Mc Graw Hill connect®

Dual Enrollment Case Study

West Virginia University

Expanding Access, Ensuring Rigor, and Scaling Dual Enrollment Biology Across West Virginia

Challenge

Delivering a Consistent College-Level Experience Across Diverse High School Environments

Solution

McGraw Hill Connect and McGraw Hill Virtual Labs with *Biology: Concepts and Investigations* by Mariëlle Hoefnagels Evergreen Release

Result

Expanding Access While Maintaining Academic Standards

> **Connect has created a rigorous base for my curriculum. I know the students are getting the same experience no matter where they may be located or which instructor they have."**
>
> –Dr. Jennifer Ripley Stueckle



Dr. Jennifer Ripley Stueckle

Teaching Professor, Non-Majors Biology Program Director, ACCESS Early College Program for General Biology Director

The Challenge

West Virginia University's ACCESS Early College Program in Biology serves dual enrollment students from more than 15 high schools across the state each year. Students earn college credit while still in high school by completing General Biology I (BIOL 101 and BIOL 101L) in the fall and General Biology II (BIOL 102 and BIOL 102L) in the spring.

The program serves a diverse student population. Many participants attend rural schools where dual enrollment courses represent the only opportunity to earn college credit before graduation. Other students choose the program instead of Advanced Placement coursework. Regardless of location or school resources, all students earn the same university credit and are expected to meet the same academic standards.

This created a significant challenge for Dr. Jennifer Ripley Stueckle.

Because dual enrollment courses were delivered by high school instructors with varying academic backgrounds and teaching experiences, maintaining consistent rigor across all sections became increasingly difficult. Differences in grading practices, assignment deadlines, and instructional expectations raised concerns about whether students were receiving a truly equivalent college-level experience.

> **"The inability for me to control the rigor of the curriculum concerned me because I wasn't sure the students were receiving the knowledge base they should be gaining from the course,"** said Dr. Ripley Stueckle.

The challenge extended beyond consistency. Biology serves as a foundational prerequisite for many health science and allied health programs, making it essential that students develop a strong understanding of core concepts before advancing to more specialized coursework.

Affordability and accessibility were equally important considerations. Many participating schools have limited resources, and students often face financial barriers that make expensive textbooks, laboratory equipment, and supplemental learning tools unrealistic options.

Dr. Ripley Stueckle needed a solution that would maintain academic rigor, ensure equitable learning experiences, expand access for rural students, and remain affordable for schools and families.



The Solution

To address these challenges, Dr. Ripley Stueckle implemented McGraw Hill Connect with Virtual Labs across the dual enrollment biology curriculum.

Using Connect, she designed and standardized four complete courses: BIOL 101, BIOL 101L, BIOL 102, and BIOL 102L. The platform allowed her to establish common learning objectives, assessments, deadlines, and grading standards for all participating schools.

Connect's extensive assessment library enabled her to create engaging coursework without relying on repetitive assignments. Students encounter a variety of learning activities designed to reinforce key concepts and maintain engagement throughout the semester.

A particularly important component of the implementation has been Connect Virtual Labs.

Prior to adopting Connect, laboratory experiences were often limited by the substantial costs associated with purchasing and maintaining laboratory equipment. Many schools simply could not afford to offer comprehensive biology labs.

Connect Virtual Labs transformed that model by providing realistic, interactive laboratory experiences that closely mirror in-person activities while eliminating the financial burden of outfitting traditional laboratories.

> **"No competitor has even come close in the six years that I have been using the Virtual Labs,"** Dr. Ripley Stueckle said. **"They are excellent and exactly mimic the in-person lab exercises."**

To further enhance engagement and scientific literacy, Dr. Ripley Stueckle incorporates a combination of Connect resources, including:

- Virtual Labs, which provide interactive laboratory simulations that build confidence and comprehension through hands-on experimentation.
- BioNow Videos, which connect biological concepts to real-world applications through engaging demonstrations and assessments.
- Graphing Interactives, which help students develop data analysis, critical thinking, and scientific reasoning skills through authentic biological datasets.

As program director, Dr. Ripley Stueckle builds and manages the master Connect courses, ensuring consistency across all participating schools. New instructors receive onboarding and training support through McGraw Hill, allowing them to quickly become effective users of the platform while maintaining alignment with program expectations.

The result is a highly scalable model that allows West Virginia University to deliver a consistent college experience to students regardless of geography or school resources.



The Results

Since implementing Connect, Dr. Ripley Stueckle has gained greater confidence that all students are receiving the same rigorous educational experience.

> **"Connect has created a rigorous base for my curriculum. I set the learning goals, the deadlines, and the assessments. I know the students are getting the same experience no matter where they may be located or which instructor they have."**

Today, more than 300 students from 15 or more high schools enroll in a single Connect course section, enabling Dr. Ripley Stueckle to directly monitor student progress, performance, and adherence to program standards.

The platform has also made significant program growth possible. Without Connect, the logistical burden of overseeing multiple instructors and ensuring curriculum consistency would have limited expansion.

Learning Gains and Academic Performance

Although students are now held to more consistent college-level expectations, academic outcomes remain strong.

During Fall 2025, dual enrollment students achieved learning gains and course averages that met or exceeded those of their on-campus peers.

Measure	177 On-Campus Students	248 Dual Enrollment Students
BIOL 101 Learning Gain	0.77	0.84
BIOL 101L Learning Gain	0.53	0.64
BIOL 101 Grade Average	88.5%	90.6%
BIOL 101L Grade Average	84.6%	85.7%

The data demonstrates that dual enrollment students not only maintained performance comparable to on-campus students but exceeded on-campus averages in both learning gains and course grades. These results suggest that the standardized curriculum, assessments, and learning experiences delivered through Connect effectively support student achievement across diverse educational settings.

Expanding Access to Laboratory Science

Connect Virtual Labs have played a critical role in increasing access to biology coursework across rural West Virginia.

By eliminating the need for costly laboratory equipment, schools that previously lacked the resources to offer laboratory science courses can now provide students with a comprehensive college-level experience.

Faculty participating in the program consistently praise the realism and accuracy of the simulations, and many integrate additional discussion and instruction around the lab activities.

Dr. Ripley Stueckle has also observed increased student participation and confidence.

Students appreciate the guided nature of the Virtual Lab experience, which helps them successfully complete laboratory activities while building confidence in their scientific skills. This increased comfort level has contributed to growing interest and enrollment in the program.

> **"I know the students are getting the same experience no matter where they may be located or which instructor they have."**

Conclusion

For Dr. Ripley Stueckle, Connect has become a critical tool for advancing West Virginia University's dual enrollment mission.

Connect provides an affordable, accessible, and customizable framework that ensures students across the state can participate in rigorous college coursework regardless of their school's size, location, or resources.

As the program continues to expand, Dr. Ripley Stueckle hopes to bring more rural schools into the initiative and further increase opportunities for students to earn college credit while still in high school.

> **"Connect provides an affordable, customizable platform to ensure the delivery of a rigorous curriculum in an equitable fashion."**

She also highlights the value of McGraw Hill's partnership and support.

> **"McGraw Hill support will solve your problems. They answer questions, solve issues, and do it in a timely manner."**

When asked what she would tell other instructors or administrators considering Connect, her answer is direct:

> **"No other platform compares. It's user friendly, completely customizable, and offers a variety of assessments matched by none."**

About Dr. Jennifer Ripley Stueckle

Dr. Jennifer Ripley Stueckle has served as a Teaching Professor and Non-Majors Biology Program Director at West Virginia University for the past 18 years. Throughout her career, she has taught introductory biology, immunology, and human physiology while leading initiatives that expand access to higher education. As Director of the ACCESS Early College Program for General Biology, she oversees the delivery of dual enrollment biology courses to high school students throughout West Virginia, helping prepare the next generation of college and healthcare professionals.

About West Virginia University

West Virginia University is a public land-grant research university committed to expanding educational opportunity and student success across the state. Through its ACCESS Early College Program, the university partners with high schools throughout West Virginia to provide students with access to college-level coursework, helping them earn university credit, reduce future college costs, and build confidence for continued academic achievement.

