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Page 1: After reviewing the LB iLearn course, complete the following questions based on your expertise.

Q1 What is the name of the course you are evaluating?

BI 102 15.0

Q2 Describe the background, expertise, experience, qualifications and education that make you qualified as a Subject Matter Expert to review this course.

B.S. in Biology and Chemistry, PhD in Molecular Virology and Microbiology, taught Introduction to Microbiology for 5 years, and Pathogenic Microorganisms Laboratory course for three years.

Q3 Are the outcomes for the course appropriate to what students should be able to do or know to be successful in the profession and/or field?

Yes,

Explain.:
Yes, but none of the outcomes are about memorization and there is a LOT of memorization. Also there is much more detail than is necessary (or healthy) for a 100-level introductory course. It feels like a brain dump of everything I ever learned about or connected to cells in undergrad crammed into one course. I felt like I was being plunged into one topic, then pulled out immediately just to be plunged into the next. I shudder to think what happens with a student who is not familiar with any of this material and is told they should move through each credit unit in seven days. They are essentially taking a general chemistry, a biochemistry, a molecular biology, a cellular biology, and a genetics course all in one. These are some of my favorite topics in biology, and I find it is very hard myself to not share all of the amazingly cool stuff that this all is – so is there a way to build in "not-required tangents" for the deeper content?

Q4 Do the skills taught in the course prepare students for the profession?

Yes,

Explain:

I really love how many activities there are for the students to do at home, and I was happy to see the "if you want to" instructions for students to figure out which cell processes were represented in the Cell Structure and Function: Awesome Video – I'd almost suggest for that to be a formal assignment for the course e.g. provide a worksheet with spaces for all of the different interactions; pre-fill any that are not discussed in the course; provide students with options for the rest, and ask for how they decided which was which…but this gets into some of the detail that I think is a bit much for an introductory course. I would definitely recommend adding some more examples of how the micro stuff correlates with the macro stuff that students see or experience – kind of like bringing them up for air occasionally to catch their breath and get their bearings.

Q5 Does the course holistically contain appropriate content related to the profession?

Explain:

The content is related to the profession, but I'd say the level and/or amount of information is too much for an introductory course. Consider ways to leave out content while simultaneously emphasizing the absence, e.g. when talking about cells, specify that you will be focusing only on eukaryotic cells and every time a statement is made (cells use mitochondria to produce energy) that is not true for all cells, include a statement/image that "this is not true for prokaryotic cells" (I did notice the plant, animal, and bacterial cell images - and absence of bacterial cell image – I worry that this subtle difference/pattern will be lost on students who are already overwhelmed with the content). Students who are grasping the material may take the time to find out what the difference is, while students who are already struggling with the content can focus on learning only the gads of info about eukaryotic cells while knowing that something else which isn't eukaryotic exists. Side note: some images in slide presentations were small and text in the images was illegible. Consider having a way for student to download the files, or enlarge/zoom in on images.

Q6 What recommendations so you have for improvement that would make the course better align with the profession?

As was mentioned in the course, it is difficult for students to connect with cellular and molecular processes because they aren't readily 'seen'. I would recommend providing macro-scale outcomes (e.g. Siamese cat, hydrangea color) right up front, using the specific underlying processes to highlight the principles, then give student other scenarios and the 'moving pieces' and ask students to propose hypotheses for how the pieces could fit/work together to cause the outcomes. Rather than memorizing the names of structures or processes, help them recognize and understand the processes so that they can apply them – so even if they don't remember the name of something they can still demonstrate their understanding of that something (e.g. I don't remember if this is called hypotonic or hypertonic, but I do know that water will flow this direction and cause the cell to ...).

Q7 What content needs to be developed to meet upcoming industry needs?

I would say no more *content* needs to be developed for this course. More emphasis on applying principles and scientific theories would be beneficial, and stronger intentional linkage between the early content and the later content would go a long way in helping students connect the micro with the macro.