

SIMBUILD™

User Manual

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What is SimBuild

SimBuild is a computer-based learning platform that uses engaging game technology to deliver an effective, interactive learning experience. SimBuild uses a software application and a web-based LMS (Learning Management System) to deliver and manage learning content.

Students perform activities in the application to acquire trade skills and reinforce basic academic skills while experimenting in the safety of a simulated environment. Student progress is uploaded to the LMS through an internet connection so they can track their progress.

The LMS lets teachers and admins monitor student progress through the application. The LMS also tracks progress through graded activities and correlates student performance with job skill competencies.

Workflow

SimBuild applications each contain 15-20 hours of activities. Each application is designed to augment existing programs by providing an accessible environment for students to practice fundamental carpentry or machine shop skills. SimBuild can be used to augment standard curriculum teaching by using it as a precursor to or alongside hands-on experiences to reinforce student learning.

Activities in SimBuild applications can be used as at-home or class assignments to familiarize students with job site skills and practices. SimBuild activities reinforce basic carpentry (SimBuild Carpentry) or machining (SimBuild Industrial) skills. The LMS works with SimBuild to track student progress through activities and familiarity with learning competencies.

Teachers can assign sets of activities, grouped by Systems, Sites, and Work Orders, to students. Students can complete these in classroom or at-home environments on supported devices (e.g. Windows laptop or pc).

SimBuild Applications

Applications are primarily used by students, but available for teachers and admins to use as well. As students progress through a SimBuild application, they perform activities that build skills and expand the knowledge gained in earlier activities. Their progress through activities is tracked in the application as well as the web-based LMS. Progress tracking requires an active internet connection to sync performance data.

SimBuild Carpentry



SimBuild Carpentry teaches practical skills used in residential construction while reinforcing academic disciplines in reading, math, and problem-solving. Through a collection of job-based activities, students learn skills including tool reading, applied construction math, framing, installation process, material estimation, and building system terminology.

SimBuild Carpentry content covers tools, materials, construction math, and construction tasks and terminology that aligns with objectives and performance tasks contained in the NCCER Level 1 Carpentry curriculum plans (5th Edition) and the NOCTI Carpentry Basic job-ready assessment blueprint. The LMS tracks competencies that are consistent with topic areas in the NCCER Level 1 Carpentry assessment contents.

Learning Competencies

After completing SimBuild Carpentry, students have covered the curriculum for entry-level carpentry or pre-apprenticeship carpentry training.

- Workplace Orientation & Safety
- Tools & Materials
- Construction Math & Plan Reading
- Floor Systems
- Wall Systems
- Windows & Door
- Stairs
- Ceiling & Roof Systems
- Roof Finishing
- Interior Finishing

SimBuild Industrial



SimBuild Industrial provides training in basic industrial skills needed by entry-level metalworkers. Practical shop math, measurements, and plan layout help students interpret shop drawings, part layouts, and machine settings. Students learn shop safety, machine operations, and proper tool use while reinforcing core reading, math, and problem-solving skills.

SimBuild Industrial content covers tools, shop math, plan reading, and machine identification and operation skills that align with job planning, precision measurement,

and manual machining competencies of NIMS Machining Level 1 credentials and MSI Manufacturing Technician Level 1 program.

Learning Competencies

After completing SimBuild Industrial, students have covered the curriculum for an entry-level machinists or pre-apprenticeship training for a machine shop or production trainee.

- Work Readiness
- Safe Practices
- Shop Math
- Benchwork
- Shop Plan Reading & Interpretation
- Machine Operations
- Measurement & Inspection
- Reading & Problem Solving

SimBuild LMS

The LMS is where the teacher tracks student progress and activity performance, manages class enrollment, user accounts and licenses, and prints student certificates of completion. Teachers can view student information by class and for individual students. Students can also track their own progress through the LMS student reports and print certificates of completion.

In addition to tracking completion progress and activity grades, the LMS tracks a student's progress as they acquire trade skills. The 'Competencies' section lists skill competencies for job readiness and students' completion progress for activities that grow those competencies.

Throughout the LMS, teachers can change the current class selection at the top of the screen. Where available, the ability to select a student will show here as well.

Teacher Dashboard

The 'Teacher Dashboard' provides high-level progress tracking for classes and their rosters. This overview includes class rosters, student overall grades, and their overall progress for active classes. Select a class from the dashboard to view that class's gradebook. Select a specific student to view their student report.

Selecting items on the 'Teacher Dashboard' is a great way to access specific class gradebooks or student reports. This information is also accessible from the LMS navigation in the sidebar.

Gradebook

The 'Gradebook' provides more detailed progress tracking for the currently selected class of students. Here, teachers are able to view progress for any active class they are managing. Administrators can view class progress for all active classes in their organization. To switch between classes, change the selected class at the top of the LMS screen.

- **Note** - Switch between grade and progress views to check class progress in key study activities or all activities, respectively.

Competencies

The 'Competencies' page provides teachers and administrators detailed tracking for skill and class competencies for the selected class. Competency progress is measured through student performance in specific activities.

The 'Competencies' page has detailed completion information, including:

- Real-world skills and principles related to the selected competency
- Overall class progress towards mastering the selected competency
- Activities that demonstrate competency mastery
- Number of students who have completed all activities related to a selected competency

Student Report

The 'Student Report' page provides all users a detailed account of the selected or logged in student's progress. On this page, users can:

- Generate a certificate if the student meets passing requirements
- View activity grades in key study activities
- View overall progress on all site, system, and work order activities
- View progress towards learning competencies
- View quiz performance and results (if quizzes were created and assigned)

Quizzes

The 'Quizzes' page displays all available quizzes that teachers can assign to students. Use the buttons on the right side of each quiz header to view or duplicate a quiz. You can expand the quiz panels to see the list of current assignments for that quiz. If desired, the 'Add Quiz' button allows teachers to add their own content to the system.

Download

This page provides all users with download links for SimBuild software applications. Anyone can download and install SimBuild on a supported device, but only users with a valid license key and user account can access the software's full library of activities.

- **Note** - Demo Mode is available in the software. This mode allows a user to try out the application and a limited selection of its activities.

Activities completed in demo mode are not uploaded to the LMS and are not attributed to a user account.

Help

The 'Help' page provides users on the LMS with a variety of help-oriented articles and topics. Select a topic from the menu on the left, or contact support at support@vrsim.net for assistance.

Setting Up SimBuild

SimBuild setup should be completed by the SimBuild Administrator. Working alongside an organization's IT team can help the process proceed smoothly.

Supported Devices and Requirements

SimBuild applications run on Windows laptops and PCs. SimBuild Carpentry is also available on Chromebooks with Play Store support. For more details on supported Chromebooks, please check this list of Chromebooks with Play Store support.

<<https://www.chromium.org/chromium-os/chrome-os-systems-supporting-android-apps>>

Minimum device requirements and recommended specifications are outlined here.

SimBuild Applications	Minimum Required	Recommended
Operating System	Windows 7, 8, 10 Chrome OS with Play Store support	Windows 10 Chrome OS with Play Store support
Processor	Intel Core i3	Intel Core i5 or better
Graphics	Intel Integrated Graphics HD 400 or equivalent	Intel Integrated Graphics HD 3000 equivalent or better

Memory	2 GB	8 GB
Storage	5 GB Available	5 GB or More Available
Input	Keyboard and Mouse or Touch Controls	Keyboard and Mouse or Touch Controls
Resolution	1024 x 768 (4:3 aspect ratio) or 1280 x 720 (16:9 aspect ratio)	1920 x 1080 (16:9 aspect ratio)
Network	<p>A network connection is required to use or access the LMS and its features</p> <ul style="list-style-type: none"> • Automatic Application-to-LMS performance syncing • Allow access to lms.simbuild.com <https://lms.simbuild.com> • Accept certificates with alternative domains or allow access to domain vrsim.com 	

SimBuild LMS	Minimum Required	Recommended
Browser	Chrome 43 Internet Explorer 10	Chrome (most recent version)
Screen Resolution	<i>n/a</i>	1920 x 1080
	<i>The LMS does not use a responsive website design, some user experiences may vary. A full-screen browsing experience is recommended for best results.</i>	
Other	A valid email address is required for New User creation and password reset services.	

- **Note** - SimBuild is not available on all devices. Interested in SimBuild on a different device? Let us know where you'd like to see SimBuild at support@vrsim.net.

Setup Process

1. **Designate a SimBuild Administrator.** This person will have access to all classes and be able to monitor all users and progress. An admin and teacher may be the same person.
2. **Collect the SimBuild license keys.** These should have been emailed to the designated SimBuild Administrator at the time of purchase. One key typically supports 1

administrator.

3. **Create the SimBuild Admin** using the admin license key.
4. **Distribute the teacher license key(s)** to the proper teachers. Teachers should use this license key to create their user accounts. One key typically supports 5 teachers.
5. **Distribute the student license key(s)** to the proper students. Students should use this license key to create their user accounts. One key typically supports 25+ students.

- **Optional** - Admins and Teachers can also create users ahead of time. This requires saving the login credentials and distributing them to the proper users. Admins can create teachers and students, while teachers can only create students.

6. **Set up classes and assign students and teachers to them.** Classes can be created ahead of time, but user accounts must be created in order to assign them to a class.
7. **Download the application(s)** from the download page on the LMS. This page will always have the latest version of software available. This page can be found at lms.simbuild.com/downloads <<https://lms.simbuild.com/download>>.
8. **Install SimBuild application(s)** on student and/or teacher workstations. Installation is fairly simple.
 - a. **On Windows devices:** download the latest and run the .exe file.
 - b. **On Chromebooks:** locate the app in the Google Play Store and install the application.

- **Note** - An active internet connection is required to sync performance data between the application and the LMS. This is easily verified by logging into the SimBuild application and looking for a green checkmark on the wi-fi icon.



SimBuild Licensing

The SimBuild platform contains multiple products to develop different trade skills. Each SimBuild application (Carpentry or Industrial) is a separately licensed software product that comes with access to a web-based LMS. Users access SimBuild by purchasing a license. Licenses are valid for a limited period of time and include access for a set number of users and roles.

After purchasing SimBuild product(s), a set of license keys is issued. These license keys provide access to the complete application and LMS. License keys include Admin, Teacher, and Student accounts. After the first year of use, user account fees must be renewed to maintain access to all features of the SimBuild application and data tracking in the LMS.

If your institution purchases more than one SimBuild product, all users can use the same accounts to access each product. Users will only need to register separate product keys on their account to gain access.

- **Note** - Teachers and Admins can see License Keys in the LMS when adding or managing users. The license key displayed reflects the role and product that are currently selected. Keep this in mind when managing users and licenses.

Users and Roles

SimBuild supports three types of users: Administrators, Teachers, and Students. All users have access to SimBuild applications. User roles differ strongly while using the LMS. While in the LMS, Admins and Teachers have access to management functions and overall progress measures that students do not.

Administrators - Admins oversee all SimBuild users. They can manage all classes, teachers, and students. Admins can monitor a class's overall progress as well as individual student progress.

Teachers - Teachers oversee their classes and students. Teachers can manage student users as well as classes the teacher is assigned to. Teachers can monitor their assigned class's overall progress as well as individual student progress.

Students - Students primarily perform activities in the SimBuild application and monitor their progress through assignments in the LMS.

User Setup and Signup

User accounts are used to access both the SimBuild LMS and application. Users must have a license key to create a SimBuild user account. New users can sign up and create their accounts at lms.simbuild.com <<https://lms.simbuild.com/login>>. To create a new user, click the 'new user' link under the login section.

Account creation requires:

- Username
- E-mail address
- Password
- First name

- Last name
- License key

Forgot a password? To reset a forgotten password, use the 'Forgot Password' link under the LMS login at lms.simbuild.com <<https://lms.simbuild.com/login>>. Administrators and Teachers can also edit student account information to change login passwords if needed.

Class Management

Teachers need to set up classes in the LMS in order to track student progress. Classes can only be managed by admins or teachers.

To manage classes, login with a Teacher or Admin account and select the 'Manage Classes' icon on the Teacher Dashboard <<https://lms.simbuild.com/dashboard>>. Find this icon next to 'Current Class' on the Teacher Dashboard page.



Add a class by filling out the info under the 'Add class' tab. Class name is required, but start and end dates are optional. Confirm your details and add the class with the 'Add class' button.

Add students or teachers to a class or assign teachers to a class by selecting them under the 'Available users' menu. Search for specific users by entering a portion of their name in the 'Search' field and clicking 'Apply'. After selecting the users who will be added to the class, click the 'Add users' button.

- **Note** - User accounts must be created before adding them to a class. Teachers can belong to multiple classes. Students may only belong to one. If you can't find a student user, check other class rosters or refresh the search by clicking the 'X' by the 'Search' field and 'Apply' to refresh the list of available users.

Edit an existing class by selecting the class name under the 'Active' tab. This will bring up the class details as well as the class roster. Edit the class's details under the 'Edit class' tab. Update the class roster in the 'Class roster' and 'Available users' menus.

Archive a class by ticking the checkbox next to the class, and selecting the 'Archive' button on the 'Manage Classes' screen. Archived classes will no longer be listed on the active classes tab. Archived classes can be activated again using the 'Restore' button found on the 'Archived' tab.

Archive a student by ticking the checkbox next to the student name, and selecting the 'Archive' button on the 'Manage Users' screen. Archived students can be activated again by selecting them and using the 'Restore' function.

Using SimBuild

Admins, Teachers, and Students use SimBuild in different ways, depending on their user roles. Admins and Teachers will manage Students and classes and track their progress in the LMS. Students will make progress by completing activities in the application and track that progress in the LMS.

Launch the Application

On Windows Devices: Launch SimBuild Carpentry or SimBuild Industrial by selecting the application from its install location. Select the Screen resolution, Graphics quality, Monitor (if on a device with multiple displays connected), and Windowed options that best suit your device. These can be adjusted any time the application is launched. Select 'Play!' to open the application.

On Chromebook Devices: Launch SimBuild Carpentry by selecting the application from its install location or opening it through the Play Store.

After launching the application, login using your account username and password. This account is the same account used to access the LMS. Students, Teachers, and Admins are all granted access to the SimBuild applications that correspond to their license(s). To reset a forgotten password, use the 'Forgot Password' link under the LMS login at **lms.simbuild.com** <<https://lms.simbuild.com/login>>.

Navigating the Application

Navigation in SimBuild applications is designed to be user-friendly and intuitive. Hover over icons for details on what each icon means or does.



Breadcrumb Trail - The 'Breadcrumb Trail' saves your steps along Site, System, and Work Order activity selections. As a Site, System, and Work Order are selected, the breadcrumb trail populates with these choices. Instead of backing out of all selections, just select a point on the breadcrumb trail to navigate back to that menu.



Back - Return to the previous screen.



Avatar Editor - Make changes to your avatar. The avatar is displayed throughout the application during Site, System, Work Order, and Activity selections.



Tools Browser - The 'Tool Browser' contains information about tools and materials used while performing activities. Select tools and materials to learn their names, use, features, and safety guidance.



Reward Browser - Rewards are granted to users who meet certain performance criteria in activities. Select a reward to read its requirements. Users may navigate directly to the reward activity by clicking the 'Activity Selection' button in the rewards information window.



Logout - Log out and return to the login screen without shutting down the application.



Options - Open the options menu to adjust sound effect and music volumes or exit the application. Select 'Save Changes' to confirm.

Performing Activities

After selecting an activity, users see the activity's goal. An on-screen prompt details what the user should accomplish and how. Here, users can select 'Show Controls' to see how to interact with activity. When viewing controls, select 'Show Goal' to return to the goal prompt. Select 'Okay' on either screen to proceed to the activity.

Some activities will show a list of 'Tools Used' in an activity. Select an icon from this list to learn more about that tool or material in the Tool Browser. Navigate back from the Tool Browser to return to the activity.

To complete an activity, answer all the questions and prompts correctly. A prompt at the end of the activity lets users know if the activity was completed successfully or if it is still incomplete. An incomplete activity may be caused by entering too many incorrect answers.

- **Note** - Logging out or exiting the application before completing an activity will not save a user's progress. To save progress, complete the activity and log out or exit the application after returning to the activity selection screen.

Teaching With SimBuild

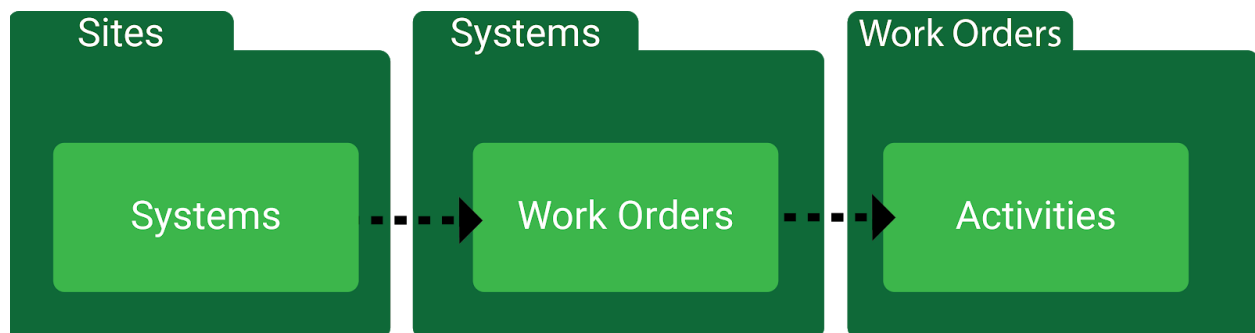
SimBuild applications augment traditional teacher-led training in the classroom or remote settings. Students can use a qualified device (e.g. Windows laptop or pc) to work on SimBuild activities in class, at home, or in a training facility.

SimBuild reinforces basic reading, math, and problem-solving skills while teaching fundamental construction and manufacturing competencies.

Assigning Content

SimBuild application activities are factored into a student's overall grade.

SimBuild activities are broken up by major work Sites. Each Site uses a set of Systems that focus on specific topics or processes (e.g. Job Planning, Work Area Prep). Systems contain a set of Work Orders. Users complete Work Orders by performing the Activities they contain (e.g. Identify PPE, Calculate Building Math). Each Activity is a series of questions designed to build on previous knowledge covered by SimBuild. It is generally recommended to progress from top to bottom in all lists.



Completing content means completing activities. Assignments can be easily managed by instructing users to complete the following:

- A single **System** of a specific **Site**
Recommended for small-sized or weekly assignments
- Two to Four **Systems** across one or more **Sites**
Recommended for medium-sized or monthly assignments
- A single **Site** and all of its contained **Systems**, **Work Orders**, and **Activities**
Recommended for large-sized or longer-term assignments

Activities in the application can be completed by users at any time during the class duration. An active class's start and end dates can be managed on the 'Manage Classes' screen of the LMS.

- **Optional** - Instructors may also create custom quizzes in the LMS and assign them to their classes.

Instructors may also create custom quizzes in the LMS and assign them to their classes.

Using the Gradebook



The gradebook page provides teachers and administrators detailed progress tracking for classes and students. A student's best attempt is recorded here. Select a student name from the roster at the top of the gradebook to view their Student Report. Use the letter filter at the top of the gradebook to sort and filter displayed students by name.

View Grades - View grades in key Study activities, organized by Site.

View Progress - View progress completion in all activities, organized by Site, System, and Work Order.

Quizzes - Quizzes are optional assignments created by teachers or admins. If quizzes were created and assigned, student scores will be reflected here.



Arrows - Use the arrows to collapse or expand the gradebook items. Collapsed views focus on overall performance in Sites, as opposed to more detailed activity performance.

Tracking Progress

Student progress is made through activities. As students complete activities, their performance is uploaded to the LMS and matched with learning competencies in SimBuild Carpentry or SimBuild Industrial.

- **Note** - An active internet connection is required to upload performance in the application to the LMS.

Students can track their progress by logging into the LMS. This will bring them to their individual student report. The student report details their Activity Grade, Overall Progress grade, and

Competency grade. Students can select any of these to access additional details on their performance.

Teachers can track class and student progress in specific activities with the Gradebook. To track student progress in specific skill competencies, Teachers should use the Competency section of the LMS. Here, teachers can select and expand a competency to see detailed information on what the competency requires, which key studies contribute to it, overall class progress, and individual student progress towards mastering that specific competency.

Certificates

Students receive a certificate of achievement after the successful completion of SimBuild programs. Successful completion requires an average grade of 70 or better and overall progress score of 80% or better. Ungraded activities must be passed for the LMS to recognize them as completed. Performance requirements may be overridden by the Teacher or Admin.

Troubleshooting and Support

Students should contact their SimBuild teacher if they feel their scoring is incorrect. Teachers can consult the answer guide to verify student results are accurate. To report a scoring discrepancy, email support@vrsim.net or call (860) 893-0080 for assistance.

Frequent Troubleshooting Help

SimBuild Application or LMS Forgotten Username or Password

Steps to recover a forgotten username or password for your SimBuild account.

Next Steps

Students: Let your Teacher or SimBuild Administrator know. They will need to retrieve or update your account information.

Teachers: Let your SimBuild Administrator know. They will need to retrieve or update your account information.

Teachers & Administrators:

1. Sign into the LMS.
2. If multiple products are purchased, select the product that corresponds to the user whose information is being accessed.
3. Select 'Manage Users'.
4. Search to find usernames.
5. To change a password, put a check next to the user you want and select 'Reset Password'.
6. Send the username and/or password information to the user.

SimBuild Application "Server Did Not Respond" Error on Login

This message appears when attempting to log in: "Server Did Not Respond" or "The server did not respond to the login request. There may be an issue with your connection to the server."

Next Steps

1. Check if you are connected to the internet (wifi or ethernet cable).
2. Open an internet browser and verify you can reach "www.google.com".
3. Try logging in again. Note that it may take more than 1 attempt.
4. Verify with your IT department that the SimBuild domain has been whitelisted: "lms.simbuild.com".

SimBuild Application "The Profile Failed to Load" Error on Login

This message appears when attempting to log in: "The Profile Failed to Load" or "There may be an issue with the credentials that were entered."

Next Steps

1. Try logging in again. The username or password may have been mistyped.
2. Check if your username or password has special characters (ex. &, +) or diacritical marks (ex. â, é). If so, sign in to your LMS account and go to [your user page](#) to remove these characters from your username. Repeat the login process.

SimBuild Application 'Glass Box Activity' Controls

Activity controls are not clear, not working, or unable to complete the activity.

Next Steps

On Windows devices, hold and drag the right mouse button to move the box. The control directions depict the opposite of what is required.