

SIMTICS Online Simulations for Healthcare Procedures

Bridging the gap between theory & practice



Instructor Guide: Best Practices

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1. Introduction

3. Integrating SIMTICS Into Your Curriculum – Best Practices

The real benefit of SIMTICS comes when:

1. the relevant modules are mapped and integrated into your curriculum at the point where each procedure is covered;
2. students are given assignments to complete, using the resources in SIMTICS;
3. the students understand that the *simulations* are the key part of SIMTICS – not the quiz. Quizzes can only test didactic knowledge, but completing a Test Mode simulation will indicate whether the student knows *how to perform* the procedure in question;
4. the logbook data is used as an integral part of each learner's assessment; and
5. students have continuing access to SIMTICS through the program so they can go back and refresh their skills at any time, to reduce learning decay and to ensure they are ready for clinical externships.

Taking these steps will ensure that students have a solid reason to use your new digital resource to benefit their learning and help them achieve competence.

SIMTICS can be used in many ways:

- for preparation and pre-work
- for presentations and demonstrations in the classroom or in a webinar
- for study assignments
- for activities in a lab session
- as homework
- to supplement and strengthen clinical experience
- to review and refresh skills learned earlier in the program,
- to learn and practice procedures that students are not able to perform at a clinical site
- as preparation/review prior to final examinations.

This section of the guide provides ideas and examples to assist you with this mapping and integration process.

Best practices for on-ground instructor-led courses

Each SIMTICS module covers one procedure or topic. Map the SIMTICS modules to your curriculum, by identifying which modules relate to each part of the program. A list of all the modules can be found in the SIMTICS catalog which you can [download from the documentation page](#); you will need to identify the ones that you have purchased.

Note that some of the modules may be relevant for multiple courses.

Decide how you will use each SIMTICS component in a module: text, video, anatomy, quizzes, and simulations. For example, when you have identified the first procedure in your curriculum which maps to a SIMTICS module, here are some suggested ways you could use that module:

- Have the students complete a quiz early on, to help them assess their existing knowledge and obtain a baseline quiz score to compare future results with. This also helps them to link prior knowledge to this new learning they are about to do. Take care to emphasize that it's okay for them to have a low score when starting out on a new topic, and it gives them a result to improve on after they have learned more.
- You can do something similar with the Anatomy component – this is not a graded activity, but simply let the students explore the anatomy images and 3D model, to scaffold that with their prior A&P knowledge.
- Assign the text (or specific sections of the text) as a reading assignment, at the relevant point in your course.
- Display illustrations and animations from the text during your lectures, to illustrate key concepts. You can also walk through a simulation.
- Use the video as a reference assignment before or after a lecture.
- Show the video of the procedure in class and discuss as a group.
- Have the students review the anatomy when appropriate, as a complement to the course material or as a review exercise.
- Assign the first Learn mode simulation prior to beginning “class lab time”. Set a minimum score you want them to achieve, e.g. 60%. In the reporting system you can check all your students' scores for that simulation from Reports > Modules > then click on the module name that you want to view.s
- Assign the same scenario one to two weeks later and increase the required grade percentage. Use the time in-between for counseling. Continue this process until the student reaches the set benchmark percentage. This can be done on a class computer or as homework.
- In lab, if you don't have enough equipment stations for all the students, set up one or more “SIMTICS stations” as one of the activities in lab, so some can practice with SIMTICS while others work on a hands-on activity.

As an alternative approach from assigning specific components in a SIMTICS module, another option is to assign the whole module for the student to study in their own time, for instance prior to an upcoming lab session. As an example, you might allow them one week to study the module, with some guidance as to how long you expect them to spend on each part of that module, eg. *“Up to 2 hours reading the text and exploring the hyperlinks, 15-20 minutes exploring the anatomy, watch the video twice at different times, and complete the Learn and Practice mode simulations until you score at least [80]% in a Practice mode simulation. Then you can do the Test mode simulation on Friday.”*

Here are some additional thoughts and ideas from other instructors who are using SIMTICS:

- SIMTICS is perfect for flipped classrooms. Direct the students to learn a procedure with a SIMTICS module before a course, so the students arrive with a common base knowledge and skill level in the procedure. This will allow you to use your face time with the students to help them advance their skills and learn new details and distinctions.
- Use the simulator as a complement to the established curriculum and the repetition will reinforce and accelerate the students' learning curve.
- Assign the Test mode simulation as a final check off in addition to the students' lab test-out. Also assign the written final quiz.
- Require students to review and practice relevant procedures on SIMTICS before each clinical rotation.
- If students see a procedure during a clinical that has not yet been covered in class, allow them to view that SIMTICS module to familiarize themselves with that new procedure. It may be outside of your curriculum plan, but this type of "just in time" learning is powerful when the student is interested and ready to learn about that new topic.
- Assign extra practice time for SIMTICS modules covering uncommon procedures, procedures that students are not allowed to perform during clinicals, and/or procedures that did not present during a clinical rotation.

Other considerations

- Decide if SIMTICS will be integrated into your Learning Management System (LMS), e.g. Blackboard, Canvas, Moodle, D2L, etc. We strongly recommend this. SIMTICS offers an interface which provides:
 - single sign-on
 - automatic transfer of the most recent Test Simulation score from each module to the gradebook.
- If you don't integrate with the LMS, you will need to provide SIMTICS with a list of student names so the user accounts can be set up. Also provide the names of all instructors who will need access to the reporting system. SIMTICS will need 2 business days to set the accounts up for you; longer during busy times such as the beginning of the academic year.
- Take advantage of SIMTICS faculty training and onboarding. This is available for all faculty, and is delivered as a customized online workshop via Zoom by one of the SIMTICS team.

Best practices for online classes

As an online product, SIMTICS is well suited to be incorporated into an online, hybrid or blended program. Many of the ideas in the previous section are equally valid for an online program. Here are some additional suggestions specifically for online:

- Show the procedure video in a webinar and discuss as a group.
- Refer to illustrations and animations from the text to explain difficult concepts.



- Explore the anatomy in a webinar.
- Walk through a learn mode or practice mode simulation during an interactive webinar – this allows you to discuss key parts of the procedure, and obtain student input as you go along.
- Require students to study a SIMTICS module and achieve a minimum score in a practice simulation and/or a test simulation before proceeding to the next part of the program or before coming to campus for a competence check.

"Using SIMTICS in conjunction with a simulation lab makes things much more efficient, much more streamlined. Students are able to better invest their time not only in the practice of the procedure but on cases, discussion of cases, and application of the procedures. In the lab they can really hone and perfect those learned skills as opposed to us having to start from scratch with the introduction and losing valuable face-to-face learning time doing that."

Dr Noel Alonso, Assistant Professor, Department of Pediatrics; Co-Course Director, Physical Diagnosis - College of Osteopathic Medicine, Nova Southeastern University

4. Product Tips & Best Practices

General usage recommendations

When using SIMTICS, we recommend that the SIMTICS simulations be utilized on a device with at least a tablet-sized screen, preferably a laptop. A mobile phone can be used for accessing other components (reading text, viewing the video, doing a quiz, etc.), however for easier tool manipulation and accurate placement of instruments in simulations, a larger screen is far more usable for the learner and will help to avoid frustration.

We also recommend that the web browser is set to “full screen” to optimize the user experience and provide the biggest space for viewing and interacting with the online material. The method to achieve this varies between browsers. For further information, check the Help function for the web browser that is being used.

SIMTICS Tutorial

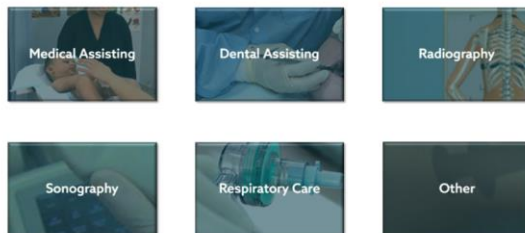
Best practice: Assign the SIMTICS Tutorial as one of the first tasks for your students when they first start using SIMTICS.

The Tutorial explains how to navigate and use the software. It will ensure that the learner quickly becomes familiar with the SIMTICS platform and is able to take advantage of all the resources that are available to them in each module.

The Tutorial can be accessed from the student’s menu after login at the SIMTICS website, or if you have SIMTICS integrated with your LMS, please ensure that it is set up as an assignment.

The Tutorial is designed like a SIMTICS module so it has text, video, sample anatomy, quiz, and a sample simulation. There are some options available during the simulation, where the student just needs to select the option which most closely matches the program they are studying.

Select your program type below



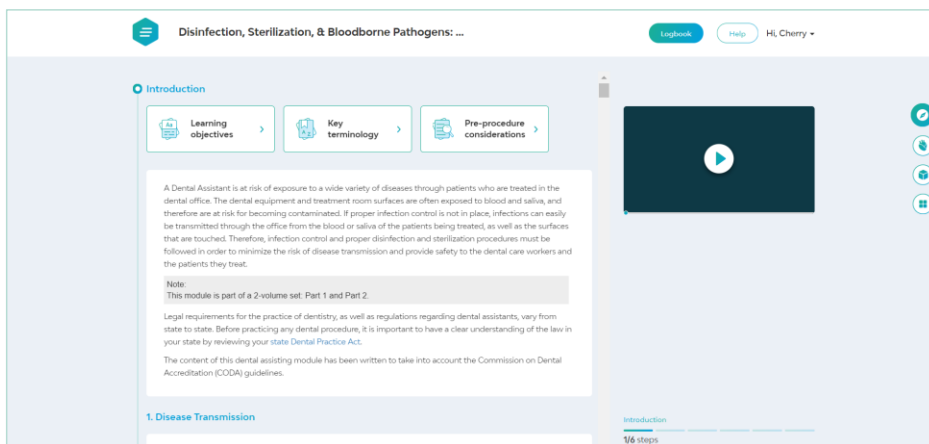
You will be able to access a different program-specific tutorial later in this simulation if desired

Note that the Tutorial quiz tests the student's knowledge of using the SIMTICS platform. If the student gets a good score in the Tutorial quiz, this means that they are well set for getting the best out of the product! (This is one of the few cases in SIMTICS where the quiz is more meaningful than the simulations.)

Launching a module

Best practice: Consider how you want the students to access and work through the information within each module. Maybe you want them to watch the video first and then explore the anatomy? (See the examples in the previous section of this guide.) Give them appropriate instructions when you assign a module for them to work on, so they understand your expectations.

When a student launches a module from the dashboard they can choose which component to start with. The Explore component automatically displays in the main window. The navigation icons appear on the right of the screen, which enable the user to move between the different components within the module (Explore, anatomy, simulation, quiz).



Even though the Explore section appears first, the learner does not have to start with the video and text; they can go to any component in the module, and access them in any order, according to your directions or to suit their personal learning preference or time availability. Having said that, we do recommend viewing the video first, to gain an orientation to the procedure covered in the module.

Simulation

Commented [CV1]: Do we need this here - it's covered earlier

Best practice: Make sure your students use SIMTICS simulations as part of their learning process. The green and red color cues in Learn mode will guide them through the correct steps and help them to learn the procedure. Practice mode allows them to do a practice run of the test. And the Test mode simulations will help them come to terms with working on their own and thinking for themselves, with little to no guidance.

The simulation operates in three modes: Learn mode, Practice mode and Test mode, as explained earlier in this guide.

Learn mode has green and red color cues to guide the student while they are learning and becoming familiar with the procedure. In contrast, test mode has no color cues, since it is designed to simulate the real-life situation where they would be on their own in the exam room with the patient, with no-one to tell them what to do. (It's a bit like a trainee pilot "flying solo.")

The learner can repeat any SIMTICS simulation (including Test mode) as many times as they want, to embed the knowledge, build confidence and improve their performance speed. Each completed simulation is recorded in the student's logbook, and is also viewable from your instructor report menu.

During the period of the cohort's SIMTICS subscription, students can also go back to modules they've previously studied and refresh their knowledge as often as they wish. This is helpful before or during clinical rotations, or to review before taking final exams.

Note

Note that there is no audio voice-over in the simulation. (There is audio narration in the full-length video in Explore, but not in the simulations.) This is done for two reasons:

- It encourages the students to think for themselves when performing the procedure, instead of relying on being "talked through" every step.
- It gives them the opportunity to practice their soft skills, such as what they would say when explaining the procedure to the patient, obtaining consent, providing post-procedure education, etc.

Best practice: Encourage your students to practice their patient communication skills at each relevant step in the procedure simulation.

Test activities

Best practice: Make sure your students complete test simulations not just the quizzes. The two types of activities test different areas of knowledge. In SIMTICS, the simulations are the most important indication of student success and competence.

SIMTICS provides a simulation test and a written “exam” in a multi-choice quiz format.

Most online products rely on a quiz to test students’ knowledge, however a quiz can only test their didactic knowledge. SIMTICS, on the other hand, is designed to help students learn *how to perform clinical procedures*, and that type of procedural knowledge cannot be tested in a quiz.

Therefore, the SIMTICS simulation test is designed to test the student’s *cognitive competence in performing* the procedure.

Simulation help for students

Best practice: SIMTICS uses the number of errors to calculate the score for a completed simulation. Encourage your students to take their time with a simulation and think through each step, rather than clicking “at random” to get the help text to display. This will help them with the discipline of learning – and enable them to achieve a higher score!

In a simulation, context-sensitive help is available by clicking on the “?” button at the bottom right of the screen.

Help text will also display automatically if the learner keeps clicking with the wrong instrument or the wrong location. After three incorrect clicks, the help text will be displayed, **and the learner will score zero for that step**. This happens in all simulation modes, so that the user does not get stuck and can proceed with the simulation.

Simulation scores and logbook records

Best practice 1: Consider what *score* you want students to achieve in a Test mode simulation. Ask the students to email you their Module Snapshot Summary when they have achieved that minimum score.

Best practice 2: Consider the *completion time* range that you want the students to achieve for each procedure and make this part of their assessment. For example, if 7-10 minutes is the target time for a certain procedure, then 15 minutes is too slow and the student needs to learn the procedure better in order to speed up a little. And 3 minutes, even with a high score, may mean that the student is rushing through too quickly and might compromise the patient’s comfort in a real-life situation.

When a student completes a simulation, SIMTICS calculates their score and records that score and any errors in the student’s logbook, along with the time taken to complete the simulation.

This information allows the learner to look at their performance to see where they can improve and what specific parts of the procedure to work on next time.

Students can download a one-page Module Snapshot Summary for each module, which summarizes the key datapoints for that module – study time and scores as at the time of downloading the summary.



SIMTICS also provides a “certificate of completion” when they have achieved 80% in a test simulation and a minimum 1 hour study time, however note that this is primarily provided for individual learners who want proof of study in order to claim CE credits *and only reflects the score achieved at the time the two eligibility criteria were first met.*

As an instructor, you can also see student activity information from the SIMTICS Reports menu at group.simtics.com, in the Full Detail Report.

Student activity reports

Best practice: If you have an at-risk student, view their Full Detail Report to obtain insights into the work they’ve been doing with SIMTICS, what types of errors are tripping them up, and where they might need to spend more time.

Make sure you have a copy of the SIMTICS Group Administration and Reporting Guide which explains what reports and functions are available to you. You can download this from [the documentation page](#).

Note that when you view an individual student’s activity summary information, there is an option to view their Full Detail Report. This displays a detailed report for the student that includes all modules they have studied, with details of the dates and times they’ve worked on each module, all activities completed, scores achieved, and all errors they’ve made in the simulations.

“We know from experience that our students who devote more time to SIMTICS will do better than those who don’t. We now carefully track how much time each student spends on the SIMTICS simulations.”
Sima Dermishyan, Owner, Sacramento Ultrasound Institute

Trouble-shooting tip: Logbook “missing” study time or scores

Best practice: Make sure your students understand the tips below so their study time and scores are fully recorded in their logbooks.

Occasionally a student may complain that their study time or scores are not being recorded correctly. This is usually due to the way the student is using SIMTICS:

- if they exit from SIMTICS in a non-standard fashion, eg. they let their session “time out” or closed the browser window while their SIMTICS session was still active.
- if a quiz or simulation is not fully completed, eg. the student abandoned it part-way through, or was interrupted and the system timed out.
- if the student did not wait for their score to be displayed on-screen after completing the activity.

To ensure that all SIMTICS study time is logged, it is important that students exit from a module cleanly, either by clicking on the “Logout” button or selecting a different module to study.

To ensure that each simulation and quiz score is logged, the student must click through at the end of the activity so that *their score is displayed on-screen* (see image below). If they don’t wait for the score, then it won’t be calculated or recorded in their logbook.



"I will not teach without Simtics now."

Nicole Carter R.M.A., Medical Assistant Curriculum Director,
LAYC Career Academy

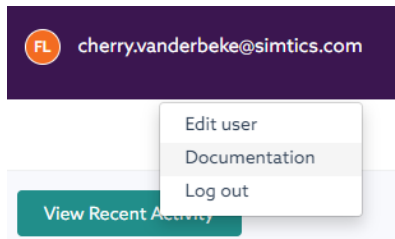
If you have suggestions for additional best practice tips to include in the next version of this document, please send an email to bestpractice@simtics.com.

Appendix 1: Help and Contact Information

Documentation for instructors

A variety of guides and videos are available from our [Instructor Documentation](#) page. The information covers SIMTICS in general, how to use the reporting system, LMS set-up and more.

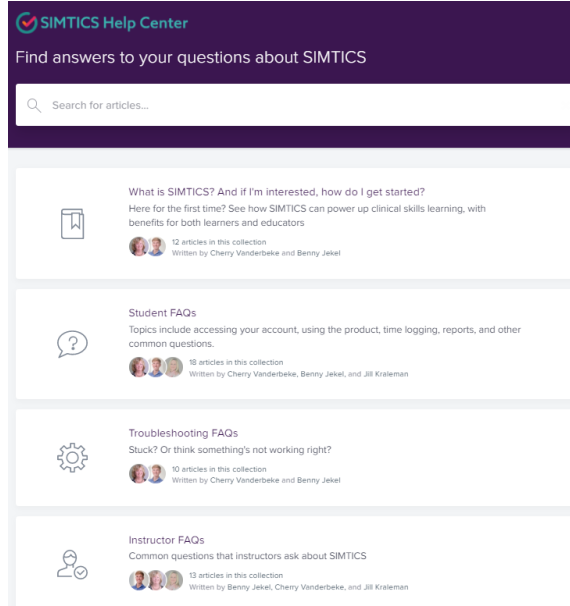
This documentation page is also accessible when you are logged in to group.simtics.com – click on your name to open the drop-down menu and select “Documentation”



Self-Service Help Center

You'll find a multitude of general informational and help articles here, for new users, students and instructors, and also troubleshooting tips:

<https://intercom.help/simtics/en/>



Live product support



Customer support is available through the chat function on the website during US business hours and into the evening via our New Zealand-based team. You'll see the chat icon in the bottom left corner of the page (see image to the left of this paragraph). If one of our support team is available, they will usually respond within a few minutes, however please leave your email address so we can reach you if all of our team members are tied up with other customers or you need to leave the chat page.

Email support

Please contact us through the website chat, outlined above, and type your message there with your email address. Our team's reply will be sent to you via email and will also appear in the chat.

Alternatively, you can email us at support@simtics.com however you will almost always get a faster response by using the website chat feature.

Note: Our website chat and the support email address are both monitored by the same team, so you only need to use one of those methods to contact us.

Sales administration (e.g. placing an order, paying an invoice, etc.)

Please email orders@simtutor.com

Company contact information

Email: info@simtutor.com

SimTutor Inc.
1700 Northside Drive Suite A7, PMB 915, Atlanta GA 30318

Please DO NOT use this address to send paper checks. Contact orders@simtutor.com for any queries regarding invoices or payments.

Websites

Company website: www.simtutor.com

SIMTICS product website: www.simtics.com



Social Media

Facebook

SIMTICS: <http://www.facebook.com/simtics.healthcare>
SimTutor: <https://www.facebook.com/simtutor>

LinkedIn

SIMTICS: <https://www.linkedin.com/company/simtics-ltd/>
SimTutor: <https://www.linkedin.com/company/simtutor/>

YouTube

SIMTICS: <https://youtube.com/simtics>
SimTutor: <https://www.youtube.com/channel/UCoOqhU8r462PrOPdpRHX2Rw>