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University of Colorado, Colorado Springs

Developing skilled scientists and critical thinkers

How the University of Colorado engages 500+ physiology students in active learning by delivering hands-on, practical labs every year.

The Human Physiology team at UCCS pride themselves on a hands-on curriculum that turns out students who are critical thinkers, prepared for real-world research work.

In recent years, the University has experienced a sudden growth in student numbers. To accommodate this growth the teaching team successfully implemented **Lt** - our online learning platform, as a way to scale up quickly and easily, without compromising the quality of their curriculum and the hands-on nature of their physiology labs.

Lt enables their teaching team to:

- **Scale up quickly and easily**
- **Active learning for large classes**
- **Customize course content**
- **Connect theory and practice**
- **Run labs more smoothly**

Professionally designed course content, ready to use

"Lt comes with pre-constructed labs and the same physiology curriculum that we would have included... *if* we'd had all the time in the world to write out our lab manuals."

"Based upon our experience, if you're looking for something to implement right away, you could go with Lt and be up and running in the first semester."

"Lt is ideal for delivering practical labs, and it was ready to roll out to a large number of students very quickly."

Professor Andrew Subudhi
Department Chair & Professor,
Human Physiology & Nutrition

ADINSTRUMENTS

Case Study: Lt + The University of Colorado, Colorado Springs (UCCS)

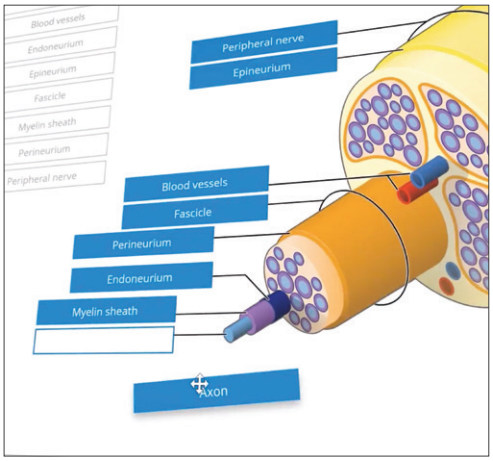
UCCS is a top tier institution and one of the fastest growing universities in Colorado. Since 2006, enrollment at the University has grown by a staggering 150 percent, swelling from a very small campus of 5,000 students to over 12,500 students, with each year setting new records for student enrollments.

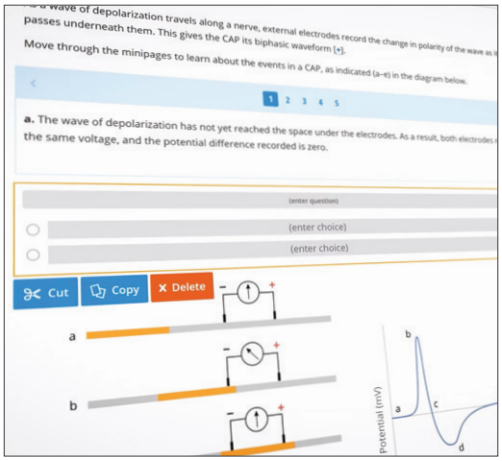
Within the University is the innovative Human Physiology and Nutrition Department (HPNU). Their mission is to prepare students to be knowledgeable and skilled science professionals. To do this, the teaching team strives to provide excellent classroom teaching integrated with relevant research and practical, hands-on experiences.

But the University's rapid growth presented the physiology teaching team with a huge challenge. They needed to act quickly to accommodate the growing numbers of students in their labs, without undermining the quality.

Professor Andrew Subudhi, Department chair and professor of Human Physiology and Nutrition (HPNU) at UCCS, knew that it was vital to protect the practical aspects of their courses. But, this was becoming increasingly difficult.

"Each year we have about 500 students go through our human physiology class. They're all taking the labs, and they all need to have hands-on experience. In the past, it was just me and maybe one other person setting up the labs - but it was inordinately time consuming. As we started to grow, it became almost impossible to keep this up."





Lt: Deliver labs to large classes, fast.

Andrew started the search for an online platform that could work to deliver their hands-on human physiology labs to classes of several hundred students, and Lt became the stand out choice.

"Lt's series of human physiology labs meant that we could offer a lab component to classes of a few hundred students right away. We were able to get going quickly with the material provided."

James Pearson
Assistant Professor,
Human Physiology

High quality labs and experiments

Utilizing Lt's high quality content was a huge bonus for Assistant Professor James Pearson. Lt's pre-loaded human physiology lab content meant that the teaching team could implement Lt and start using it's inbuilt content for their large human physiology course laboratories, straight away.

Real experience with real equipment

The ultimate goal of the teaching team is to develop the skill set that students will need in their future professions. To do this the team wanted to give students the opportunity to gain experience with the same research-grade equipment that they might use in the real world.

James Pearson says, “Lt is ideal because it integrates and works seamlessly with PowerLab hardware and LabChart for analysis - so students are essentially getting an introduction to the equipment they’d be using as researchers.”

James notes, “Students enjoy being able to see data being collected right in front of them and they enjoy being able to administer a perturbation to one of their fellow students and see how the physiology is altered in real-time.”

Customize Lt’s content to suit your course

All of Lt’s content is fully editable, giving educators the flexibility to alter, add to, or delete any of the content within Lt. This capacity to customize is one of James Pearson’s favourite features.

“We originally started off by using exactly what Lt came with which was very useful. As time went on, we’ve used the editing functions in Lt to evolve those labs. We can expand on certain areas, and offer support to students in places where they need it.”

“We’re really able to be more adaptive when we use Lt’s edit function. I think the ease of editing and it’s modern tools, like drag and drop, are big benefits of Lt.”

Helps labs run smoothly

For practical labs at UCCS, Lt is set up on a computer at each student station. Groups of 2-3 students use instructions provided in the Lt lab to step them through the practical activity, including equipment set up and the data collection process. The data is displayed on screen within Lt, and then students are guided through the analysis of the data.

For graduate teaching assistant, Travis Loos, Lt has been invaluable for saving time and reducing the need for trouble shooting during lab classes.

“Students work through the steps and all along the way Lt provides instructions, pictures, charts, model answers, checkpoints - basically all the information they need to complete the lab.”

Travis Loos
Graduate Teaching Assistant,
Anatomy and Physiology

Free up time in class

“Using Lt has freed up so much time on the part of the instructional team, because it literally gives students all the instructions they need without our intervention. It means that we’re not getting too bogged down with helping one particular group, and frees us up to talk to all of the students in the lab.”

“Lt allows us to have much more meaningful discussions with our students during labs now, because we aren’t tied down with sorting out technical problems.”

Erica Tourula
Lab Instructor,
Physiology

Increase face to face time with students

Physiology Lab Instructor, Erica Tourula, enjoys the increased interaction with students that she has experienced with using Lt.

“Instead of having to worry about all the setup and instructions I’m able to come around each table and talk about what they think they should be seeing with their data. That allows me to have more of that face-to-face time where I’m not lecturing to them - we’re really discussing what they’re seeing and what that means”.

More “AHA!” moments

Erica says, “I love aha moments. I think that using Lt allows students to take information they learned in a lecture and apply it and actually understand it.

“Lt helps students connect theory to reality. You can actually see that moment when they just click - they’re joyous!”

Developing skilled scientists and critical thinkers

For Andrew Subudhi, success for the Department of Human Physiology and Nutrition is not measured by student numbers or even by the successful delivery of lectures and labs. He says, “For me, success is about developing a skill set in students that will help them to be effective in their future professions.”

“We track progress not just in a single class, but across the whole program. We’ve seen a real evolution in the students’ knowledge and understanding of data acquisition and human physiology with their progression throughout the curriculum. By the time they leave our program as graduates, they actually have some skills that transfer to the workplace. Lt has given our team the tools and the time to be able to provide this to individual students, on a large scale.”

“By allowing students to be self directed and hands-on in their labs, Lt has helped us to give a large number of students the capability and confidence to do research work, to ask interesting and innovative questions, and to think critically about the world around them. For me as an educator that is really gratifying.”

ABOUT Lt: Engage students in active learning

Lt is an online learning platform with ready-to-use content for life sciences, nursing, and medicine. Designed to stimulate active learning based on the latest pedagogical research on engagement and retention, Lt has 360+ fully editable life science lessons created by a specialized team of instructional designers.

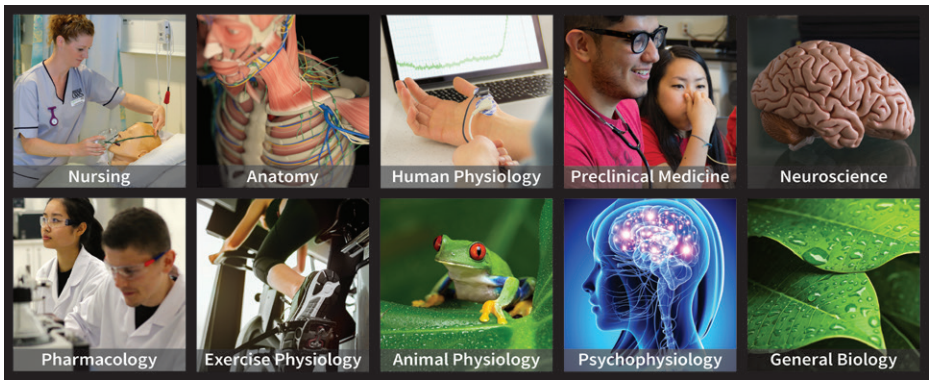
Educators can also create, customize, and deliver their own content using Lt’s modern tools and features. Lt gives students the unique ability to record and analyze their own physiological signals, encouraging active learning and giving students an engaging, immersive learning experience.

Lt integrates with Learning Management Systems including Moodle, Blackboard, and Canvas, for easy course administration.

Lt CREATE SHARE INSPIRE.

TRY Lt FOR FREE

Sign up for a free trial to experience Lt:
adi.to/lt



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