Course Description
Course explores cellular functions and pathology and the changes that occur within the human body as a response to various disease processes. Discusses the role of the professional nurse in the management of specific health problems across the lifespan.

Course Prerequisites
Chemistry, Anatomy and Physiology, Microbiology, and NRSG 30000 Professional Nursing Theory, Roles, and Practice.

Course Objectives
Upon successful completion of this course, students will be able to:
1. Specialized Knowledge:
   Define the role of the professional baccalaureate-prepared nurse in caring for the patient experiencing physiological alterations in the body.
2. Intellectual Skills:
   Synthesize the knowledge from the natural and behavioral sciences in describing normal and abnormal pathophysiological processes across the life span.
3. Applied Learning:
   Incorporate an understanding of the alterations in the physiological function of the body to the clinical presentation of signs and symptoms.
4. Civic Learning:
   Identify societal and ethical issues/trends related to the treatment and management of common pathological disorders.
5. Personal Learning:
   Identify and reflect upon additional learning resources as it relates to the influence of genetics to disease processes commonly encountered in their current practice setting and/or area of interest.

Required Text

ISBN: 978-0-323-07891-7
**Descriptions and Schedule At-A-Glance**

You will have several opportunities to demonstrate your knowledge and understanding of the principles taught in this course. The primary means of evaluating your work will be through practical application of the material. In the event that you have difficulty completing any of the assignments for this course, please contact your instructor immediately. Please refer to the **Weekly Materials** section of the cyberclassroom for complete details regarding the activities and assignments for this course. The following is merely a summary.

**Discussion contributions (160 points)**  
(six postings per week @ 20 points per week)

**Initial Substantive Posts:** Submit an initial response to each of the prompts provided each week by your instructor. Your initial post should be substantive (approximately ½ of a page in length) and must be posted by midnight, Central Time by Wednesday of each week. In your substantive post you are encouraged to use references (you may use your textbook); show evidence of critical thinking as it applies to the concepts or prompt and/or use examples of the application of the concepts to work and life. Proper punctuation, grammar and correct spelling are expected. Please use the spell-check function.

**Required Replies:** You must reply to at least two different peers per prompt. Your replies should build on the concept discussed, offer a question to consider, or add a differing perspective, etc. Rather than responding with, "Good post," explain why the post is "good" (why it is important, useful, insightful, etc.). Or, if you disagree, respectfully share your alternative perspective. Just saying "I agree" or "Good idea" is not sufficient for the posts you would like graded.

**Posting Guidelines:** Overall, postings must be submitted on at least two separate days of the week. It is strongly recommended you visit the discussion forum throughout the week to read and respond to your peers’ postings. You are encouraged to post more than the required number of replies.

(Please review the **Policies** section of Blackboard for further details.)

<table>
<thead>
<tr>
<th>Week 1</th>
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<tr>
<td><strong>Readings</strong></td>
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</table>
| • Review the weekly lesson, videos and readings provided in the course.  
  • Chapter 1: Cellular Biology  
  • Chapter 3: Altered Cellular and Tissue Biology |
| **Discussion** |
| • Initial post to each prompt due by midnight, CT on Wednesday  
  • At least two replies to peers for each prompt due by midnight, CT on Sunday |
| **Assignment(s)** | **Case Study 1** |
| Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.  
  1. Explain why oxygen (O<sub>2</sub>) can easily cross a plasma membrane, whereas sodium ions (Na<sup>+</sup>) are unable to cross a plasma membrane. |

Last Updated: October 2013
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<td><strong>2.</strong> Identify 2 metabolic pathways that generate ATP and describe how they differ.</td>
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<td><strong>3.</strong> Kyle is a 4-year-old with lead toxicity. What signs and symptoms would you expect to find at assessment?</td>
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<td><strong>4.</strong> Mr. Smith is 76. He comes in reporting that he just cannot do what he used to do and laughs that his body is getting older. He asks you about the normal changes associated with aging.</td>
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Due: Sunday at Midnight, CT  
Points Possible: 50

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### Week 2

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<th><strong>Readings</strong></th>
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| - Review the weekly lesson, videos and readings provided in the course.  
- Chapter 5: Innate Immunity: Inflammation and Would Healing  
- Chapter 6: Adaptive Immunity |

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<th><strong>Discussion</strong></th>
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| - Initial post to each prompt due by midnight, CT on Wednesday  
- At least two replies to peers for each prompt due by midnight, CT on Sunday |

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<tr>
<th><strong>Assignment(s)</strong></th>
<th><strong>Case Study 2</strong></th>
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<tr>
<td>Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.</td>
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1. Mr. Jones became infected with the HIV virus on Friday night. The following Monday, he donated a unit of blood. The blood will be screened for the presence of HIV using an antibody test. Will his blood test be positive for the virus? Why or why not?  

2. Judi Smith, age 5, is about to receive a vaccine during her regular check-up. Explain to her mother why she needs this "shot."  

3. Discuss the difference between active and passive adaptive immunity. |

Due: Sunday at Midnight, CT  
Points Possible: 50

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### Week 3

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<th><strong>Readings</strong></th>
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| - Review the weekly lesson, videos and readings provided in the course.  
- Chapter 7: Infections and Defects in Mechanism of Defense  
- Chapter 8: Stress and Disease |

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| - Initial post to each prompt due by midnight, CT on Wednesday  
- At least two replies to peers for each prompt due by midnight, CT on Sunday |

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<tr>
<th><strong>Assignment(s)</strong></th>
<th><strong>Case Study 3</strong></th>
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<tr>
<td>Read the following case studies below and answer the following</td>
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questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.

1. Discuss the reason people with acquired immune deficiency syndrome (AIDS) are more likely to develop opportunistic infections when compared with healthy individuals. Include the cells that are involved with AIDS in your answer.

2. Paul is diagnosed with community-acquired pneumonia and is prescribed antibiotic therapy. How might the antibiotic therapy combat this disease?

3. You are caring for a 29-year-old woman who is married and has two small children, aged 1 and 3, at home. She is recuperating from a left lower lobectomy for bronchogenic carcinoma. Although her chest x-rays show full lung expansion, she has a persistent air leak and continues to need a chest tube to suction and hospitalization. On the sixth postoperative day, she is sad, withdrawn, and not eating. She states that she does not feel she will ever get better or go home. How might her coping responses affect her recovery?

4. Ann is a 64-year-old diabetic who recently experienced the death of her mother. Now she is caring for her father, who is demanding and becoming confused. To complicate matters, Ann must care for her own teenage children and is working full time. For several weeks, Ann has noticed an increase in her blood sugar levels when she tests her late afternoon glucose. Can you explain what is happening to Ann?

Due: Sunday at Midnight, CT
Points Possible: 50

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<th>Week 4</th>
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| **Readings** | Review the weekly lesson, videos and readings provided in the course.  
Chapter 9: Biology, Clinical Manifestation and Treatment of Cancer  
Chapter 10: Cancer Epidemiology |
| **Discussion** | Initial post to each prompt due by midnight, CT on Wednesday  
At least two replies to peers for each prompt due by midnight, CT on Sunday |
| **Assignment(s)** | **Case Study 4** |
| | Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission. |
| | 1. Ms. Johanson and Mr. Tompkins both have lung cancer. She has a grade I tumor of the lung and he has a grade IV tumor. Identify the similarities and differences between these tumors.  
2. How would angiogenesis and invasion influence tumor growth |
3. Mr. Thompson, a construction worker, has been employed by the same southeast Alabama firm for more than 30 years. He is fair skinned and has blue eyes. Discuss Mr. Thompson's relative risk for developing skin cancers.

Due: Sunday at Midnight, CT
Points Possible: 50

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### Week 5

**Readings**

- Review the weekly lesson, videos and readings provided in the course.
- Chapter 14: Alteration in Cognitive System, Cerebral Hemodynamics and Motor Functions
- Chapter 15: Disorders of the Central and Peripheral Nervous System and Neuromuscular Junction

**Discussion**

- Initial post to each prompt due by midnight, CT on Wednesday
- At least two replies to peers for each prompt due by midnight, CT on Sunday

**Assignment(s)**  

**Case Study 5**

Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.

1. Sherry, a 2-year-old, is brought to the emergency department by her parents after she suffers a seizure. They report she has been healthy and has not had any prior seizure activity. What are the potential reasons for this seizure? What diagnostic tests do you anticipate that Sherry will require?

2. Injury to the extrapyramidal motor system does not cause paralysis of voluntary movement and general spasticity. Explain why and discuss the major motor symptoms that present in extrapyramidal motor disorders.

3. Mrs. Frances presented to the emergency department following a grand mal seizure. Her family reports that she has never had a seizure before, but over the past several months, she has complained of multiple headaches and has become more irritable. She has a CT scan of her head, which showed a large brain tumor in her frontal lobe with multiple small tumors in other areas of her brain. There is concern that she may have a grade IV glioblastoma multiforme. A neurosurgeon is called who explains that to treat this condition she will need surgery, radiotherapy, and chemotherapy. He also explains that these tumors are difficult to treat and the median survival time is approximately 1 year. Explain why this type of tumor is so difficult to treat.

Due: Sunday at Midnight, CT
Points Possible: 75
## Week 6

| Readings | • Review the weekly lesson, videos and readings provided in the course.  
• Chapter 17: Mechanisms of Hormonal Regulation  
• Chapter 18: Alterations of Hormonal Regulation |
|---|---|
| Discussion | • Initial post to each prompt due by midnight, CT on Wednesday  
• At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s) | **Case Study 6**  
Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.  

1. Mr. Jones has polyuria with a urine volume of 8 L/day. His urine specific gravity is 1.02. His serum sodium (Na\(^+\)) is 150, and his plasma osmolality is 300 mOsm/kg. He is always asking for more cold liquids to drink. What type of hormonal alteration is Mr. Jones exhibiting? What are some possible causes of this alteration?  

2. Make a chart and analyze the differences in pathophysiology between type 1 diabetes mellitus and type 2 diabetes mellitus.  

3. Mrs. Johnson is admitted to your unit with tachycardia, fever, agitation, and diarrhea. She also has a history of pneumonia. She is also upset at the recent death of her mother. She is not on any medications, yet her diagnosis is thyrotoxic crisis. She asks you to explain what is happening to her.  

Due: Sunday at Midnight, CT  
Points Possible: 50 |

## Week 7

| Readings | • Review the weekly lesson, videos and readings provided in the course.  
• Chapter 19: Structure and Function of the Hematologic System  
• Chapter 20: Alterations of Hematologic Function |
|---|---|
| Discussion | • Initial post to each prompt due by midnight, CT on Wednesday  
• At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s) | **Case Study 7**  
Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.  

1. Ms. Blankenship has iron deficiency anemia. She recently had a total abdominal hysterectomy. Her postoperative hemoglobin is 8.0 mg/dl, and her hematocrit is 25%. She states that she has been anemic for years. What clinical findings are commonly associated with iron deficiency anemia? |
2. Mr. Jones was in a motorcycle accident yesterday. His injuries included a pelvic fracture and a right femur fracture. The nurse practitioner wrote an order this morning to give him heparin injections three times daily. Why does Mr. Jones need heparin at this time?

3. Albert is a 16-year-old who has been treated for the past year for acute lymphocytic leukemia. He arrives in the emergency department with an altered level of consciousness, low-grade fever, and purulent urine. His father states Albert reported pain on urination that morning. You require two attempts to start his intravenous catheter and detect that he continues to bleed from these needle sticks after 5 minutes with hematoma formation at the first site. You suspect that Albert has developed disseminated intravascular coagulation (DIC). What diagnostic tests would be required?

4. Brenda is diagnosed with pernicious anemia. She asks you to explain how she contracted this disease and why she has to get "shots" to improve the number of erythrocytes in her blood; she also wonders how long she will need to have these injections.

Due: Sunday at Midnight, CT
Points Possible: 50

### Week 8

| **Readings** | Review the weekly lesson, videos and readings provided in the course.  
|             | Chapter 23: Alterations of the Cardiovascular  
|             | Chapter 24: Alterations of the Cardiovascular System in Children |
| **Discussion** | Initial post to each prompt due by midnight, CT on Wednesday  
|             | At least two replies to peers for each prompt due by midnight, CT on **Saturday** |
| **Assignment(s)** | **Case Study 8**  
|             | Read the following case studies below and answer the following questions. Be sure to structure your response in an essay form in APA style. Include a title and reference page in your submission.  

1. Robert is a 3-year-old who arrives in the clinic with a recent history of fever of 102 degrees F/39 degrees C and irritability. His mother states that she thought he had "picked up a virus" and had been treating his fever with ibuprofen with little effect. This morning upon awakening, he has reddened eyes, the mucous membranes of his mouth are very bright red, as are his lips, and his lips are cracked. The palms of his hands and the soles of his feet are also very red, and he has a red rash on his trunk. What is the most likely cause of his illness and how would you explain this to his mother? What would you tell her about the treatment of this condition and the prognosis?
2. Mr. Black is a 56-year-old truck driver who comes to the clinic with reports of lower leg pain when he walks more than half a block. This pain recedes with rest but is initiated again with activity. What assessments of Mr. Black would you make related to this?

Due: Saturday by midnight, CT
Points Possible: 50

* All online weeks run from Monday to Sunday, except the last week, which ends on Saturday.
** All assignments are due at midnight Central Time. (All submissions to the Blackboard system are date/time stamped in Central Time).

Assignments At-A-Glance

<table>
<thead>
<tr>
<th>Assignment/Activity</th>
<th>Qty.</th>
<th>Points</th>
<th>Total Points</th>
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<tbody>
<tr>
<td>Weeks 1-8: Discussion*</td>
<td>-</td>
<td>20 per week</td>
<td>160</td>
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<tr>
<td>Week 1-8: Case Study</td>
<td>8</td>
<td>50</td>
<td>400</td>
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<tr>
<td><strong>TOTAL POINTS</strong></td>
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<td><strong>560</strong></td>
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*Please refer to the Policies menu for more information about requirements for Discussions.

Grading Scale

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Points</th>
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<tr>
<td>A</td>
<td>90 to 100%</td>
<td>504 - 560</td>
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<tr>
<td>B</td>
<td>80 to 89%</td>
<td>448 - 503</td>
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<tr>
<td>C</td>
<td>70 to 79%</td>
<td>392 - 447</td>
</tr>
<tr>
<td>D</td>
<td>60 to 69%</td>
<td>336 - 391</td>
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<tr>
<td>F</td>
<td>&lt; 60%</td>
<td>&lt;335</td>
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To access your scores, click on Grades in the Student Tools area in Blackboard.

Important Policies
All course-specific policies for this course are spelled out here in this syllabus. However, additional university policies are located in the Policies section of Blackboard. You are responsible for reading and understanding all of these policies. All of them are important. Failure to understand or abide by them could have negative consequences for your experience in this course.

Expected Time Commitment
Coursework for accelerated courses requires 12-15 hours of independent work each week. Some students may complete coursework in fewer hours and some students may require additional hours beyond the estimate. Careful consideration should be given to this estimate when planning your personal schedule.

Editorial Format for Written Papers
All written assignments are to follow the APA writing style guidelines for grammar, spelling, and punctuation. This online course includes information regarding the APA style under “Writing and Research Resources” in the Resource Room on the course menu in Blackboard.
Ottawa Online Late Policy

With instructor approval, assignments may be accepted for up to one week after the due date, but a minimum automatic deduction of 10% of the points will be assessed. The instructor also has the option of increasing this deduction percentage up to a maximum of 20%. Extenuating circumstances may be determined on rare occasions and an extension allowed without a deduction, but only at the sole discretion of the instructor.

Discussion board postings will not be accepted for credit when posted after the close of the discussion week. There are no exceptions to this rule; however, solely at the discretion of the instructor, the student may be allowed to submit an alternative assignment to make up for the points under extenuating circumstances. If granted, this should be an exception to the rule.

No assignments will be accepted after the last day of the course (end of term) unless arrangements have been made and "approved" by the instructor at least one week in advance.

Saving Work

It is recommended that you save all of your work from this course on your own computer or flash drive. The capstone course you take at the end of your program may require you to have access to this work for culminating assignments and/or reflections.

Academic Honesty

Academic Honesty means, at the minimum, that work submitted by a student or the taking of examinations by the student is the original work of that student. Ottawa University does not condone any form of dishonesty. Academic dishonesty includes cheating on examinations or assignments (including any attempt to give or obtain assistance in a formal academic exercise without prior authorization and due acknowledgment), using student’s original work for more than one course without prior approval from the instructor; representing the work of another as one’s own; plagiarism; the falsification of data, information, or citations in any formal academic exercise; providing false information to an instructor concerning a formal academic exercise, and/or supplying false information pertaining to the student’s academic program. Penalties for cheating on examinations and plagiarism can be failure in the course in which the dishonesty has occurred and/or dismissal from the University.

If academic dishonesty is suspected, the instructor of the course will make recommendation to the local Dean of Instruction for action. The local Dean of Instruction will work with the instructor to seek resolution of the incident, including conference with the student to review evidence and related materials. The local Dean of Instruction will make the decision concerning penalties for the student accused of academic dishonest, which may include failure in the course, withdrawal of semester credits, and/or dismissal from the University.

Please refer to Academic Honesty in the Policies section of the online course menu for important information about Ottawa University’s policies regarding plagiarism and cheating, including examples and explanations of these issues.
Student Handbook
Please refer to your student handbook for all university regulations. The Resource Room on the course menu in Blackboard contains information about where to find the student handbook online for your campus.

Please see Policies in Blackboard for additional university policies.

Blackboard Technical Support
The Resource Room in Blackboard contains links to student tutorials for learning to use Blackboard as well as information about whom to contact for technical support. Ottawa University offers technical support from 8 a.m. to midnight Central Time for all students, staff, and faculty at no cost. See www.ottawa.edu/ouhelp for contact information.

Ottawa University Mission Statement
The mission of Ottawa University is to provide the highest quality liberal arts and professional education in a caring, Christ-centered community of grace which integrates faith, learning and life. The University serves students of traditional age, adult learners and organizations through undergraduate and graduate programs.