Past Information: Several years ago, I sat in on Dwain’s PHY131 course, which was not linked with calculus at the time. I journaled, did homework, and took the first two exams. I attempted to keep up with the material to try and understand it. This was a huge struggle for me because I cannot SEE electric and magnetic fields. For me, concepts in PHY121 are much easier to grasp.

In Fall 2016, I taught in the calculus II/physics II learning community for the 1st time (MAT231/PHY131). I really struggled with making connections between the two courses and had to rely heavily on Dwain to do this. Dwain would guide me on when I would need to do calculus for his physics concepts. Not only did Dwain have me incorporate calculus II into the curriculum, but we also brought in calculus III. Physics II students not only need calculus II concepts, but they also need double integrals, partial derivatives, and gradient which come from calculus III.

In Fall 2017, I taught with Dwain again, and STILL struggled with making the connections to physics (yes – I am a slow learner). While I understand the math, I still struggle with physics concepts. But again, Dwain assisted with when I would need to make connections with students.

Current Information: In Spring 2018, my comfort level has been much better with what to expect and how to intertwine physics II with calculus II and III material. Dwain and I worked together to determine the best flow of calculus concepts so that he could tie in the applications with physics.

Changes I have made from the 1st two semesters are as follows: updated workbook to flow more with concepts Dwain needs in physics, added 2 calculus labs which tie into physics, had one problem on each exam jointly graded by Dwain and me, emphasized conceptual form of Taylor Polynomials, and I have been able to make more connections to physics for students without the aid of Dwain (but I still need his help!).

As previously stated, we have also brought in calculus III concepts into this 2nd semester course. I mention this because Dwain and I are currently covering the calculus III courses. The calculus III students are currently learning (as of 4/10/18) double and triple integrals. We noticed **100% of the students who took the 2nd semester learning community last semester (Fall 17) knew how to solve these problems**. All of the former learning community students are helping other students with these concepts!

Future Information: In Fall 2018, I will be updating the workbook again with more integration of physics. I am also teaching calculus III and will be able to provide more physics applications for students so they can conceptualize mathematics.