

REQUEST FOR APPROVAL TO USE W-DESIGNATION

LSC # 14-95
Action App 10/23/14

COVER SHEET: Request for Approval to Use W-Designation

TYPE I. PROFESSOR COMMITMENT

- Professor Dr. Megan E. Knoch Phone 7-2613
- Writing Workshop? (If not at IUP, where? when?) 5/13/14-5/14/14
- Proposal for one W-course (see instructions below)
- Agree to forward syllabi for subsequently offered W-courses?

TYPE II. DEPARTMENT COURSE

- Department Contact Person _____ Phone _____
- Course Number/Title _____
- Statement concerning departmental responsibility _____
- Proposal for this W-course (see instructions below)

TYPE III. SPECIFIC COURSE AND SPECIFIC PROFESSOR(S)

- Professor(s) _____ Phone _____
- Course Number/Title _____
- Proposal for this W-course (see instructions below)

SIGNATURES:

UWUCC Gail Sedquist 10/28/14

Professor(s) Megan Knoch

Department Chairperson Bl... 10/20/14

College Dean ... 10/21/14

Director of Liberal Studies ... 10/23/14

COMPONENTS OF A PROPOSAL FOR A WRITING-INTENSIVE COURSE:

- I. "Writing Summary"--one or two pages explaining how writing is used in the course. First, explain any distinctive characteristics of the content or students which would help the Liberal Studies Committee understand your summary. Second, list and explain the types of writing activities; be especially careful to explain (1) what each writing activity is intended to accomplish as well as the (2) amount of writing, (3) frequency and number of assignments, and (4) whether there are opportunities for revision. If the activity is to be graded, indicate (5) evaluation standards and (6) percentage contribution to the student's final grade.
- II. Copy of the course syllabus.
- III. Two or three samples of assignment sheets, instructions, or criteria concerning writing that are given to students. Limit: 4 pages. (Single copies of longer items, if essential to the proposal, may be submitted to be passed among LSC members and returned to you.)

Please number all pages. Provide one copy to Liberal Studies Committee.
Before you submit: Have you double-checked your proposal against "The Liberal Studies Committee's Most Frequently Asked Questions"?

Received
 OCT 21 2014
 Liberal Studies

Writing Summary – BIOL 352 Comparative Physiology

Students in the Biology Department are required to take BIOL 352 if they are enrolled in the Pre-medical or the Pre-veterinary track. Students may also choose to take BIOL 352 as a controlled elective. The writing assignments in this course are intended to accomplish the following:

1. **Writing to stimulate thought:** Students in physiology are often confronted with a series of esoteric concepts pulled from several prerequisite courses. This course will encourage students to actively think about physiology concepts by requiring them to complete a series of 1-minute essays on lecture topics throughout the semester. To compound this problem of seemingly intangible concepts, physiology is also a jargon-laden course and the lack of an adequate vocabulary impairs student performance. In this course, students will develop a better vocabulary by keeping a glossary of unfamiliar terms, complete with their own uniquely written definitions, throughout the semester. These writing assignments are intended to better help students process the information that they are learning in lecture.
2. **Writing to understand peer-reviewed literature:** Students will complete a single journal article critique. This critique will be assigned at the beginning of the semester and is intended to introduce students to critically evaluating scientific literature. By summarizing the article, students will learn which components are necessary to construct a good article. Students will also be asked to assess the impact of the conclusion on the field of physiology. They will apply these skills to the laboratory reports that they will create.
3. **Writing to communicate results:** Students will be required to perform a series of guided laboratory activities as part of their course evaluation. These experiments will be formally written up as a laboratory report. This activity will provide students with practical training in disseminating scientific results in a style similar to professional reports published in peer-reviewed journals.
4. **Writing to synthesize ideas:** students will complete a short report describing the use of an animal model for better understanding human disease. Students will select a disease of interest (from a pool provided by the instructor) and will synthesize information from a variety of acceptable sources to discuss why the animal model is relevant to the human disease.

Summary Chart for Writing Assignments*

A. Writing Assignments					
Assignment Title	# of Assignments	# of total pages	Graded (Yes/No)	Opportunity for Revision (Yes/No)	Written Assignment represents what % of final course grade
Laboratory Reports	2	10-20	Y	Y	40%
One Minute Essays	7	7	N	N	7%
Article Critique	1	2-5	Y	N	10%
Mini-report	1	4-5	Y	N	10%
Totals	11	23-37	NA	NA	67%

B. Examinations (Complete only if you intend to use essay exams/short answers as part of the required number of pages of writing.)			
Exams	Approx. % of exam that is essay or short answer	Anticipated # of pages for essay or short answer, or approx. word count	Exam constitutes what % of final course grade
1.			
2.			
3.			
Totals			

**Total writing assignments should contain at least 5000 words (approximately 15-20 typed pages) in two or more separate assignments; written assignments should be a major part of the final grade—at least 50% or more.*

**BIOL 352: COMPARATIVE ANIMAL PHYSIOLOGY
SPRING 2014**

Instructor: Dr. Megan Knoch

Office #: 327

Telephone #: 357-2613

Lecture: T & R 12:30-1:45

Office hours: Tuesday 9:00 – 10:00 and 1:00-2:00; Wednesday 10:00-12:00; Thursday 2:00-3:00

Email: Megan.Knoch@iup.edu

Text Hill, Wyse, Anderson --Animal Physiology

Lab Manual - Handouts from Instructor

Objectives: Upon completion of this course, students will be able to

- 1) describe basic physiology processes, including chemical and physical processes, as they occur in vertebrate animals
- 2) compare how cellular physiology including cell membrane dynamics, nerve function, muscle function, and cell signaling events (chemical communication) contributes to homeostasis in vertebrates
- 3) compare the detailed functions of organ systems in vertebrates and how they maintain homeostasis in organismal physiological processes including osmoregulation, respiration circulation, and thermoregulation/metabolism.
- 4) use various writing activities to evaluate how organismal physiology allows vertebrates to adapt to a variety of environmental situations.

Grading	3 lecture exams	150 points
	Laboratory report	100 points each – 2 reports
	Mini-Report	50 points - 1 report
	One minute essays	35 points – 7 essays
	Glossary of terms	15 points – 3 glossaries
	Article critique	50 points – 1 critique

The lecture exams will consist of matching, short answer and essay questions. In general, most of the questions require you to understand concepts rather than detail. In other words, there is very little memorization and regurgitation of facts. Two laboratory reports will be completed during the course of the semester. The mini report will be based on a broad topic related to the lecture topics. It is meant to be an opportunity for you to learn more about a particular topic that we cover. The one minute essays will be during the class period and are intended to stimulate thought concerning a physiology topic. The glossary of terms and article critique assignments will be done outside of class. We will discuss these in more detail during the first class meeting.

Lectures	Topics	Reading (Chapter)
Jan 20	Introduction, Molecules & Membranes	1,2,3,4
Jan 27	Energy Metabolism/Temperature	6,7,8
Feb 3	Energy Metabolism/Temperature	9,10
Feb 10	Digestion/Absorption/Metabolism	5
Feb 17	EXAM I	
Feb 24	Blood & Circulation	23,24
Mar 3	Respiration & Acid-Base Balance	21,22,25
Mar 10	Water Balance & Excretion	26,27

Mar 17	<i>Spring Break – no class</i>	
Mar 24	Water Balance & Excretion	28,29
Mar 31	EXAM 2	
Apr 7	Movement and Muscles	18,19,20
Apr 14	Endocrine/Hormonal Functions	15
Apr 21	Nervous design and basic functions	11,12
Apr 28	Nervous design and basic functions	13,14
May 5	Nervous design and basic functions	17
7 May	EXAM 3 – 8:00-10:00	

Laboratories	Topics
Jan 20	No lab
Jan 27	Problem solving - membranes
Feb 3	Distribution of digestion enzymes (metabolism)
Feb 10	Peer review – lab reports
Feb 17	Plasma glucose lab/ Enzyme lab reports due
Feb 24	Peer review – lab reports
Mar 3	Circulation and respiration problem solving / Plasma reports due
Mar 10	Contractile vacuoles
Mar 17	<i>Spring Break – no class</i>
Mar 24	Peer review – lab reports
Mar 31	Paper discussion - Endocrine system/ Vacuoles lab reports due
Apr 7	Betta fish - Nervous system response
Apr 14	Peer review – lab reports
Apr 21	Housefly – sensory-motor integration/ Betta fish lab reports due
Apr 28	Final Housefly Sensory lab reports due by MAY 5

OVERVIEW OF LABS

The order of the laboratory exercises is tentative.

You will be required to write a report in the form of a scientific research paper for four of the laboratories. Grammar and spelling will be included as part of your final grade. The basic format for the written laboratory exercises is listed below.

During the lab experiments you will work in pairs or small groups. Papers may be turned in individually or as a group. There will be 2 lab reports and the first will be peer reviewed to establish expectations. These peer review opportunities will be double-blind and will also be included as part of your course grade. **Attendance for all labs is mandatory!**

Plagiarism on any of the assignments will not be tolerated and will result in no credit for the assignment. Further disciplinary action may be taken and will be at the discretion of the instructor. Be sure to cite every idea that is not your own original work. **Wikipedia and most other web sites are not reliable sources and cannot be counted as a citation.**

Writing Laboratory Exercises

Title and Author - The title should be relatively short but adequately reflect the nature of the experiment. If only one or two species of animals were used, include their names in the title. The title in the lab manual may not be the most suitable one! Your name and academic address should be included on the title page.

Abstract - This should be a very brief summary (*less than 100 words*) of the major results and conclusions, presented in point form. In some cases the abstract may indicate the type of experiment performed. It is often a good idea to draft an abstract before working on any other part of the paper - this will help you focus on the most important aspects of your data.

Introduction - This section should state the purpose or the objective of the experiment and very briefly describe the most pertinent background literature, cited by author and date. Include only strictly pertinent literature.

Materials and Methods - Should be described in sufficient detail that other workers can repeat the procedures exactly. For your first lab report, write out the M & M section completely, without referring to the lab manual, then check it against the manual to add the details you missed. In subsequent lab reports you may simply refer to the method in the lab manual and describe any significant modifications.

Results - Your raw data should be arranged into suitable tables and/or figures (graphs) that aid the reader in grasping your experimental results. Most people find graphic presentations easiest to interpret quickly but data can be presented more concisely in tabular form. Work up your raw data by calculating the appropriate physiological variable (e.g. calculate oxygen consumption as ml O₂/g/hr so that metabolic rate of all animals can be compared). Do not put all the measurements, body weights and times in the results section of your paper. The data can be further condensed by presenting only the mean plus or minus standard error for each set of data. Each graph or figure should have a title and legend. Figures need properly labeled coordinates with the independent variable on the x-axis and the dependent (experimental) variable on the y-axis.

The text of this section should describe the general findings and refer to the tables or figures by number. Avoid statements that merely repeat the title of the illustration - each statement should point out some key aspect of the results. Do not discuss any implications of the results in this section.

Discussion - This section should discuss the meaning or significance of the results, explain possible reasons for any unexpected results and relate your results to the literature on this topic. End this section with a summary paragraph.

References - List the references cited in the text alphabetically using the format of the Journal of Comparative Physiology. In general, the number of references should be around 10 but may be more extensive depending upon the project. *Please limit your use of textbooks as references to only 1 or 2 references per assignment.*

GENERAL LAB GUIDELINES:

Care of apparatus and cleanliness - Laboratory apparatus is expensive and in short supply, so please exercise caution in handling equipment. All apparatus and glassware should be cleaned at the end of the laboratory period, the bench area you used should be washed and any equipment malfunction or breakage should be reported. Any unclean lab ware will result in an automatic deduction of 5% from your lab report.

Corrosive and Dangerous Chemicals - You will be warned about any hazardous materials used in the lab and should use appropriate care in handling such materials. Clean apparatus carefully to prevent corrosion from chemicals. If you spill anything on your clothing flush with lots of water.

Animals - Always prepare your experimental apparatus before obtaining animals or animal tissues. Animal tissue must be disposed of properly.

Preparation for laboratories - You should read and think through the basic laboratory exercise prior to coming to your lab. As each laboratory will involve learning new techniques, as well as illustrating some important physiological principle, the labs will usually take 3 hours of carefully planned work. Preparation by reading the lab exercise will greatly improve your efficiency and reduce frustration.

Mini-Report

Comparative Diabetes Mellitus Writing Assignment

This should be no more than 2 pages in length, double-spaced and either 11- or 12-point font. Please check your writing for grammar and spelling. Use peer-reviewed literature to address the considerations below. I will allow the addition of 1 textbook as a citation source and keep in mind that it is important that you cite all sources for information in the paper. Avoid using Wikipedia and other web page-based sources to answer the following considerations.

Short writing assignments considerations:

1. Choose either mammalian the retina or the nephron and in your own words
 - a. Describe how it functions normally (15 points)
 - b. Explain pathophysiology of noninsulin dependent diabetes mellitus in this structure (15 points)
2. Compare the function of the structure that you described to the same structure in an avian model (10 points)
3. Hypothesize why birds do not suffer from noninsulin dependent diabetes mellitus and the pathological changes in this structure that occurs in humans (10 points)

CHECK LIST FOR WRITING-INTENSIVE PROPOSALS

The Liberal Studies Committee's Most Frequently Asked Questions,
Based on the Senate Criteria for Writing-Intensive Courses

For All Writing-Intensive Courses:

- Are the writing assignments integral parts of the course, rather than exercises that seem tacked on artificially? Are they assignments that promise to enhance student learning?
- Have you considered various forms of writing such as case studies, laboratory reports, journals, letters, memos, formal essays, research articles, project or grant proposals, and so forth?
- Does one of your course objectives explicitly mention the improvement of writing?
- Will you distribute written instructions, including criteria for evaluation, for major assignments?
- Will students receive guidance in conceiving, organizing, and presenting written material in ways appropriate to the subject being studied?
- Will students produce at least 5000 words (15-20 typed pages) of writing that you evaluate? Have you clarified this by giving us the minimum number of pages that you expect for each writing assignment?
- Are there at least two, and preferably more, different writing assignments?
- Will students revise at least one assignment after receiving your review comments?
- Does at least one assignment require students to produce finished, edited prose (as differentiated from whatever informal or draft writing you have included)?
- Are written assignments (in-class; out-of-class) worth at least 50% of the course grade?

For Type I (Professor Commitment) Writing-Intensive Courses:

- Have you attended a writing workshop either at IUP or elsewhere? [If not, have you indicated at least equivalent preparation based on such things as graduate education, teaching experience in writing courses, publications, conference attendance, or other professional activities?]

For Type II (Departmental) Writing-Intensive Courses:

- Does your "statement of departmental responsibility" explain how the department will ensure that the writing component is present regardless of who is teaching? Does it identify the specific department group or individual who is responsible for ensuring this?