Integrating Online Multimedia Simulations from BIOinteractive into a Secondary Biology Classroom

Unit 1: Introduction to Simulations and BIOinteractive

Unit 1 Learning Objectives:

-Learners will be able to navigate around the BIOinteractive website

-Learners will be able to locate the interactive simulations and describe the educational purpose of the website

Unit 1 Learning Activities:

-Google Forms with multiple choice and short response answers to the various questions about the features found on BIOinteractive

Unit 2: Learning Affordances of Simulations and BIOinteractive

Unit 2 Learning Objectives:

- Learners will be able to describe the benefits of the BIOinteractive website

-Learners will be able to understand the importance of technology and multimedia simulations and explain the connection to guided-inquiry based learning

-Learners will be able to assess the effectiveness of a BIOinteractive interactive simulation by reflecting on the experience and measure student understanding utilizing the formative assessment results from within the simulation

Unit 2 Learning Activites:

-Google Forms with multiple choice and short response answers about what learning affordances technology and simulations offer

-Journal response answering: How can I plan to use this website in my classroom? How might my students benefit from using BIOinteractive?

Unit 3: Applying BIOinteractive to my own classroom

Unit 3 Learning Objectives:

-Learners will be able to instruct students on how to complete a BIOinteractive simulation

-Learners will be able to select an applicable simulation to be used in their biology classroom to supplement student learning

-Learners will be able to assess the effectiveness of a BIOinteractive interactive simulation by reflecting on the experience and measure student understanding utilizing the formative assessment results from within the simulation

Unit 3 Learning Activities:

- Completion of graphic organizer that uses the UbD framework to breakdown learning objectives, learning activities and assessments that will be used within the lesson

-Checklist to guide BIOinteractive lesson construction

-Self-reflective journal answering the prompt: “How has BIOinteractive increased student engagement? Explain how this simulation has augmented students’ understandings

Course Learning Outcomes:

-Understand what BIOinteractive, inquiry based learning and interactive simulations are

-Understand the benefits of using BIOinteractive simulations in the classroom and how it engages students in deeper learning with regards to Bloom’s taxonomy

-Explain how BIOinteractive multimedia simulations can be used to supplement student learning and promote scientific understandings in their own classroom

-Apply what they learned from this mini-course to design a lesson, using the UbD method, that utilizes digital platforms (ex: BIOinteractive) and interactive laboratory activities for students in their classroom by the end of this course