TOP HAT

Creating A Course That's Always *Current:*

How 4 Professors Redefined Their Teaching with Interactive Content

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Engaging, so Engage every student with equitable learning

In today's ever-changing, ever-updating world, students want content that is current and that they can relate to.

For years, educators have had to rely on slow-to-update textbooks that quickly become outdated and less reflective of modern students. Today, you should have full autonomy over the content you deliver to your students. That's where Top Hat comes in. Our interactive content empowers you to make any textbook your own—down to the individual words, media and assessments that appear in the text. Taking advantage of personalized and inclusive learning material better prepares students for their careers and makes their education more meaningful.

These inspiring educators have turned to Top Hat—and aren't looking back. They've authored textbooks on our platform to make learning more personal, inclusive and representative of a new generation of students.

Here are their stories.

Activating brain power to boost exam scores

Meaghan Altman

Instructor of Integrative Neuroscience
Binghamton University

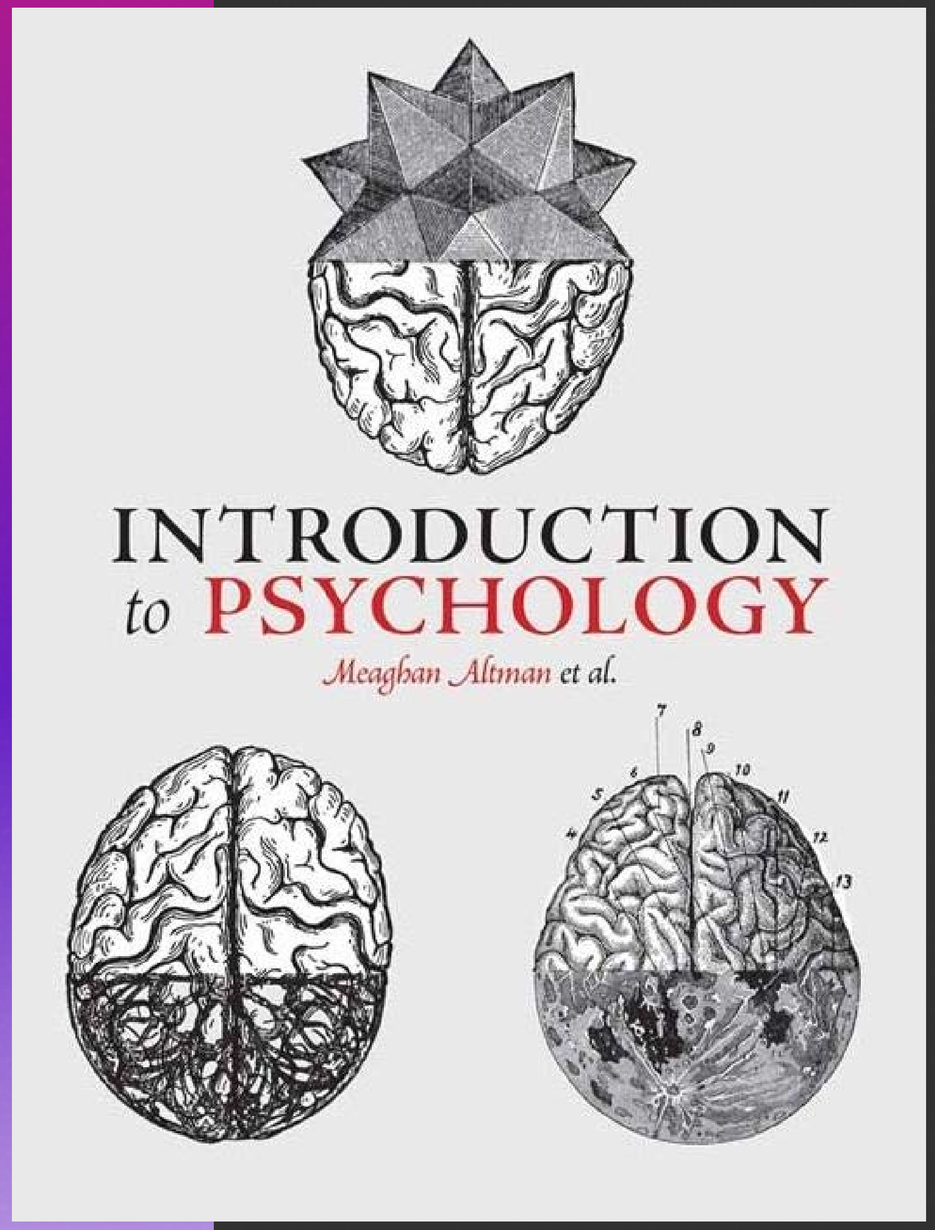
I authored: *Introduction to Psychology*

Meaghan Altman
Binghamton University

About me

I've taught Introduction to Psychology for more than a decade. I once used a traditional textbook that I actually really did like—but it was still fundamentally a textbook. Given what we know about learning today, I knew we could do better.

When the opportunity to use Top Hat came along, it was a chance to start from the ground up based on what psychologists know about how people learn. Since then, I've been using it for about three and a half years to personalize the student learning experience in my Intro to Psych course.



Meaghan Altman
Binghamton University

1 More questions = Better grades

A typical chapter in my Top Hat interactive textbook will start with a set of broad questions. In this book, we've asked students to practice retrieving information, which creates a more accessible and richer memory store that they can draw upon not just for exams, but beyond that.

We've got memorable questions. Gross questions. Funny questions. And the idea is that as they're engaging with the text, they'll use those questions as retrieval cues to remember information.

Frequent quizzing throughout the book has resulted in better grades. Plus, students are scoring significantly higher on the same final exam in this course compared to classes where I didn't use the Top Hat textbook and wasn't testing as frequently.

2 Making learning personal

Most of the chapters in the book have an experimental demonstration. The point of this isn't just to highlight methodologies used by different researchers, but to give students a chance to directly participate in that research. Being able to talk about chromatic adaptation is significantly more salient after students have experienced it.

The textbook makes some demonstrations more diplomatic and democratic. This helps open the door when we're talking about something very concrete. Students get to share their personal experiences as they are progressing through the experiment, getting them personally invested in what's going on and making learning more relevant and more likely to be remembered.

Meaghan Altman
Binghamton University

3 Evolving content for an evolving world

Our book is a living document: we update it and add revisions constantly in response to adopter feedback and new developments in our field. For example, we've looked at development data on how babies learn facial expressions when they have to look at a caregiver who's wearing a mask. We get to integrate that information directly into the book, keeping it incredibly current.

This up-to-date and application-heavy approach has translated into better preparedness among upper year students. I have students in my Physiology and Behavioral Neurosciences classes who have a better foundation of course principles who used the textbook in my introductory course. They've got a much stronger foundation and the memory stores are lasting much longer.

84% of students said a Top Hat textbook is more engaging than a traditional textbook.[1]

Advice to your peers

In the psychology department of UC Merced—where I taught up until recently—we switched from a departmental-wide model to individual choice for textbooks. Several professors in our department use the book and have made it their own. You don't get that adaptability with any other platform. These books are built just for students, they can constantly check back in and remember the information they read.

Bringing Anatomy and Physiology concepts to life

Amanda Haage

Assistant Professor, Biomedical Sciences
University of North Dakota

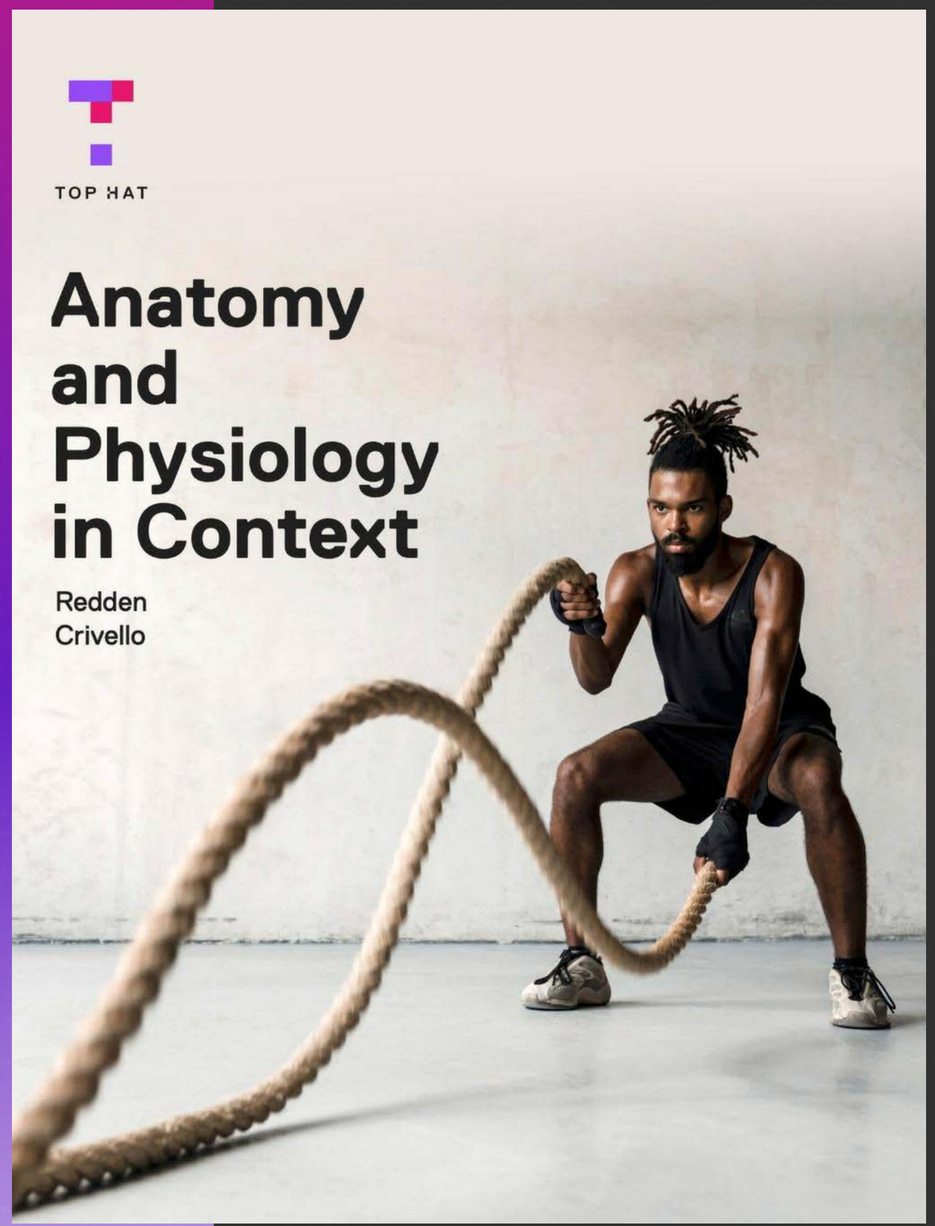
I adopted: *Anatomy and Physiology in Context*

Amanda Haage
University of North Dakota

About me

I've been teaching Anatomy and Physiology I and II at the University of North Dakota since 2020. Across three different delivery methods, I teach up to 450 students a semester. I've got students in person and online. I also offer my classes as self-paced virtual courses for students studying outside of UND. Launching my class from scratch really gave me the opportunity to re-write the rules by choosing my own textbook.

My ideal textbook was one that could offer interactive functionality for a low cost—which was what led me to Top Hat and the *Anatomy and Physiology* text.



Amanda Haage
University of North Dakota

1 Quizzes that teach, not just test

The book is great at breaking up the monotony you'd find in a print textbook. Questions are built in, which I use as points in my class. I assign certain chapters in advance of class and let students know what they're supposed to read. The questions within are lower level Bloom's Taxonomy to test their comprehension. Students really need that and I think it helps build their confidence with that material before tackling material that incorporates higher-order thinking.

In the textbook, there's no right or wrong with any questions. All are participation-based and serve as a knowledge test, without any stress. After the textbook, I'll transition to half participation, half correctness in my lectures. And then from there, we'll get into full correctness points. What I've heard from students is how much they enjoy these types of questions. It doesn't just give them free points—they can really test themselves and get that valuable practice.

> "The mix of textbook reading and interactive assignments, including videos, was great for making the learning less monotonous."
>
> *—Student, Washington State University*

Amanda Haage
University of North Dakota

2 Making learning more interactive and relevant

My course is a fully flipped learning environment, built around active learning principles. This allows small group discussions in class to be based on why students got a textbook question wrong, for example.

When students aren't with me, I wanted to make sure they got an interactive homework experience. The editability and the fact that I'm able to weave in 3D modeling with videos, imaging and questions really sold it for me. I'm pretty sure I'm the only person that has students read the entire set of textbook readings.

"Students aren't expected to pay extra for 3D modeling software, which has been an enormous part of their satisfaction."

Advice to your peers

I love the fact that I can edit the book and change anything I want at any given point in time. Whether it's a phrase that I say differently or a concept that I find will trip students up, I can go in and change it. The book also reaches and engages hundreds of students across any modality—for a sliver of the cost of a traditional book. Not just that, but students aren't expected to pay extra for 3D modeling software which has been an enormous part of their satisfaction.

Giving chemistry lectures more substance

Sherif Moussa

Associate Professor, Chemistry
Virginia Commonwealth University

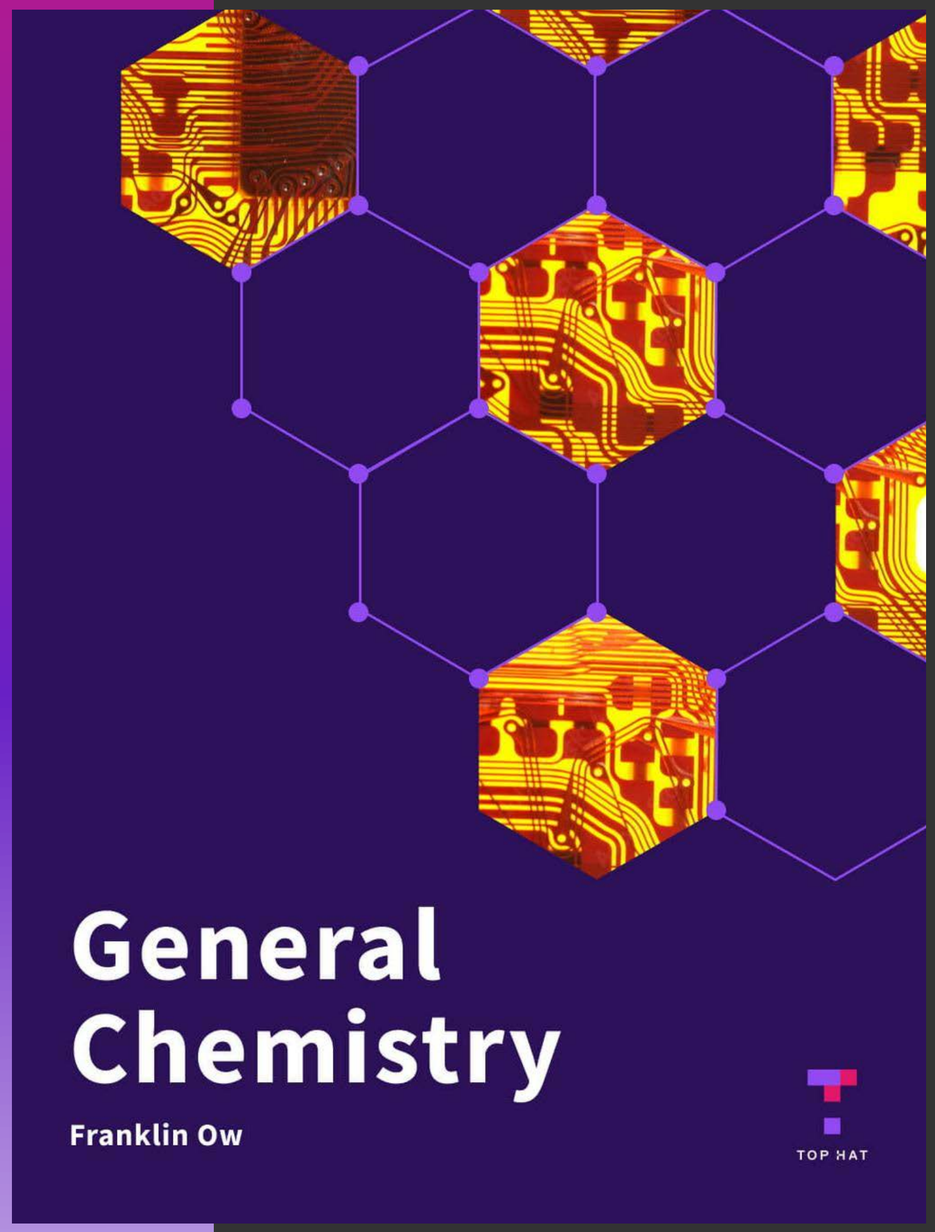
I co-authored: *General Chemistry*

Sherif Moussa
Virginia Commonwealth University

About me

I was hired as an associate professor at Virginia Commonwealth University in 2013. Today, I teach two introductory level General Chemistry classes with anywhere from 800 to 1,000 students per year depending on enrollment. Students had historically complained that what's covered in class doesn't appear in the assigned chapters. This was a huge challenge for me to address, and what led me to Top Hat.

I was incredibly attracted to the opportunity to author a textbook and make it an extension of my lecture, while constantly giving students access to fresh material. The General Chemistry textbook was one of the first interactive textbooks to launch on Top Hat in 2016, and seven years later, I feel just as empowered to keep learning customized and flexible.



Sherif Moussa
Virginia Commonwealth University

83%

of students said Top Hat helped them better understand course material [2]

1 Seamlessly connecting the textbook and lecture

The textbook essentially transforms what I'm doing during my live class into an interactive format for students to digest on their own. It has a way to draw students into reading the material and even lets them take notes within the book.

Students can use *General Chemistry* as a single study resource when class ends. And having the flexibility of accessing Top Hat from any device has been an enormous advantage. I've seen an overall improvement in assignment and exam scores in my class where I use the book compared to when I taught the class without it.

Based on a study I ran in 2017–2018, roughly 80 percent of students in my CHEM-101 course either agreed or strongly agreed when asked if the Top Hat platform and the textbook improves their conceptual understanding of chemistry concepts.

Sherif Moussa
Virginia Commonwealth University

2 Fluid content focused on students

The world we live in is dynamic and constantly changing. Traditional textbooks don't always give students that fresh learning experience today. You essentially have a rigid copy where the only way to reflect the world around us would be to rewrite entire chunks of the book. Or if I found an error in a question, I can't edit it or delete it.

I've always been a champion of Top Hat's customization capabilities. With other platforms, I have had to remove content or questions that aren't relevant to my course—but that's only diluting the homework experience. Now, the textbook can evolve as the world does. For example, I recently updated all the 900 plus PowerPoint slides within the book across 20 chapters. This would have been nearly impossible with any other digital book. And those errors in other books? Non-existent with Top Hat. I can correct outdated information immediately. The entire process has truly cut back on administrative time. Instead of revising the book, I'm able to focus more on my students and my lectures.

Advice to your peers

In Top Hat, every textbook is dynamic and interactive. You receive immediate feedback on student progress. And the text is 100 percent engaging to every student. The tools available to you as an educator—questions, discussions, polls, personalized editing—are designed to improve engagement and participation.

You don't have to reinvent the wheel when adopting a Top Hat textbook. You've got the content, learning materials and assessment questions in one place, which the authoring team has invested a lot of time in. Almost every topic is covered in the General Chemistry title, with the flexibility to make it your own—an enormous benefit to both educators and students.

Bringing the real world into my digital lab

Derek Weber

Professor, Biology and Microbiology

Raritan Valley Community College

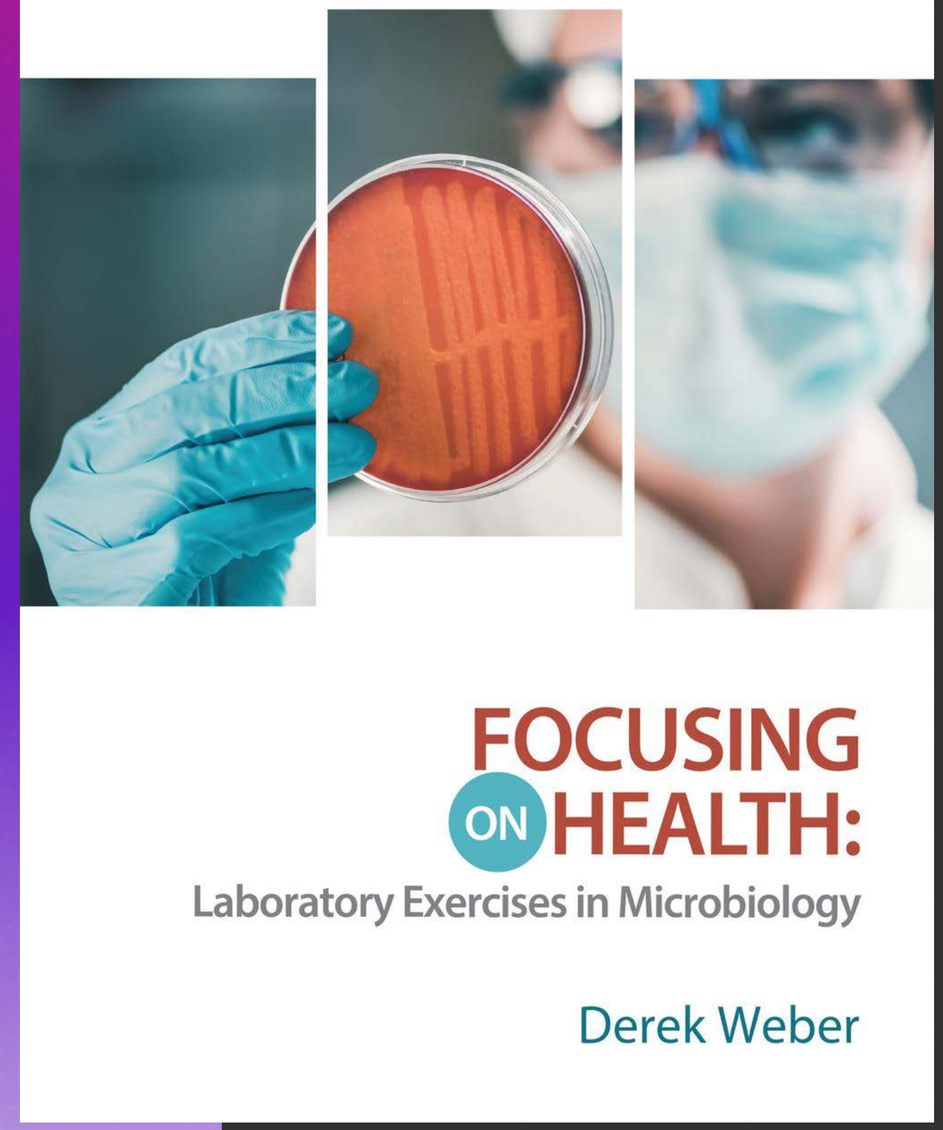
I authored:

Focusing on Health: Laboratory Exercises in Microbiology

Derek Weber
Raritan Valley Community College

About me

I teach Principles of Microbiology at Raritan Valley Community College. Of my 300 students, the majority are future allied health majors, and come from nursing, medical technology and nutrition backgrounds. My goal as an educator is to make sure students can regularly apply what they've learned in microbiology into their future careers. It was this goal—along with frustration using print manuals—that led me to author my own manual. Plus, I wasn't forced to figure out how to recreate my lab in a digital environment—I already had an invaluable resource to pull from.



Derek Weber
Raritan Valley Community College

1 Teaching with stories from the field

As an instructor, I really don't want to just disseminate facts to my students for the sake of doing so. Nor do I want to see students throw their manual into their bag after class and not touch it until the following class. I want to help them make connections between the material and their lives. And so I set out to make microbiology more clinically relevant by bringing in stories from the field—which wasn't possible for me with traditional lab manuals.

> "It made me more engaged with the material, in ways better than using a traditional textbook. I wish more classes of mine were in this format."
>
> *—Student, University of Houston*

Derek Weber
Raritan Valley Community College

2 Making better use of time with students

Using a digital manual has really allowed me to marry my lectures and labs—they're now part of a holistic course experience for students. Print manuals have historically failed at binding the two together. When students have to jump from page 120 to 60, for example, it's understandably confusing for them. Digital allows for a more seamless experience. Students aren't expected to go to the lab manual for their reading, the LMS for multimedia or diagrams and the publisher website for assessments. Everything is now part of one cohesive unit.

The manual, paired with a flipped class approach, allows me to use my time with students more wisely. Those three hours are precious instructional time. So facilitating pre-lab questions doesn't just allow students to come to the lab prepared, but empowers me to deliver personalized instruction to each individual—which we know leads to better outcomes. I've even seen improvements in lab practical grades which I think speaks to the fact that students are constantly quizzed and get timely, instant feedback critical to their success.

Derek Weber
Raritan Valley Community College

Advice to your peers

The keyword for any faculty member considering a digital lab manual is personalization. Not everyone in the Microbiology space does every procedure the exact same way. With a digital manual, professors are empowered to make changes, remove things that they don't need and make it their own resource. The personalization, the flexibility and engagement have all made for a powerful experience for my students and for me as an instructor.