BIOL 2655

Division: Natural Science and Mathematics
Department: Biology
Course: BIOL 2655
Title: Pathophysiology Laboratory
Catalog Description:

The laboratory portion of Pathophysiology provides hands on exercises that reinforce the major topics covered in the lecture portion of the course. This course must be taken concurrently with BIO 2650.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 1; Lecture: 0; Lab: 2
Clock/Hour Requirements: 0
Offered for Non-Credit: No
Prerequisites: BIOL 2420 (formerly BIOL 2610), BIOL 2425 (formerly BIOL 261L)

Corequisites: BIOL 2650

Justification:

Biology 2650 will prepare students in the allied health care fields to understand the dynamic changes in physiology that accompany injury and disease. Pathophysiology is a prerequisite for many programs at various state colleges and universities. For example, at Weber State University, pathophysiology is a prerequisite for practical and registered nursing, dental hygiene, emergency care and rescue, medical records and respiratory therapy. BYU also requires pathophysiology as a prerequisite for their nursing program.

Student Learning Outcomes:

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

- explain the processes involved in inflammation and fever
- explain the fundamentals of immunity and diseases of immunity
- recognize neoplasia (tumor formation) and explain benign versus malignant behavior
- identify major blood and cardiovascular disorders and explain underlying changes in normal physiology
- identify major respiratory, gastrointestinal, and renal disorders and explain underlying changes in normal physiology
- explain the consequences of endocrine dysfunction
- identify major skeletal and muscular disorders and changes in normal physiology
- identify major central nervous system disorders, sites of lesion and explain the altered physiology
- explain the physiological basis of pain and how to manage it
- identify wound types and explain factors affecting their production

Content:

This course includes:

- Case Studies - Genetics
- Histology - Neoplasia
- Case Studies - Neurophysiology
- Case Studies and Histology
    - Endocrine
    - Hematology
    - Cardiovascular
    - Pulmonary
    - Renal
    - Reproductive
    - GI
    - Muscle

General Education Outcomes:

1) Read effectively, constructively, and critically.
Students read the text throughout the course. Case studies and reports, test questions, discussions, etc. are evaluated on synthesis and critical thinking processes. Case studies will contain information concerning laboratory values and clinical manifestations consistent with pathologic processes and disease states. To successfully identify the pathophysiology involved, the student must be able to read effectively, constructively, and critically, correctly interpreting the information available in the textbook and other available resources, either in the library, on the Internet, or other sources. This will also be demonstrated in like manner in group discussions, reports, and test questions.

2) Write clearly, informatively, and persuasively.
Students will complete the case studies, including several short answer and essay questions. Over the course of the semester their case study reports and associated answers will be evaluated for skills in writing, including clarity, information content, persuasive presentation, as well as in the areas of reasoning, synthesis and critical thinking.

7) Apply scientific reasoning to a variety of contexts.
Students will demonstrate scientific reasoning throughout the various topics considered in course content in their responses to test questions, case study reports, discussions, etc. The student's responses will be evaluated for application of information, clarity of expression, and support of conclusions.

Key Performance Indicators:

Evaluation of performance will be based on

- case studies and lab reports: 80%
- final exam: 20%.

(Percentage values are approximate)

Representative Text and/or Supplies:

- Cook, *Biology 2655 Laboratory Manual,* current edition, self published or published by the Biology Department.

Optimum Class Size: 15
Maximum Class Size: 24

Signatures:

I hereby submit this course syllabus:

Allan Stevens, , Professor

I hereby find this course consistent with the goals and resources of the Biology Department:

Allan Stevens, , Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)