Week 1: Cellular Processes and the Genetic Environment

One of the more common biology analogies refers to cells as the “building blocks” of life. This rightfully places an emphasis on understanding cells, cellular behavior, and the impact of the environment in which they function.

Such an understanding helps explain how healthy cell activity contributes to good health. Just as importantly, it helps explain how breakdowns in cellular behavior and alterations to cells lead to health issues.

This week, you examine cellular processes that are subject to alterations that can lead to disease. You evaluate the genetic environments within which these processes exist as well as the impact these environments have on disease.

Learning Objectives

**Students will:**

* Evaluate cellular processes and alterations within cellular processes
* Evaluate the impact of the genetic environment on disease

Learning Resources

**[Required Readings](https://class.content.laureate.net/9588e8b5e32c29bea591b02ec5c156eb.html" \l "section_container_1716881496-accordion-417)**[(click to expand/reduce)](https://class.content.laureate.net/9588e8b5e32c29bea591b02ec5c156eb.html" \l "section_container_1716881496-accordion-417)

**[Required Media](https://class.content.laureate.net/9588e8b5e32c29bea591b02ec5c156eb.html" \l "section_container_1716881496-accordion_copy-422)**[(click to expand/reduce)](https://class.content.laureate.net/9588e8b5e32c29bea591b02ec5c156eb.html" \l "section_container_1716881496-accordion_copy-422)

Discussion: Alterations in Cellular Processes

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At its core, pathology is the study of disease. Diseases occur for many reasons. But some, such as cystic fibrosis and Parkinson’s Disease, occur because of alterations that prevent cells from functioning normally.

Understanding of signals and symptoms of alterations in cellular processes is a critical step in diagnosis and treatment of many diseases. For the Advanced Practice Registered Nurse (APRN), this understanding can also help educate patients and guide them through their treatment plans.

For this Discussion, you examine a case study and explain the disease that is suggested. You examine the symptoms reported and explain the cells that are involved and potential alterations and impacts.

**To prepare:**

* By Day 1 of this week, you will be assigned to a specific scenario for this Discussion. Please see the “Course Announcements” section of the classroom for your assignment from your Instructor.

By Day 3 of Week 1

Post an explanation of the disease highlighted in the scenario you were provided. Include the following in your explanation:

* The role genetics plays in the disease.
* Why the patient is presenting with the specific symptoms described.
* The physiologic response to the stimulus presented in the scenario and why you think this response occurred.
* The cells that are involved in this process.
* How another characteristic (e.g., gender, genetics) would change your response.

**Read** a selection of your colleagues’ responses.

By Day 6 of Week 1

**Respond** to **at least two** of your colleagues on **2 different days**and respectfully agree or disagree with your colleague’s assessment and explain your reasoning. In your explanation, include why their explanations make physiological sense or why they do not

***Note:****For this Discussion, you are required to complete your initial post before you will be able to view and respond to your colleagues’ postings. Begin by clicking on the "Post to Discussion Question" link and then select "Create Thread" to complete your initial post. Remember, once you click on Submit, you cannot delete or edit your own posts, and you cannot post anonymously. Please check your post carefully before clicking on****Submit!***