

**Hartwick College**  
**BIOL 344 – Pathophysiology Online**

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**Virtual Office Hours**

- All office hours can be set up by appointment
- Email is the best way to contact me. I typically check my email multiple times per day and will get back to you by the end of that day.

**Course Description**

This 3-credit course examines specific diseases from a physiologic and developmental perspective. Mechanisms of disease, etiology, manifestations, analyses of laboratory data and primary medical and surgical interventions are reviewed. This content serves as a foundation for addressing therapeutic interventions related to specific disease states.

Prerequisites: Intro biology, Intro chemistry

**Overview**

Online Pathophysiology course is designed to examine specific diseases from a physiologic and developmental perspective. Mechanisms of disease, etiology, manifestations, analyses of laboratory data and primary medical and surgical interventions are reviewed. This content will serve as a foundation for addressing therapeutic interventions related to specific disease states.

Student-centered learning aids about the most essential and challenging concepts in pathophysiology are embedded in the online modules to enhance learning and mastery of the content; graphics to clarify the content, animations to define pathophysiologic processes in a dynamic way.

**Course Structure**

This course will be delivered entirely online through the Hartwick College course management system, Desire2Learn (D2L) with the textbook as a companion. **This course will be run asynchronously, meaning that each week you will be given a new set of prerecorded lectures along with assignments and an exam.**

**D2L**

You will use your Hartwick College account to login to D2L portal: <https://d2l.hartwick.edu>. At designated times throughout the course, you will be required to take quizzes, exams, and submit assignments through D2L.

IT support for D2L: call the Technology Resource Center (TRC) at 607-431-4357, M-F 9-5, or email [technology@hartwick.edu](mailto:technology@hartwick.edu). There is no on-call assistance during nights and weekends. For a total D2L system failure, contact the switchboard.

Schedule for assignments, quizzes, and unit exams is posted on D2L. ***The instructor will not remind individual students about the due dates and course schedule.***

### **Required Textbook**

- Understanding Pathophysiology, 6<sup>th</sup> edition, by Sue E. Huether. ISBN: 9780323354097

### **Additional (optional) resources**

- Study guide for G for Understanding Pathophysiology, 6<sup>th</sup> edition. ISBN: 9780323370455
- Elsevier Adaptive Quizzing for Understand Pathophysiology (eCm) 6. ISBN: 9780323429108

### **Course Objectives**

1. Discuss alterations in cellular activity that result in common pathophysiological problems, including biochemical basis.
2. Develop an awareness for the extent to which a disruption in one area of the body affects other areas, both in terms of compensatory mechanisms and disease progression.
3. Interpret disease processes as clinical manifestations of their etiologies.
4. Describe therapeutic interventions appropriate for selected disorder discussed.

Students will meet the objectives listed above through a combination of the following activities in this course:

PPT Lectures posted on D2L, recorded lectures (Google drive), reading assignments, quizzes, exams, completing assigned homework (see rubric on D2L).

### **Course Requirements**

1. Get your book and online access before the first day of class.
2. Consistent access to high-speed internet connection (DSL, LAN, or cable connection) is required.
3. Access to DesireToLearn (D2L). Quizzes/exams may only work if pop-ups are enabled.
4. Students are expected to participate in all online activities as listed on the course calendar.

5. Assignment deadlines are expected to be met according to Eastern Standard Time.
6. Students are expected to complete all assigned readings and quizzes by the due date and time.
7. No extension in submission time for exams, quizzes and other assignments would be granted. If you miss the due date, you will get a score of zero.
8. If unable to take a scheduled exam because of documented illness or emergency, faculty member must be contacted prior to exam time or a zero will be earned.
9. Be sure to pay close attention to deadlines—there will be no make-up assignments or quizzes, or late work accepted without a serious and compelling reason and instructor approval.
10. All assignments for this course will be submitted electronically through D2L unless otherwise instructed. Assignments must be submitted by the given deadline or special permission must be requested from instructor *before the due date*. Extensions will not be given beyond the next assignment except under extreme circumstances.
11. Points you receive for graded activities will be posted to the D2L Grade Book.

**Link to recorded lectures on Google drive:**

Because the recorded lecture files are large, I am required to post them on Google drive where you can download them and watch. You must login using your Hartwick email address (@hartwick.edu). DO NOT use a personal email address as it WILL NOT work.

The link:

[https://drive.google.com/drive/folders/1Spr61R18WcpL7LD6j46VKelt7VQg\\_XC8?usp=sharing](https://drive.google.com/drive/folders/1Spr61R18WcpL7LD6j46VKelt7VQg_XC8?usp=sharing)

**Course Evaluation**

Unit exams	120 pts each
Quizzes	5 pts each
Homework	5 pts each (see homework rubric on D2L for details)
Case study presentation	50 pts

**Quiz/exam/homework assignment information**

- **Quizzes:** for each chapter there will be a 5 question multiple choice quiz. For each quiz, you will get 8 minutes to complete. DO NOT open the quiz until you are ready to take it. Once you open it, the timer will start. After 8 minutes your answers will automatically be submitted and graded. You will only have one opportunity to take each quiz.
- **Exams:** for each week there will be an exam covering ALL of the chapters that were covered during that week. Each exam contains 60 questions and you will be allotted **75 minutes** to take the exam. DO NOT open the exam until you are ready to take it. Once

you open it, the timer will start. After 75 minutes, your answers will automatically be submitted and graded. You will only have one opportunity to take each exam.

- **Homework assignments:** No homework assignments will be accepted after the deadline.
- **Case study:** Each student will receive the short case study which will include factors such as, age, diagnosis or clinical manifestations, medications prescribed or indicated, lab values to interpret or values to expect. Examples of questions for the group to address could include demonstration of knowledge of pathophysiologic processes of the disease, etiology, clinical manifestations, risk factors, treatments, lab values that are commonly effected or not effected, how pharmacologic treatment works in relation to the pathophysiology, how complications develop. Scholarly sources should be utilized.
  - o Each student will be given 10 minutes to present their analysis of case study scenario questions and should record their presentation. The student will demonstrate:
    - a. understanding of the biochemical processes with the associated pathophysiology
    - b. ability to correlate the pathophysiology with the disease clinical manifestations, laboratory data, interpretation of the laboratory data,
    - c. recognition and analysis of cues, prioritizing hypotheses related to the case, and generation of solutions

## Grading

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Grade	Percentage
A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%

D	60-66%
F	0-59%

## **Course Policies**

### **Academic Adjustments and/or Modifications**

Students must present an updated Academic Plan Letter in order to be eligible for academic adjustments.

Hartwick College is committed to upholding and maintaining all aspects of the Federal Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. If a student with a disability wishes to request academic adjustments, they should contact Lara Sanford, Director of AccessAbility [AccessAbilityServices@hartwick.edu](mailto:AccessAbilityServices@hartwick.edu). AccessAbility Services is located on the 5<sup>th</sup> floor of Yager Hall in the Center for Student Success. Any information regarding a student's disability will remain confidential. Requests for academic adjustments should be made as early as possible.

### **Verification of Identity Statement**

The following links will provide you with the policies that relate to some of your obligations in this online course and the College's obligations in protecting your identity and educational record. It is your responsibility to review these policies and comply with your obligations. In taking the course, you agree that all work submitted under your name through D2L or other means is your own work; submitting someone else's work or having someone else complete assignments, discussions, papers, or tests violates Hartwick's Academic Honesty Policy. Sharing your username and password with someone else is a violation of the Appropriate Use Policy. The person who has registered for the course must be the same person who participates in and completes the course and receives the grade and academic credit for it.

### **Academic Honesty Policy**

<http://www.hartwick.edu/academics/academic-support-services/office-of-academic-affairs/academic-honesty-policy>

### **Appropriate Use Policy**

<http://www.hartwick.edu/about-us/why-hartwick/technology/information-technology/technology-policies/user-policy>

### **FERPA Policy**

## Topics covered

- Genes/genetic disease
  - o Down Syndrome
  - o Turner Syndrome
  - o Klinefelter syndrome
- Fluids/electrolytes
  - o Edema
  - o Alterations in sodium, potassium, chloride, calcium, phosphate, magnesium
- Acids/bases
  - o Metabolic acidosis/alkalosis
  - o Respiratory acidosis/alkalosis
- Innate/adaptive immunity and disorders
  - o Bacterial infections, viral infections (including HIV), fungal infections
  - o Hypersensitivity
- Stress
- Cancer
  - o Biology of cancer
  - o Epidemiology of cancer
- Nervous system function/disorders
  - o Pain, Temperature, Sleep, and Sensory Function
  - o Dementia, Alzheimer's, seizures, Parkinson's, Huntington's, ALS, Traumatic brain injury
- Endocrine function/disorders
  - o Diabetes mellitus/insipidus, diseases of the pituitary gland, thyroid disorders, parathyroid disorders, adrenal disorders
- Hematologic disorders
  - o Anemia (iron-deficient, pernicious, folate-deficient, aplastic, hemolytic)
  - o Increased/decreased levels of white blood cells
  - o Leukemias
  - o Lymphomas
  - o Platelet disorders
- Cardiovascular and lymphatic function/disorders
  - o Hypertension
  - o Hypotension
  - o Aneurysm
  - o Thrombus/Embolism
  - o Atherosclerosis
  - o Coronary artery disease (MI, angina)
  - o Valve disorders
  - o Hypertrophy
  - o Heart Failure
- Pulmonary function/disorders

- o Pneumothorax
- o Pulmonary edema/ARDS
- o Asthma
- o Emphysema
- o Bronchitis
- o COPD
- o Tuberculosis
- o Lung Cancer
- Renal/urinary function/disorders
  - o Kidney stones
  - o Overactive bladder
  - o UTI
  - o Glomerular disorders
  - o Acute tubular necrosis
  - o Acute Kidney injury
  - o Chronic kidney injury
- Male/female reproductive function/disorders
  - o Puberty disorders
  - o Hormonal and Menstrual Alterations
  - o Pelvic inflammatory disease
  - o Endometriosis
  - o Polycystic ovary disease
  - o Benign Prostatic Hyperplasia
  - o Priapism
  - o Erectile dysfunction
- Gastrointestinal function/disorders
  - o Anorexia
  - o Bulimia
  - o Nausea/vomiting
  - o Diarrhea/constipation
  - o Dysphagia
  - o GERD
  - o Gastric/duodenal ulcers
  - o Malabsorption syndromes
  - o Colitis
  - o Crohn disease
  - o Celiac's Disease
  - o IBS
  - o Diverticulitis
  - o Appendicitis
  - o Obesity
  - o Liver disorders
    - Jaundice
    - Cirrhosis
    - Hepatitis
  - o Gallbladder disorders

- o Pancreatic disorders
  - Pancreatitis
- Musculoskeletal function/disorders
  - o Fractures
  - o Sprains/strains
  - o Rhabdomyolysis
  - o Malignant hyperthermia
  - o Osteoporosis
  - o Osteoarthritis
  - o Rheumatoid Arthritis
  - o Gout
  - o Fibromyalgia
- Integumentary function/disorders
  - o Pressure ulcers
  - o Pruritis
  - o Contact dermatitis
  - o Psoriasis
  - o Acne
  - o Bacterial skin infections
  - o Fungal infections
  - o Urticaria
  - o Skin cancer
  - o Burns
  - o Disorders of the hair

**Important Note:** *This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check D2L for corrections or updates to the syllabus. Any changes will be clearly noted in course announcement or through D2L email.*