will depend on the natural product/herb selected. THERE MUST BE EVIDENCE THAT YOU HAVE READ AND INCORPORATED AT LEAST 2 PAPERS FROM THE RECENT JOURNAL LITERATURE (<10 yrs). Total length of presentation will be about 30 minutes with questions.

The categories:

- I. History, botany, folk uses, discovery (scientific or otherwise), isolation/purification of active product(s), manufacturing.

- II. Chemistry, biochemistry, biosynthetic type and general or specific pathway of biosynthesis(if known), receptor types and structures and derivatives

- III. Pharmacology, mechanism of action, effects comparisons with similar products, "natural" versions and synthetic versions of the active product, clinical trials, testing validity USP information.

You may split the duties into three parts as outlined above or any other way that you wish, however *each person* will have to give an oral part of the presentation. You must give an outline-style handout with chemical structures, pictures and figures to the audience. If you do a Powerpoint presentation this will be very easy (hint) but you may do the presentation in chalk,overhead, or other format. I will duplicate these IF you get them to me by 1/17/01. YOU have to duplicate them if you can't be done by then.