Lt is a cloud-based learning platform that allows you to run labs without headaches.

Our Neuroscience Collection helps students explore the core concepts and methods used in Neurobiology and Neurophysiology.

The latest collection contains 23 modules including Pre-lab Prep and the Lab. Select modules also include a tutorial to provide deeper understanding and to maximize engagement, with students gaining an understanding of the concepts behind the practical activities before coming to the lab.

Customize our content for your course

Lessons are developed by our team of Instructional Designers. Every component in a lesson can be quickly and easily edited, removed or copied into other lessons, giving you total control of your content and curriculum.

"I have 500 students each semester, but my labs run smoother with Lt"

- **Aura Grandidge**, Manager Biology Labs, Anatomy and Physiology, University of Rhode Island

- Improved efficiency
- Increased student engagement
- Improved results in theory and clinical practice
- Increased student pass rates

ADINSTRUMENTS
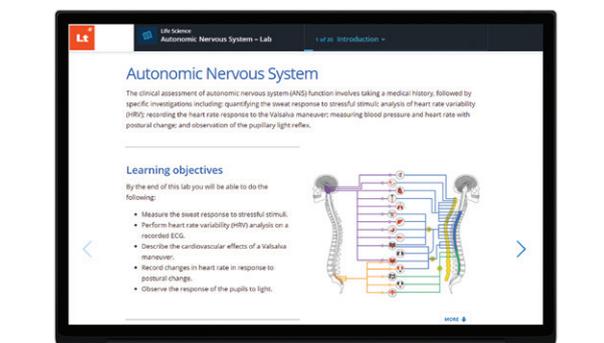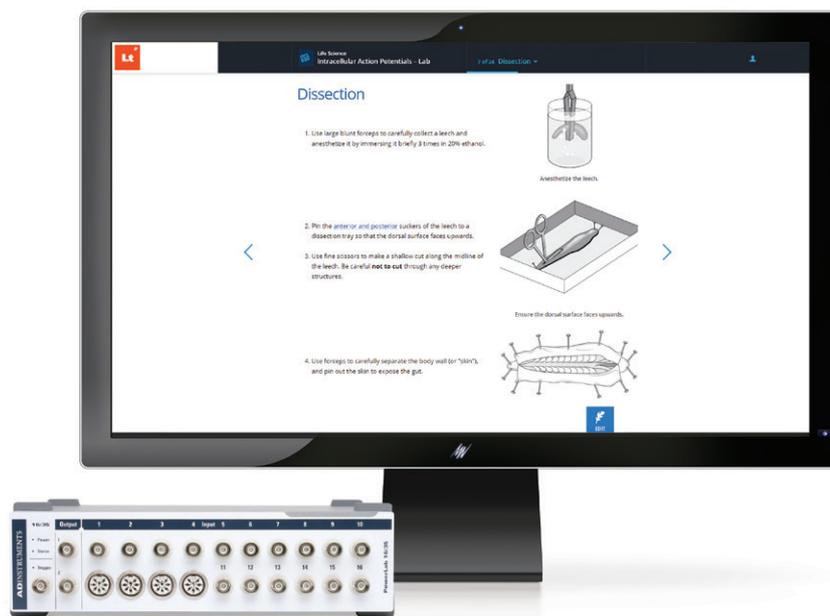
Neuroscience Collection

23 MODULE COLLECTION

Customize our content for your course

Lessons are developed by our team of Instructional Designers. Every component in a lesson can be quickly and easily edited, removed or copied into other lessons, giving you total control of your content and curriculum.

Autonomic Nervous System
Examine skin potential changes, heart rate variability, the Valsalva maneuver, rapid postural change and pupillary exercises.

Biofeedback
Use biofeedback to try to alter electrodermal response (skin conductance), skin temperature, and heart rate.

Brain Structure and Reflexes
The Spinal Reflexes lab investigate some simple and complex reflexes used clinically in neurological examination.

Cockroach Sensory Nerve
Record CAPs, examine CAP amplitudes and frequency, and identify different "classes" of CAP.

Cockroach Ventral Nerve Cord
Record extracellular action potentials and determine the nerve conduction velocity.

Diving Response
Investigate the effects of simulated dives and breath holding on heart rate and peripheral circulation.

Earthworm Action Potentials
Record extracellular action potentials, examine threshold voltage, "all-or-none' response, refractory period, and conduction velocity.

EDR and Classical Conditioning
Measure skin conductance, heart rate, and respiratory rate to examine the electrodermal response, then complete a classical conditioning experiment.

Electro-oculography (EOG)
Record EOGs to examine angular displacement, saccades, smooth tracking, gaze-holding and gaze-shifting, and nystagmus.

Electrodermal Response (EDR)
Test the effects of emotion, stress, and lying (polygraph test), on skin conductance, skin temperature, heart rate, and respiratory rate.

Electroencephalography (EEG)
Record EEGs to examine interfering signals, changes with eyes open and shut, and the effects of mental and auditory activity.

Frog Nerve
Measure CAPs to explore the basic physiological properties of nerve impulses including the threshold, refractory period, and conduction velocity.

Frog Neuromuscular Junction
Use an isolated frog gastrocnemius with an intact sciatic nerve to explore twitch recruitment, muscle fatigue, and the effects of tubocurarine.

Getting Started with Lt
An introduction to data sampling in Lt where students practice recording and analyzing some finger pulse data, and becoming familiar with features of Lt.

Muscle and EMG
Record EMG during voluntary muscle contractions to investigate coactivation, muscle fatigue, and how visual and verbal feedback impact the ability to sustain muscle contractions.

Immersive modules are designed for active learning

Example module lesson structure

Tutorial
Revise anatomy and physiology concepts

+

Pre-Lab Prep
Short quiz of main concepts related to the lab

+

Lab
Core concepts of human physiology lab
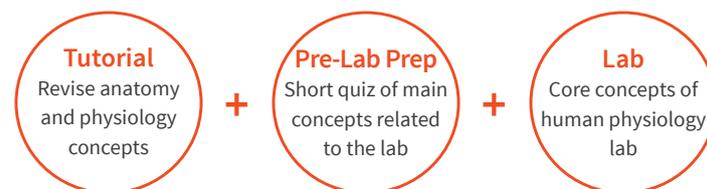
Peripheral Nerve Function
Record an evoked EMG, then calculate latency and nerve conduction velocity.

Reflexes and Reaction Times
Examine simple reflexes, and then examine their reaction times to stimuli under different conditions.

Sensory Illusions
Investigate mechanisms of sensory perception and discover techniques that send conflicting information to the central nervous system.

Sensory Physiology
Familiarizes students with their senses and they observe some sensory illusions.

Size-Weight Illusion
Perform a traditional size-weight illusion, and then a series of manipulations that lead to a more interpretive analysis of the illusion in the final exercise.

Skeletal Muscle Function
Record and measure muscular twitch responses, observe recruitment as stimulus strength increases, and explore muscle twitch summation and tetanus.

Stroop Test
Investigate the interference of conflicting messages, and examine at the effects of the Stroop test as an experimental stressor.

Visual Evoked Potential (VEP)
Record VEP waveforms using techniques from the electroencephalogram and compare two VEP waveforms to determine which stimulus elicits the greater response.

"With Lt, we've provided a cloud-based lab manual for our students that's affordable and allows us to make changes fast and efficiently. That's a win-win for everyone"

- **Dr Marvin O'Neal**, Undergraduate Biology Professor, Director of Introductory Laboratories, Stony Brook University
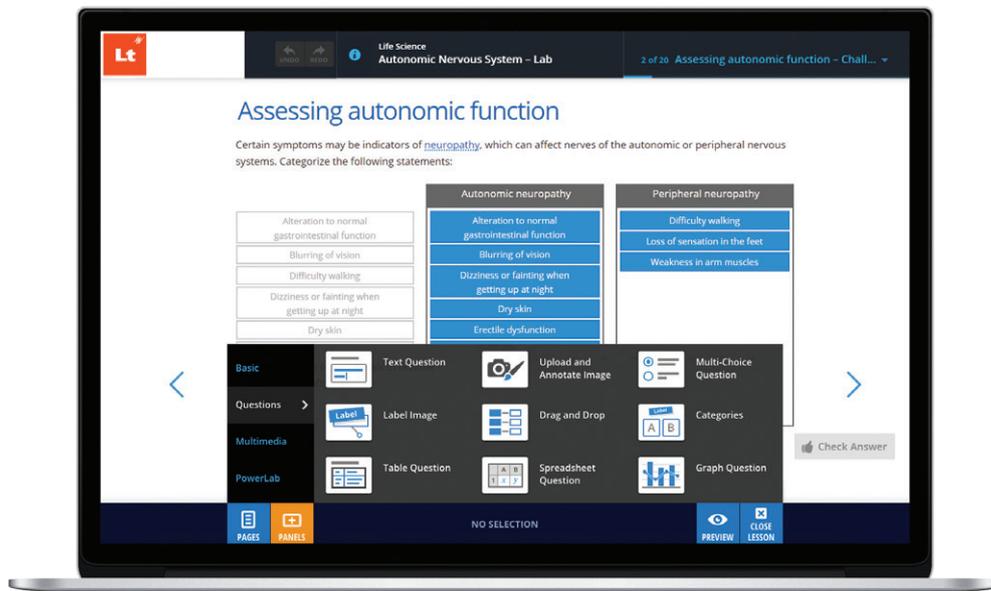
How can Lt help?

Educators

Easy lesson authoring
Building media-rich lessons is simple. Drag-and-drop a range of content types to create interactive exercises, including multiple choice questions, short form written answers and image annotation.

Collaborative
Share content and workload with your fellow educators and teaching assistants. Set varying levels of access to allow others to review content, add content, or publish revisions online.

Flexible grading
Automatically grade quizzes while keeping the flexibility to add feedback and positive reinforcement, and manually grade written assessments.

Onboarding
Our Instructional Design team can convert and edit your existing content and lessons to make them even better in Lt.

Students

Learn anywhere
Lt's cloud-based platform means students can learn on almost any device that connects to the internet. Whether they use iOS or android, tablet, mobile or laptop, lessons will be resized and optimized to look great.

PowerLab integration
In the lab, students can record and view their own physiological signals live on screen with PowerLab and sampling panels in Lt that can record Pulse, Spirometry, ECG, Blood Pressure and more.

Learn from real patients
For future health professionals, our patient cases allow students to follow a real patient from initial presentation to diagnosis and management. Expert healthcare professionals provide their views throughout the journey and students can practice note-taking and reflection.

Administration

Simple setup
Lt needs only an internet browser to allow course administration, authoring and publishing. Our data acquisition app, used for sampling, installs in 30 seconds.

Analytics
Our analytics allow you to view class progress in each lesson and across your course, and provide valuable insights about where and how students are interacting with course material.

Secure and scalable
Totally secure, Lt is hosted on Amazon Web Service's encrypted servers with guaranteed 99% uptime and the ability to maintain speed as more students login to Lt.

Future proof
Lt is automatically updated with new features by our team of engineers, developers, and education specialists.

Getting started with Lt

Custom training and specialist support
Whether you need help with Lab installation and setup, IT training, Lt training or specialized support, we can get you up and running even faster with an add-on package of training and support services.

TRY Lt FOR FREE
Sign up for a free trial to experience Lt
adinstruments.com/try-lt

Visit our website **adinstruments.com/education** or contact your local ADInstruments representative for more information

ADInstruments Worldwide

Australia | Brazil | Europe | India | Japan | China | Middle East | New Zealand | North America | Pakistan | South America | South East Asia | United Kingdom

adinstruments.com

ADINSTRUMENTS