TestOut®

Integrating LabSim Into Your IT Curriculum

BEST PRACTICES

Table of Contents

Introduction

Welcome to the LabSim community!

LabSim IT training courses offer instructors many flexible options for curriculum integration. This document is designed to show you—the instructor—some of the ways LabSim can support you in giving your students the IT skills and knowledge they need. Please note that LabSim courses are designed to be worked through from start to finish, and skipping sections will cause students to miss information they may need to know for a lab, video, or exam later in the course.

The implementation of LabSim into your curriculum is highly flexible, and not all instructors use LabSim in the same way. Some use LabSim training in the classroom; others assign LabSim sections as homework. Some base students' grade on their scores recorded through LabSim tracking; others use LabSim's built-in reporting to measure progress and then base students' grade on other achievements. LabSim courses are designed to support you in the ways you work best as an instructor.

This document includes ideas and suggestions from instructors and an administrator using LabSim at 15 different academic institutions. Their experiences will help you formulate your own plans for successfully incorporating LabSim in your teaching. Institutions whose instructors have been quoted in this document include:

DeVry University	Campuses Nationwide
Erwin Technical Center	Tampa, Florida
Henderson Community College	Henderson, Kentucky
King Career Center	Anchorage, Alaska
Middleburg High School	Middleburg, Florida
Moultrie Technical College	Moultrie, Georgia
New Jersey Career Center	Millville, New Jersey
Penn Foster Career School	Scranton, Pennsylvania
Richmond Senior High School	Rockingham, North Carolina
Santa Fe College	Gainesville, Florida
Schoolcraft College	Livonia, Michigan
Southern Hills Career and Technical Center	Georgetown, Ohio
Walla Walla High School	Walla Walla, Washington
Westchester Community College	Valhalla, New York
West LA College	Culver City, California

TestOut also encourages you to view our LabSim video tutorials (www.testout.com/resources/educator-resources/tutorials) and find helpful information regarding LabSim *Instructor Tools* (www.testout.com/resources/educator-resources/teaching-aids). Also, please contact our technical support staff (www.TestOut.com/support/) if you ever have questions about setting up your instructor account, student accounts, and/or accessing course content.

Using LabSim at Home or School

Because LabSim is an online course, it allows students to work on LabSim at school or at home.

Give Students the Option

"Students like it so much that they do all of their work at home. We give them the option of staying in the lab or being at home, and they want to do it at home." –Bill Massey, Instructor, DeVry University

Continue Learning at Home after School

"I believe learning doesn't just happen from 10 to 11 AM while students are in the classroom. LabSim helps learning continue when students are home. Sometimes a student will ask me, 'Can I do this at home?' 'Of course!' And since LabSim is now online instead of only on CD, it's a huge help to students. They can learn any time they want." –William Schlick, Professor, Schoolcraft College

Fully Home-based Learning

"I have a student who's homebound. He doesn't come to school, but I still have to provide work for him. Now, he's set up doing LabSim from home." –Brian Burch, Teacher, Richmond Senior High School

Ideas for LabSim Integration

LabSim can be incorporated into an instructor's curriculum in many ways. Some instructors use it alone; others use it in conjunction with a textbook. Some use it during class time and others as homework.

Use TestOut PC Pro with Cisco Networking Academy

"I teach Cisco Networking Academy here. This is my second year with Cisco Networking Academy, so we're teaching first-year Cisco, which covers CompTIA's A+ Essentials. I use LabSim to teach it. – Charles Thompson, Teacher, Middleburg High School

Work Through Course Sequentially—From Start to Finish

"The students work their way through LabSim from top to bottom. For a whole quarter, they use LabSim pretty much every class." –Alan Saylor, Instructor, Moultrie Technical College

Supplement Self-paced Training with Class Lectures, Note-taking

"LabSim is online, and the students work at their own pace during designated class time to view and review videos, read fact sheets, and complete hands-on lab simulations. Students use the components of LabSim sequentially and also keep a journal, take notes on class lectures, and complete the practice exams included in LabSim." –Brian Burch, Teacher, Richmond Senior High School

Use LabSim in Computer Classroom and as Homework

"As a student, my CompTIA A+ courses were taught in a modified computer lab environment. We had lots of components to work on physically in the computer classroom, and LabSim supplemented our learning. In class, LabSim's virtual labs and instructional videos were used most often, but the instructor also assigned additional coursework tailored toward the LabSim quizzes and exams."
–Allen Luck, Graduate and Systems Administrator, Santa Fe College

Repeat LabSim Sections as Needed

"With LabSim training, all students have their own account and can work on LabSim sections and assignments at their own pace. The class generally keeps on the same pace through the LabSim training, though some students may take longer than others to master the concepts. In that case, they can repeat the LabSim sections as many times as they need." –Ginger Ring, Teacher, Southern Hills Career and Technical Center

Work Through LabSim Completely, Then Add Physical Computer Work

"In the introductory technology classes, students work through the entire PC Pro LabSim online labs and then supplement their learning with physical computer lab work and logic. The students also delve deeper into electronics, then add networking with LabSim. In the more advanced classes, they can pick the topics they want to go into such as CompTIA Network+.
- Dennis DeBroeck, Teacher, Walla Walla High School

Build Syllabus Around LabSim with Specific Assignments of LabSim Videos, Labs, Exams

"We've built our entire syllabus around LabSim for both the online and the on-campus classes. Each week, I assign a specific assignment that includes which videos to watch, which online labs to do, which practice exams to take. As a result, we feel that between the LabSim materials and the online course portal, our students have a very robust online environment that offers a comprehensive and integrated online experience." –Marcus Butler, Instructor, West LA College

LabSim Hands-on Labs

LabSim labs reinforce and offer practice of the concepts students are taught in the LabSim videos and fact sheets. Instructors rely on the hands-on labs in LabSim to give students real-life experiences that prepare them to perform the same tasks on physical equipment in their future career. Students' success in LabSim labs is an indicator of their readiness for certification.

Require Completion of LabSim Sections Before Working with Physical Equipment

"Students have to complete LabSim modules 1–3 before they can touch the school's real equipment."
Eric Isaac, Instructor, Erwin Technical Center

Require Mastery of LabSim Labs Before Moving On

"Students must achieve 100% on the labs before they move on to the next assignment. While they work towards this 100%, LabSim provides instant feedback on their lab results that points them towards the course content for remediation on the topic." Dennis DeBroeck, Teacher, Walla Walla High School

"I don't give students a final grade on a lab until they've mastered it with a 100% score. They have to get the 100% within a timeframe, but they can repeat it as many times as necessary to master the concepts." –Charles Thompson, Teacher, Middleburg High School

Complete Two to Four Labs per Week

"Students complete 2–4 hands-on labs per week. If they feel like they need to re-do a lab multiple times to understand it, they can whenever they want." –Kelly Adams Ward, Instructor, DeVry University

Don't Rush Through Labs

"It isn't in students' best interest to rush through the courses. They actually have to work through the labs so they really know what they're doing." –Kimberly Conley, Chief Information Officer and Instructor, Henderson Community College

Videos and Study Guides

LabSim videos offer expert instruction and demonstrations and can be viewed by students as many times as they need—at home when class time is over—to gain complete understanding. Visual presentation of the material helps many students gain understanding that they struggle to find through reading alone.

Watch Videos, Study Fact Sheets, Tie the Labs to the Reading

"The students watch the LabSim videos, print out and read the LabSim fact sheets, and tie the activities—the hands-on labs—to the reading." –Charles Thompson, Teacher, Middleburg High School

Use Fact Sheets to Study for Final Exam

"I used the fact sheets and notes because I found information there that I had overlooked, and it told me what section the information was covered in. It reminded me what I went over—a refresher that helped me study for the final practice exam." –Allen Luck, Graduate and Systems Administrator, Santa Fe College

Use Fact Sheets to Study for Certification Exam

"When students have demonstrated their proficiency, I order certification exam vouchers for them. I have students in my classroom every Thursday after school, preparing for the certification exam the next day. We leave at 7:00 AM, take our notebooks full of LabSim fact sheets, and study together until test time." –Charles Thompson, Teacher, Middleburg High School

Quizzes and Exams

Each LabSim course includes section quizzes, unit exams, and a final exam. Some instructors record a grade on students' quiz scores, and others assign quizzes for students to evaluate their own progress. Many instructors use the LabSim exams as their course exams, while others incorporate LabSim exam questions into the exams they write themselves.

Implement LabSim Exam Questions Into Your Final Exam

"I have implemented the LabSim exam questions into my final exams. My students may view the LabSim videos, do the labs, and retake the practice exams as many times as they need in order to prepare for the final, and they may retake the final as many times as they need to get the grade they want. Before using LabSim, students would take my final over and over again and not get better. With LabSim, they get the material." –William Schlick, Professor, Schoolcraft College

Use LabSim Unit Exam Questions to Prepare for LabSim Final Exam

"I used the practice exams at the end of each section in LabSim to prepare for the final LabSim exam." –Allen Luck, Graduate and Systems Administrator, Santa Fe College

Textbook or Not

While most instructors agree that LabSim is a complete course on its own, some instructors still like to provide an additional textbook to supplement the learning in LabSim.

Textbook Unnecessary

"In the past, I used standard textbooks to supplement LabSim training in my classes. I found the books completely unnecessary because LabSim is totally self-supporting." –William Schlick, Professor, Schoolcraft College

Print LabSim Study Guides or Read Them Online

"Students don't need a textbook because LabSim includes study guides. Students can print them or study them online. My course is structured around hands-on experience." –Eric Isaac, Instructor, Erwin Technical Center

LabSim Not Out of Date

"I use LabSim instead of a text because LabSim doesn't go out of date as quickly." –Charles Thompson, Teacher, Middleburg High School

One LabSim Assignment with One Textbook Chapter Weekly

"My online students do one LabSim assignment each week, as well as read a chapter a week in a textbook. It's a rigorous schedule, and my students do a lot of work." –Robert Albano, Instructor, Westchester Community College

First Read in Text, Then Work in LabSim on Same Subject

"If we're reading about processors in the textbook, I assign the section in LabSim about processors as well. Then the students put on their headphones and work in LabSim on their own." –Ginger Ring, Teacher, Southern Hills Career and Technical Center

Learning Styles

Students learn in different ways, so the different teaching methods in LabSim—videos, study guides, hands-on labs, quizzes, and exams—are useful to reinforce everything that is taught. Use all components of LabSim for greatest success.

Meet Students' Different Learning Needs with LabSim's Different Teaching Methods

"The beauty of LabSim is that it lends itself in many different ways to meet students' needs because not everyone learns the same way. Some students struggle learning from written materials but spend hours with the videos, so I tell them to use the written lessons in conjunction with the videos. Or if they're in a lab and get snagged, use the written explanation to get through it." –William Schlick, Professor, Schoolcraft College

Reinforce Learning from Texts with LabSim Videos, Labs

"Some learn better listening to audio; some like more hands-on learning or more variety. LabSim helps address that. My students don't like to read—across the board—so the different teaching methods in LabSim reinforce what I require the students to read in a textbook." –Ginger Ring, Teacher, Southern Hills Career and Technical Center

Class Time

Many instructors assign LabSim sections, videos, or hands-on labs during class time, and most use LabSim in conjunction with their own lectures and demonstrations.

Demonstrate on Physical Equipment, Follow Up with LabSim Assignments

"I simulate what I can in the classroom for real-world practice. For example, I may teach about power supplies and demonstrate different connectors and hooking up machines. I'll turn the machines on and show the test equipment, then assign the sections in LabSim that cover the same thing." –Charles Thompson, teacher, Middleburg High School

Offer Weekly Breakout Sessions to Reinforce Lessons Learned in LabSim

"NJCC offers an open class schedule with generous hours Monday through Saturday, and instructor oversight and assistance is available to students during all school hours. The majority of students spend an average of 20 hours each week working on their courses. Each course includes weekly breakout sessions where the instructor reinforces the lessons learned through the LabSim online labs." –Carol Chapman, Director, New Jersey Career Center

Connect Personally with Students by Creating Your Own Lectures

"I create my own PowerPoint presentations to incorporate my personality into the course and connect more personally with the students." –William Schlick, Professor, Schoolcraft College

Homework

Because students can access their LabSim course at school and at home, LabSim sections can be assigned as homework. Or, instructors incorporate LabSim into other homework assignments or create completely different homework assignments.

Weekly Homework Assignment Includes Reading, LabSim Training, Research, and Writing

"I give a weekly assignment that has three sections: Procedure, Reflection, and Research. In the Procedure section, instructions tell the students exactly what sections of LabSim to complete—videos, demonstrations, and lab simulations. In the Reflection section, students articulate what they learned from the LabSim components. Lastly, in the Research section, students choose any topic covered in the LabSim sections, research the subject online, and write a short summary of their findings. When students complete the assignment, they upload it to Blackboard." –Robert Albano, Instructor, Westchester Community College

Reporting

The LabSim administrative back-end helps students monitor their own progress, and instructors can view the same reports, generated automatically every time a student works in the course.

Use Tracking to Know When One-on-One Help Is Needed

"LabSim keeps track of how students are doing in the labs and what other features they've used, so I can give more one-on-one help when students need it." –Kelly Adams Ward, Instructor, DeVry University

"LabSim really gives us all of the information we need to know about every student to evaluate whether they're really 'getting it,' and how productive they are being during their class time, while monitoring the pace at which students are moving along. It would be nearly impossible to track student progress so closely without the administrative tools LabSim provides." –Carol Chapman, Director, New Jersey Career Center

Use Tracking to Eliminate Subjectivity in Grading

"LabSim's built-in reporting also came in handy once when a parent contacted me, angry about her son's grade. The printout from LabSim reporting saved me! I showed her exactly what work he had done and what his scores had been. Because LabSim keeps records as you go, there's no subjectivity in my grading." –Brian Burch, Teacher, Richmond Senior High School

Know How Much Time Your Students Spend in LabSim

"I require my students to work through the entire module—the online labs, quizzes, and the supplemental instructional videos, and LabSim enables me to track, evaluate, and score every lab exercise and scenario. For a 3 credit hour class, students spend approximately 45 hours in the LabSim software." –Kimberly Conley, Chief Information Officer and Instructor, Henderson Community College

Certification

LabSim training courses are designed to teach critical IT skills as well as to prepare students to pass certification exams. IT certifications will help students find employment and advance their careers after schooling is over. Finding ways to encourage your students to certify will be a great service to them.

Require Certification for Passing Grade

"Getting CompTIA A+ certified is worth 60% of students' grade. If they don't certify, they fail the course."
–Eric Isaac, Instructor, Erwin Technical Center

Use School Funds to Purchase Exam Vouchers for Students

"As soon as students demonstrate their readiness for certification by completing all LabSim activities and quizzes and then scoring at least 90% on the LabSim practice exam on two consecutive attempts, the school purchases exam vouchers for them." –Charles Thompson, Teacher, Middleburg High School

Offer to Count Certifying in Place of Taking a Final

"My instructor didn't require students to get certified at the course's completion, but he offered to count the certification exam as the students' final. In that case, why not certify?" –Allen Luck, Graduate and Systems Administrator, Santa Fe College

Let Certified Students Set an Example

"I had a student—a senior—finally take the plunge this year and certify in CompTIA's A+. He's just like all the other kids, but since he certified, everyone looks up to him, and he has encouraged others to certify. It has become an in-house competition. The students drill each other and help each other."
–Charles Thompson, Teacher, Middleburg High School