

Scholar of Global Distinction Program

Course

General Biology BIO 111

Authors

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Course Description

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, molecular and cellular biology, metabolism and energy transformation, genetics, evolution, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels.

Number of Students Enrolled in Course:

Limited to 11 in seated sections during the pandemic; up to 25 for online sections

Module Description

The goal is to expand the module on viruses and the immune system to include a more in-depth investigation into global reactions to the COVID-19 pandemic, particularly by comparing the United States with countries from Latin America. Normally, this module includes a discussion on emerging viruses for which students investigate such a disease and report on its basic epidemiological characteristics. However, as the issue of COVID-19 warrants focusing solely on SARS-CoV-2, students will examine the evolution of the virus and interact with their peers on how the global pandemic has been handled in the USA compared to countries in Latin America through a discussion forum, and the analysis of cartoons.

Student Global Learning Outcomes:

1. Analyze cultural differences by making constructive comparisons between the USA and countries in Latin America in terms of the responses to the COVID-19 pandemic.
2. Interpret Latin American reliable visual sources as indicators of cultural perspectives.

Global Learning Activities:

Activity 1: Discussion of SARS CoV-2 as an Emerging Virus that Caused a Global Pandemic

It is safe to say that the COVID-19 (coronavirus 2019) pandemic, caused by the spread of the SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), grabbed the most headlines in both 2020 and 2021. For this class discussion, you will:

1. Clarify the relationship between COVID-19 and SARS-CoV-2 and provide brief details on the virus: How did the virus first evolve? How is it thought to have spread to the USA and Latin America?
2. Describe signs and symptoms of the disease in humans and other host organisms;
3. Explain why it is considered to be "emerging" (Remember to consult lecture presentations and your textbook to help you clearly understand what an emerging virus is.);
4. Explain how the virus *became* an emerging virus in Latin America and North America (i.e., What actions/occurrences facilitated its spread?);

Remember that the Biological Science Database should be your primary database for finding peer-reviewed, scholarly, scientific journal articles to support the points you make: <https://stanly.libguides.com/nclive#B>.

The Friday after the due date for the initial post, respond (with respectful, conversation-stimulating insights and connections) to two other posts, as assigned randomly in Canvas (click the header for the initial discussion assignment to view to whom you are assigned to respond). In each response, ask one EQ (Essential Question)-style question (see the Introductory Notes in the Course Resources module to review the description of an EQ) that requires the author to respond with critical thinking/analysis that deepens their and your understanding of the points being made. Ask a different EQ for each of your peers. (Do not pose EQs to classmates before Friday as the random assignment of peers to review is made after the due date for the initial post. You will lose points if you do not pose EQs to the classmates to whom you are assigned. Also, do not add comments or grade your peer's post with the rubric - these are default settings for peer review that I have not found a way to change. Post your EQs by replying to the appropriate classmates within the discussion thread). By Monday after the due date for the initial post, go back and respond, in detail with supporting examples, to the questions classmates posed to your post. Be sure to post all EQs and responses within the discussion thread - not in the "Assignment Comments."

Activity 2: Analyze two of the fifteen cartoons [from this document](#).

Read the first page of the document and then respond to the prompts that appear on the same page as each cartoon, posting your replies to those prompts as part of your initial post within the discussion thread.

Select a cartoon or an image from a country in Latin America related to the COVID-19 pandemic and compare it to one of the 2 cartoons you chose (*a list of cartoons from both continents will be provided to the students. See Resources section*). How are they similar or different? Below are some example cartoons. You may have to translate some of them, but many can be mostly understood with just the drawing. Use Google Translate, or something similar to get the idea of any text in your cartoon. Here are some examples (You may also search "caricaturas politicas covid 19" to find more.):

<https://www.prensalibre.com/opinion/caricatura/corona-virus/>

<http://rondapolitica.com.mx/en-el-trazo-del-maestro-carlos-orantes-3/>

<https://elcomercio.pe/somos/fotos/humor-politica-y-coronavirus-las-mejores-caricaturas-de-andres-edery-en-somos-este-2020-aptz-noticia/>

<https://razonpublica.com/caricaturas-del-3-agosto/>

<https://www.elsalvador.com/entretenimiento/cultura/caricatura-de-ruz-covid19-arte-periodismo/813684/2021/>

Now, investigate the country from which the cartoon you found originated, and discuss their response to the pandemic in terms of policies on quarantining, masks and vaccinations. How do they compare to those in the USA?

Remember to use specific examples to support the points you make. Parenthetically cite published information referenced within your posts (initial and responses to classmates), and include a full bibliographic citation in APA (American Psychology Association) format at the end of your post (see semester project guidelines for how to properly cite sources).

Activity 3: Investigate Treatment Options for SARS CoV-2/COVID-19

Discuss what treatment options exist for people infected with the virus.

Compare health care systems in Latin America and North America as they relate to handling logistics of education about, treatment of and vaccination against COVID-19.

Remember to use specific examples to support the points you make. Parenthetically cite published information referenced within your posts (initial and responses to classmates), and include a full bibliographic citation in APA (American Psychology Association) format at the end of your post (see semester project guidelines for how to properly cite sources).

Here are some potentially helpful peer-reviewed, scholarly, scientific journal articles:

- Aburto, J. M., PhD. (2021). The need for all-cause mortality data to aid our understanding of the COVID-19 pandemic in Latin America. *American Journal of Public Health, 111*(10), 1721-1722.
- Bates, B. R., Tami, A., Carvajal, A., & Grijalva, M. J. (2021). Knowledge, attitudes, and practices towards COVID-19 among Venezuelans during the 2020 epidemic: An online cross-sectional survey. *PLoS One, 16*(4)
doi:<http://dx.doi.org/10.1371/journal.pone.0249022>
- Pablos-Méndez, A., Vega, J., Fernando, P. A., Tabish, H., & Raviglione, M. C. (2020). Covid-19 in Latin America. *BMJ: British Medical Journal (Online), 370*
doi:<http://dx.doi.org/10.1136/bmj.m2939>
- Sarria-Guzmán, Y., Bernal, J., De Biase, M., Muñoz-Arenas, L., C., González-Jiménez, F. E., Mosso, C., . . . Fusaro, C. (2021). Using demographic data to understand the distribution of H1N1 and COVID-19 pandemics cases among federal entities and municipalities of Mexico. *PeerJ*,
doi:<http://dx.doi.org/10.7717/peerj.11144>
- Urrunaga-Pastor, D., Herrera-Añazco, P., Uyen-Cateriano, A., Toro-Huamanchumo, C., Rodriguez-Morales, A., Hernandez, A. V., . . . Bendezu-Quispe, G. (2021). Prevalence and factors associated with parents' non-intention to vaccinate their children and adolescents against COVID-19 in Latin America and the caribbean. *Vaccines, 9*(11), 1303.
doi:<http://dx.doi.org/10.3390/vaccines9111303>

Here are some potentially helpful books:

- Berger, S. 2021. *COVID-19, MERS and SARS: Global Status*. Gideon Informatics, Incorporated.

- Parveen, S. ed. 2021. *The COVID-19 Pandemic: Epidemiology, Molecular Biology and Therapy*. Bentham Science Publishers.
- World Bank. 2020. *The Human Capital Index 2020 Update : Human Capital in the Time of COVID-19*. World Bank Publications. <https://ebookcentral-proquest-com.proxy169.nclive.org/lib/stanly-ebooks/detail.action?docID=6606068>.

Here are some potentially helpful websites:

- <https://www.oecd.org/coronavirus/policy-responses/covid-19-in-latin-america-and-the-caribbean-an-overview-of-government-responses-to-the-crisis-0a2dee41/>
- <https://ilas.columbia.edu/podcasts>
- <https://isa.unc.edu/podcasts/>
- <https://www.statista.com/statistics/1101643/latin-america-caribbean-coronavirus-cases/>
- <https://www.paho.org/en>

Resources and references used in the creation of the module in addition to those listed above (e.g. books, articles, etc.):

https://www.choices.edu/wp-content/uploads/2021/07/AnalyzingCartoons_Covid.pdf

Students will find their own resources through our library's databases, as well.

Activity 4: Bonus Discussion on SARS-CoV-2/COVID-19 Vaccines

Given the hot topic of the COVID-19 vaccines, I decided to add a bonus discussion to anyone who wishes to participate, learn more about this topic and earn bonus points while at it!

Review the articles at the following links:

- <https://www.cdc.gov/vaccines/covid-19/hcp/mrna-vaccine-basics.html>
- <https://www.acsh.org/news/2020/11/20/rna-less-stable-dna-because-one-lousy-oxygen-atom-15149>
- <https://www.acsh.org/news/2020/11/17/are-placebo-controlled-vaccine-trials-ethical-once-vaccine-approved-15154> (Links to an external site.)

Respond to any and/or all of the articles with your impressions on the details discussed and any questions you have about them.

- Answer these questions to form a more global view on these vaccines:
- How have reactions to the SARS-CoV-2 vaccines compared between the USA and Latin American countries? (You may choose to focus on comparing the USA to one Latin American country.)
- How were the vaccines distributed in these countries?
- How do rates of vaccination compare in these countries?

- What have been the infection and death rates due to SARS-CoV-2 in these countries since vaccines became available?
- What did you find to be the most significant factors contributing to the situations in each country with respect to questions a-d?

Respond to peers as we typically do for discussions with EQs and then your responses to EQs asked of you. Remember to use specific examples to support the points you make and to cite sources of information, too. Some of the recommended sources from our previous, related activities regarding COVID-19 in the Americas may also be helpful here. Remember that the Biological Science Database from the SCC Learning Resource Center should be your primary database for finding peer-reviewed, scholarly, scientific journal articles to support the points you make:

<https://stanly.libguides.com/nclive#B>.

As always, please ask me any questions you have about this assignment. I am looking forward to a discussion that stimulates a ton of critical thinking on the most talked-about topic of 2020 & 2021!

[Note the relationship between COVID-19/SARS-CoV-2; Coronaviruses are a general group of many different viruses that cause the common cold and pneumonia, as well. (COVID-19 = Coronavirus Disease 2019; SARS-CoV-2 = Severe Acute Respiratory Syndrome-Coronavirus-2, which is the virus that causes COVID-19.)]

Maximum of 50 points earned for responding to all three articles and the indicated global perspective prompts, asking two distinct Essential Questions (EQs) of two different classmates and responding to the two EQs asked of you.

Activity 5: Make Your Own Quiz on COVID-19 in the Americas

In order to review the concepts we have covered pertaining to SARS-CoV-2/COVID-19 in the Americas throughout this course:

- Create a five-question quiz on concepts you learned from the discussion posts, questions, etc. contributed by your classmates.
- Create the answer key for your quiz.
- Cite (in APA format) all sources of information for your quiz and answer key.