# Pathology 438 Final Examination due: 15 June 2015

Spring 2015

## NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The electronic responses to this examination are due on Monday, 15 June 2015 at end of day (5:00 pm). Submit them to [shalloran@lifewest.edu](mailto:shalloran@lifewest.edu) OR to [smhbizness@gmail.com](mailto:smhbizness@gmail.com). You will be sent an acknowledgement receipt.

You are not allowed to consult with classmates or any individuals *other than* the instructor as you research, prepare and compose your responses to the questions posed in this examination. Lecture content (slides) and your oral presentations are on MOODLE for you to use in preparing answers, in addition to access to the LCCW library, reference books and course text books, and on-line resources. Please proofread and organize your work and assemble the exam before submitting it.

Some answers require you to include a citation of the sources you consult to formulate your response. Format your citation according to MLA or APA standards. (If you wish, you can use the built-in Word feature that formats your references: under the References tab, use Insert Citation and fill in the fields as much as possible. Later you will use Bibliography->Insert Bibliography at the point of the cursor. You might learn how to use Section Break too in order to insert bibliographies under separate answers. I have put in section breaks in this document between questions.)

By working the examination and submitting it for grading you are agreeing to work independently of all other individuals and you are certifying that all the responses and answers to the examination questions are your own work.

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Within group A through C, choose ONE of any of the choices answer.  
Choose between D or E, and within D, choose ONE of any of the choices

* 1. Environmental Toxicants. Pick one from the three class of substances below and discuss exposure (places where it might be encountered), its toxicokinetics (ADME) and toxicodynamics (acute, chronic toxicity, effects on physiology and eliciting pathologies. You are allowed to focus on one compound in the class or discuss the toxicology of the class generally
     1. Polyaromatic hydrocarbons (PAHs)
     2. Pesticides—Insecticides: organophosphates
     3. Polychlorinated Biphenyls (PCBs)
  2. Food Toxicants.

1. Heterocyclic amines (HCAs) can form when meat is cooked often at charring temperatures. Find one compound in this class, discuss how it is formed in cooking and sources of exposure, and discuss effects of chronic toxicity, either in humans or animal studies
2. Sulfur dioxide (SO2) is added to wine during its production. Discuss what is known about acute and chronic toxicity and other toxicodynamic features. Can wine be produced without using it? Are there are alternatives
3. Food Coloring Dyes. FD&C Blue No. 1, Red No. 40, Yellow No. 5, and Yellow No. 6 are common additives to food. Pick TWO of these and discuss what is known about the effect on health and name one alternative to using the dye, comparing financial costs and effect on health.
   1. Drug-Nutrient Interactions. Select any of the drugs or drug classes below and explain how it affects diet (nutrient absorption). Either suggest an alternative drug and/or explain how an individual can compensate for any effect on nutrition
4. Laxatives
5. Antacids
6. Anticonvulsants

**You can do either D or E below**

* 1. Personal Care Products . Select one of the product types and the named compound usually contained in it. Discuss any facts on acute and chronic toxicity through dermal exposure, and discuss alternatives to
     1. Lipstick: lead acetate
     2. Antiperspirants: aluminum chlorohydrate
     3. Shaving Lotion: find a toxicant in the shaving lotion and discuss it
  2. Sexual dysfunction therapy. A medication for hypoactive sexual arousal disorder recently was in the news. This medication, flibanserin, is being called a “female Viagra.”  
     (a) Discuss the effect of the drug both at clinical and molecular level  
     (b) Discuss alternative therapies, including those in chiropractic medicine