



**BIO205: Pathophysiology
Fall 2014**

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Office Hours: Wednesdays: 845a – 1245p

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COURSE DESCRIPTION:

Mechanisms of disease in humans. Emphasis is on dysfunction at cellular, tissue, and organ levels. Chemical, physical, and genetic stress factors are examined to understand how they affect human systems. (Prerequisites: Biology 103 and 104)

COURSE OBJECTIVES:

By the conclusion of this course, the student will be able to:

1. Understand genetic, cellular, and tissue adaptive responses to stress and injury.
2. Recognize the etiology and pathogenesis of common diseases.
3. Discuss the natural history and clinical manifestation of common diseases.
4. Describe the relationship between pathophysiological processes and alterations in body structure and/or function.

TEACHING METHODS:

Lecture, discussion, select audiovisuals.

TEXTBOOKS:

Required:

Porth, C. M. (2011). *Essentials of pathophysiology (3rd ed)*. Philadelphia, PA: Lippincott, Williams, & Wilkins.

REQUIRED SUPPLEMENTS:

iClicker™ Student Response System ~ Students must register their iClickers and complete the online training tutorial by the end of the first week of classes so that they are ready to earn points in class using this technology. Without completing these processes, they risk missing the opportunity to gain credit towards their final grades. Students must register their iClickers on the following website: www.iClicker.com. If an iClicker is registered for NUR212, it should also work for BIO205 and vice-versa.

iClickers are required for all students and will be used during class time. Students are required to bring their iClickers to class with them. It is the students' responsibility to make sure that their iClickers are working and that battery life is sufficient. At any time during class periods, students may be asked to respond to questions using their electronic iClickers. The iClicker questions may be administered at the beginning, at the end, or during the lecture with items derived from content learned during the previous class day and/or from assigned textbook readings/assignments for that day or previous classes. Students may not share, borrow, or exchange iClickers with each other or they risk paying the penalty for cheating (refer to a later discussion on "Academic Honesty").

Students will earn points for in-class quizzing. If a student misses class, or part of a class, there will be no opportunity to make up missed items. Students who miss a class for a verifiable serious illness, emergency, educational trip, or varsity sporting event may not be held liable for missed points on those days. Please note that these cases must be verified as appropriate. Whether or not the absence is considered excusable is left to the discretion of the course faculty.

EVALUATION:

Course grades are based on the following numerical equivalencies:

A = 93-100	C = 73-76.99
A- = 90-92.99	C- = 70-72.99
B+ = 87-89.99	D+ = 67-69.99
B = 83-86.99	D = 63-66.99
B- = 80-82.99	D- = 60-62.99
C+ = 77-79.99	F = Below 60

Course Grades:

Exams (3) - Individual grade (10% each)	30%
Exams (3) - Group grade (5% each)	15%
Final Exam – Individual grade only	20%
Group Work/Assignments (in-class)	15%
Group Disease Process Presentation	10%
iClicker Questions	10%

Examinations:

Three examinations and a cumulative final examination will be administered in class. Students will be allotted the entire class/testing period to take the examinations.

Group Disease Process Presentations:

Each student group will develop a PowerPoint presentation which will be presented in class on a disease process of their own choosing. The presentation will focus on a disease, which may be either a common disease or an obscure disease, as long as the disease is not discussed in detail during classroom lectures (refer to topical content to determine which diseases should be excluded). Any student group that wishes to discuss

his/her selection of a disease with the course faculty is welcome to do so. Faculty approval of the chosen disease is required.

Required elements for presentation:

- Powerpoint presentations – 10 minutes to present; maximum length 15 slides (not including Title Slide and Reference Slide)
- References – minimum of 3 peer-reviewed/evidence-based references (at least 1 journal article; may use textbook as one reference). Sources such as *Wikipedia* or other non-reviewed websites may not be used; websites relevant to the disease process or treatment may be used (ie: American Cancer Society’s website: <http://www.cancer.org/index>; Center for Disease Control’s website: <http://www.cdc.gov/>)

Required elements of the presentation include the following:

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| • General characteristics of the disease | 15% |
| • Risk factors (as appropriate) | 15% |
| ○ Genetic factors | |
| ○ Disease transmission | |
| • Clinical manifestations | 15% |
| • Disease progression/course of the disease | 20% |
| • Prevention, treatment and prognosis | 15% |
| • Format, style and creativity/visual appeal | 10% |
| • References | 10% |

COURSE ATTENDANCE POLICY:

Students are expected to attend class but will not merit extra points for class attendance, nor have points deducted for lack of attendance. However, some classes will consist of group work or assignments and/or quizzes that may count toward students’ course grades. Additionally, iClicker responses to questions administered during some classes count toward students’ final grades. Students are expected to review assigned concepts prior to class in preparation for class, and review relevant concepts from Anatomy and Physiology prior to class lectures if necessary. Students who are experiencing course-related difficulty should consult the course faculty in a timely and constructive manner.

ACADEMIC HONESTY:

Academic honesty in all course-related assignments is an expectation of the course faculty. Students who cheat on iClicker responses, quizzes or other examinations will receive a zero for that day’s activities/assignments. It will be assumed that students who text or use smart/cell phones during exams are cheating. For this reason, students will place all of their personal belongings, including cell phones, against the outer walls of the classroom and away from the testing seats during exams. Students found using technology during exams will receive a grade of zero on the examination. In addition, students who cheat will be prosecuted in accordance with policies outlined in the *Moravian College Student Handbook*.

LEARNING DISABILITIES:

Students who wish to request accommodations in this class for a disability must contact Ms. Elaine Mara, assistant director of academic support services for academic and disability support, at the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

ACCREDITATION EVIDENCE:

The Moravian College nursing program is accredited by the Commission on Collegiate Nursing Education. As part of the accreditation process the program must provide evidence of assignments completed by students. Any of the methods of evaluation used in this course, may be used as evidence of student assignments during the accreditation process.

It is within the instructor's purview to apply qualitative judgment in determining grades for an assignment or for the course.

The syllabus is subject to change at the discretion of the instructor.

*****Prepare prior to class days by reviewing PowerPoint and reading related material *****

August 25/27 th	Overview of Course Introduction of Key Terms Cellular Responses to Stress, Injury and Aging Inflammatory Response Cell Proliferation and Tissue Regeneration and Repair <u>Readings:</u> Porth, Introduction Section (xix-xxiv) and Chapters 2, 3 and 4
September 1 st /3 rd	Genetic Control of Cellular Function and Inheritance Genetic Disorders <u>Readings:</u> Porth, Chapters 5 and 6
September 8/10 th	Neoplasia White Blood Cell and Lymphoid Tissue Disorders <u>Readings:</u> Porth, Chapter 7 and 11
September 15/17 th	Disorders of Hemostasis Red Blood Cell Disorders <u>Readings:</u> Porth, Chapters 12 and 13
September 22 nd	EXAM #1
September 24/29 th	Mechanisms of Infectious Disease Immunity and Immune Response Disorders <u>Readings:</u> Porth, Chapter 14, 15 and 16
October 1 st /6 th	Cardiovascular Function Disorders of Blood Flow and Blood Pressure Disorders of Cardiac Function Heart failure and Circulatory Shock <u>Readings:</u> Porth, Chapters 17, 18, 19 and 20
October 8 th	Respiratory Function and Respiratory Tract Infections

Obstructive Airway Disorders

Readings:

Porth, Chapters 21, 22 and 23

October 13th

FALL BREAK

October 15th/20th

DISEASE PROCESS PRESENTATIONS

October 22nd

NO CLASS - *Attendance at evening Sipple Lecture mandatory*

October 27/29th

Kidney Function

Acute Renal Failure and Chronic Kidney Disease

Gastrointestinal Function and Disorders

Readings:

Porth, Chapters 24, 26, 28 and 29

November 3rd

EXAM #2

November 5th

Hepatobiliary Function

Endocrine Control and Disorders

Diabetes Mellitus and Metabolic Syndrome

Readings:

Porth, Chapter 30, 31, 32 and 33

November 10/12th

Neural Function and Somatosensory Function/Pain

Neuromuscular Function Disorders

Brain Function Disorders

Readings:

Porth, Chapters 34, 35, 36 and 37

November 17th

Disorders of the Male Genitourinary System

Disorders of the Female Genitourinary System

Readings:

Porth, Chapter 39 and 40

November 19th/24th

Skeletal System Function and Disorders

Metabolic and Rheumatic Disorders

Readings:

Porth, Chapters 42, 43, and 44

November 26th FALL BREAK

December 1st EXAM #3

December 3rd Review for Final Exam

Final Examination: Wednesday, December 10th at 830am