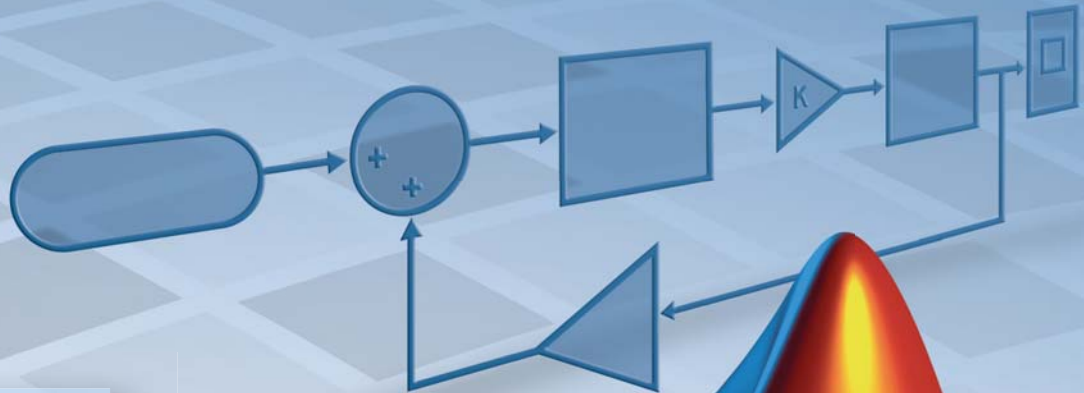


R2010a

MATLAB[®] & SIMULINK[®]

STUDENT VERSION



ALSO INCLUDES:

- » Symbolic Math Toolbox™
- » Control System Toolbox™
- » Signal Processing Toolbox™
- » Signal Processing Blockset™
- » Statistics Toolbox™
- » Optimization Toolbox™
- » Image Processing Toolbox™

Introduction and Installation Instructions

How to Contact MathWorks



www.mathworks.com
comp.soft-sys.matlab

Web
Newsgroup



suggest@mathworks.com
bugs@mathworks.com
doc@mathworks.com
info@mathworks.com

Product enhancement suggestions
Bug reports
Documentation error reports
Sales, pricing, and general information



508-647-7000 (Phone)



The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760-2098

For localities outside the U.S., see the MathWorks Web site.

MATLAB® & Simulink® Student Version Introduction and Installation Instructions

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Introducing MATLAB & Simulink Student Version

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What Is Student Version?

If you are studying engineering, science, math, or finance, then MATLAB® & Simulink® Student Version is your essential technical computing resource.

Student Version includes full-featured versions of both the MATLAB and Simulink software used by engineers, scientists, and mathematicians at leading universities, research laboratories, technology companies, and government laboratories around the world. Student Version also includes several other MathWorks® software add-ons that help you do course work in the areas of signal processing, control design, statistics, optimization, and symbolic computing.

For more information about what Student Version contains and what you can do with it, see “Student Version Overview” on page 1-8.

Student Use Policy

The Student Version License is for use in conjunction with courses at degree-granting institutions. The MathWorks offers this license as a special service to the students and asks your help in seeing that its terms are not abused.

To use this Student License, you must be a student enrolled at a degree-granting higher education institution, or be a student or teacher at a high school or pre-university school. You may not use this Student License at a company or government laboratory. Also, you may not use it if you are an instructor at a university, or for research, commercial, or industrial purposes. In these cases, you can acquire the appropriate professional or academic license by contacting The MathWorks at www.mathworks.com/academia/student_version).

Quick Start

In this section...

“Installing Student Version” on page 1-3

“Student Version Activation” on page 1-3

“Learning the MATLAB Programming Language” on page 1-5

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Installing Student Version

MATLAB & Simulink Student Version includes MATLAB, Simulink, and seven other MathWorks products.

You can download Student Version at http://www.mathworks.com/downloads/student_downloads, or request a Student Version DVD.

To perform the DVD installation, see Chapter 2, “Installation Instructions”.

Student Version Activation

Activation is a secure process that verifies licensed student users. This process validates the serial number, ensuring that it is not used on more systems than allowed by The MathWorks, Inc. Software License Agreement. For activation, provide this information:

- Registration information, by creating a MathWorks Account
- The serial number and the Machine ID for the computer on which you are installing the software
- Proof of student status, if you did not provide proof of student status at the time of purchase

The easiest way to activate your software is to use the activation program that starts following after product installation. The activation program guides you through the activation process.

For more information about activation, see
www.mathworks.com/academia/student_version/activation.html.

Learning the MATLAB Programming Language

The MATLAB technical computing environment uses a programming language that you must learn before you can fully exploit its power. You can learn the basics quickly, and mastery comes shortly. Student Version gives you a highly productive, highly creative computing power that changes the way you work.

Task	Action
Install and activate MATLAB	See Chapter 2, “Installation Instructions”
Start MATLAB	<p>(Microsoft® Windows® Platforms) On your desktop, double-click the MATLAB icon.</p> <p>(AppleMacintosh® Computers) In the MATLAB installation folder (Applications, by default), double-click the MATLAB icon.</p> <p>(Linux® operating systems; Linux is a registered trademark of Linus Torvalds.) At the command prompt, enter the <code>matlab</code> command.</p>
Learn MATLAB quickly	<ul style="list-style-type: none"> • View the MATLAB tutorial designed for students at http://www.mathworks.com/academia/matlabtutorial. • View the online demo videos, as follows: <ol style="list-style-type: none"> 1 Start MATLAB. 2 In the MATLAB Help browser Contents pane, click MATLAB. 3 Click Demos. 4 Expand Getting Started and click the name of any demo video. <p>You can find a large selection of demos at http://www.mathworks.com/products/demos/.</p> • View the recorded Introduction to MATLAB presentation at http://www.mathworks.com/wbnr31351. • Read the <i>MATLAB Getting Started Guide</i>.

Task	Action
	Learn are how to enter matrices, how to use the : (colon) operator, and how to invoke functions. After you master the basics, you can access the rest of the documentation through the online help facility.
Print this document	<p>You need a PDF reader, such as an Adobe® Acrobat® product. The PDF reader opens a .pdf file.</p> <ol style="list-style-type: none"> 1 In a Web browser, go to the following URL: http://www.mathworks.com/access/helpdesk/help/helpdesk.html. 2 Search for Student Version. Click the link for the associated .pdf file. 3 In the PDF reader, select File > Print.
Find detailed information about using MATLAB and troubleshooting.	See “Finding Reference Information” on page 1-14 and “Other Resources” on page 1-16.

Learning to Use Simulink Software

You can quickly learn how to use Simulink for modeling, simulating, and analyzing dynamic systems.

What I Want	What I Should Do
Start Simulink	(Windows Platform) Start MATLAB. Click the Simulink icon on the toolbar to start Simulink.
Learn Simulink quickly	<ul style="list-style-type: none"> • View the Simulink tutorial designed for students at http://www.mathworks.com/academia/simulinktutorial. • View demos, as follows: <ol style="list-style-type: none"> 1 Start MATLAB. 2 In the MATLAB Help browser Contents pane, click Simulink. 3 Click Demos and click the name of any demo.

What I Want	What I Should Do
	<p>You also can find a large selection of demos at http://www.mathworks.com/products/demos/.</p> <ul style="list-style-type: none">• View a recorded Simulink presentation, such as “Introduction to Simulink,” on the MathWorks Web site.• Read the <i>Simulink Getting Started Guide</i>. <p>These resources help you learn how to model, simulate, and analyze dynamic systems. Because Simulink is graphical and interactive, you can start using Simulink quickly. After you master the basics, you can access the rest of the documentation through the online help facility (Help).</p>

Student Version Overview

In this section...
“What You Can Do with Student Version” on page 1-8
“Products Included in Student Version” on page 1-9

What You Can Do with Student Version

Student Version includes MATLAB and Simulink software, the premier software packages for technical computing in education and industry. Student Version provides the features and functionality of the professional versions of:

- MATLAB software, with no limitations
- Simulink software, with model sizes up to 1000 blocks and a few minor limitations, described in “Student Version Differences” on page 1-10.

With the Student Version, you have access to high-performance numeric computing, modeling, and simulation power. Student Version also includes several other MathWorks software add-ons in areas such as controls, signal processing, statistics, and image processing.

Many industries use MathWorks software, including automotive, aerospace, electronics, environmental, telecommunications, computer peripherals, finance, and medicine. More than one million technical professionals worldwide rely on MATLAB and Simulink as the fundamental tools for their engineering and scientific work at the most innovative:

- Technology companies
- Government research laboratories
- Financial institutions
- Universities (more than 3500 universities)

Products Included in Student Version

MATLAB

MATLAB is a high-level language and interactive environment that lets you focus on your course work and applications, rather than on programming details. MATLAB enables you to solve many numerical problems in a fraction of the time it takes to write a program in a lower-level language such as Java™, C, C++, or Fortran. You can also use MATLAB to analyze and visualize data using automation capabilities, avoiding the manual repetition common with other products.

Programming and developing algorithms are faster with MATLAB than with traditional languages because MATLAB supports interactive development. You do not need to perform low-level administrative tasks, such as declaring variables and allocating memory. Thousands of engineering and mathematical functions are available, eliminating the need to code and test them yourself. MATLAB provides all the features of a traditional programming language, including arithmetic operators, flow control, data structures, data types, object-oriented programming (OOP), and debugging features.

MATLAB helps you better understand and apply concepts in a wide range of engineering, science, and mathematics applications, including signal and image processing, communications, control design, test and measurement, financial modeling and analysis, and computational biology. Add-on toolboxes (collections of task- and application-specific MATLAB functions, available separately) extend the MATLAB environment to solve particular classes of problems in these application areas.

With over 1,000,000 users, MATLAB is recognized as a standard tool for increasing the productivity of engineers and scientists. Employers worldwide consistently report the advantages of being proficient in using MATLAB.

Student Version Differences. There are a few small differences between Student Version and the professional version of MATLAB software:

- The MATLAB prompt in Student Version is
EDU>>
- Printouts contain the footer:

Student Version of MATLAB

Simulink

Use the Simulink interactive tools for modeling, simulating, and analyzing dynamic systems, including controls, signal processing, communications, and other complex systems. Simulink supports linear and nonlinear systems, modeled in continuous time, sampled time, or a hybrid of the two. Systems can also be multirate (systems can have different parts that are sampled or updated at different rates).

You can easily build new models, or take an existing model and add to it. You have instant access to all the MATLAB analysis tools, so you can take the results and analyze and visualize them. A goal of Simulink is to give you a sense of the fun of modeling and simulation through an environment that encourages you to pose a question, model it, and see what happens.

Thousands of engineers around the world use Simulink to model and solve real problems. Simulink is a tool that you can use throughout your professional career.

Student Version Differences.

- Accelerator mode and Rapid-Accelerator simulation mode are not available in Student Version.
- You can use Model blocks in Normal mode only.
- Models, including the blocks in referenced models, are limited to 1000 blocks.
- Printouts contain the footer:
Student Version of MATLAB.

Additional Products Included

Student Version includes several other add-on products that extend MATLAB and Simulink.

Product	Description
Control System Toolbox™	Tools for systematically analyzing, designing, and tuning linear control systems. You can specify a linear model of your system; plot its time and frequency responses to understand how the system behaves; tune the controller parameters using automated and interactive techniques; and verify performance requirements, such as rise time and gain and phase margins.
Signal Processing Toolbox™	Industry-standard algorithms for analog and digital signal processing.
Signal Processing Blockset™	Efficient frame-based processing and Simulink blocks for designing, implementing, and verifying signal processing systems. The blockset enables you to model streaming data and multirate systems in communications, audio and video, digital control, radar and sonar, consumer and medical electronics, and other numerically intensive application areas.
Statistics Toolbox™	Statistical tools to assess and understand numeric data. The toolbox includes functions and interactive tools for modeling data, analyzing historical data, simulating systems, developing statistical algorithms, and learning and teaching statistics.
Optimization Toolbox™	Widely used algorithms for standard and large-scale optimization. These algorithms solve constrained and unconstrained continuous and discrete problems. The toolbox includes functions for linear programming, quadratic programming, nonlinear optimization, nonlinear least squares, solving systems of nonlinear equations, multiobjective optimization, and binary integer programming.

Product	Description
Image Processing Toolbox™	Reference-standard algorithms and graphical tools for image processing, analysis, visualization, and algorithm development. You can restore noisy or degraded images, enhance images for improved intelligibility, extract features, analyze shapes and textures, and register two images.
Symbolic Math Toolbox™	<p>Tools for solving and manipulating symbolic math expressions and performing variable-precision arithmetic. The toolbox contains hundreds of MATLAB symbolic functions that leverage the MuPAD® engine for tasks such as differentiation, integration, simplification, transforms, and solving equations.</p> <p>Symbolic Math Toolbox also includes the MuPAD language, which is optimized for handling and operating on symbolic math expressions. It provides libraries of MuPAD functions in common mathematical areas, such as calculus and linear algebra, as well as specialized areas, such as number theory and combinatorics. You can extend the built-in functionality by writing custom symbolic functions and libraries in the MuPAD language. You can access all functions from within MATLAB or from the MuPAD notebook interface, where you can manage and document your symbolic computations.</p>

Demos. Student Version includes many product demos. For example, a demo version of Stateflow® software lets you edit and run Simulink models. You can use Stateflow to design and simulate state machines and control logic. However, you cannot save models when you use the demo version.

Obtaining Additional MathWorks Products

Many college courses recommend MATLAB and Simulink products as standard instructional software. In some cases, the courses require particular toolboxes, blocksets, or other products. Toolboxes and blocksets are add-on products that extend MATLAB and Simulink with domain-specific capabilities. Student Version includes some of these products, and many more are available separately for use with Student Version. You can purchase and download these additional products at lower student prices from the MathWorks Store, at www.mathworks.com/store.

Some examples of the products that you can purchase are:

- Bioinformatics Toolbox™
- Communications Blockset™
- Financial Toolbox™
- Fuzzy Logic Toolbox™
- Neural Network Toolbox™
- Stateflow (Student Version includes a demo version of Stateflow software)

For a complete list of available products and their product dependencies, go to the online MathWorks Store.

Note The additional toolboxes and blocksets that are available for use with Student Version have the same functionality as the professional versions (with the exception of SimMechanics™ software, which has a 20-body limitation). However, the student versions of the toolboxes and blocksets work only with Student Version. The professional versions of the toolboxes and blocksets do not work with Student Version.

Finding Reference Information

What I Want	What I Should Do
How to use a specific function	<p>You have several choices, including:</p> <ul style="list-style-type: none"> • From the command line, use the help command (for example, <code>help print</code>) to see help text in the Command Window, or use the <code>doc</code> command (for example, <code>doc print</code>) to see the reference page in the Help browser. • Use the online help facility (Help). To access Help, use the command <code>helpbrowser</code> or use the Help menu. In the Help browser, select a product in the Contents pane, and then click Functions.
Find a function for a specific purpose, but I do not know the function name	<p>You have several choices, including:</p> <ul style="list-style-type: none"> • In the Help browser, select a product in the Contents pane, and then click Functions. • Use Search in the Help browser. • From the command line, use <code>lookfor</code> (for example, <code>lookfor inverse</code>).
What functions are available in a general area	Use the Help browser to view Functions for a product or use Search .
How to use a specific block	In the Help browser, click a Simulink product or Control System Toolbox, and then click Blocks .
Find a block for a specific purpose, but you do not know the block name	<p>You have several choices, including:</p> <ul style="list-style-type: none"> • In the Help browser, select Blocks. • Use Search in the Help browser.

What I Want	What I Should Do
What blocks are available in a general area	Use the Help browser to view Blocks for a product or use Search .
Learn about a specific topic, such as sparse matrices, ordinary differential equations, or cell arrays	Use the Help browser to locate the topic in the documentation for a product included with Student Version (for example, MATLAB > Mathematics > Sparse Matrices).

Other Resources

In this section...
“MathWorks Web Site” on page 1-16
“Technical Support” on page 1-17

MathWorks Web Site

At www.mathworks.com, you can find information about MathWorks products and how they are used in education and industry. Also, you can find product demos and books about MATLAB and Simulink software.

Web-Based Documentation

You can find documentation for all MathWorks software in the Support area of the MathWorks Web site. In addition to tutorials and function reference pages, you can find PDF versions of all the manuals.

MathWorks Academia Web Site

At www.mathworks.com/academia, you can find resources for students for courses in engineering, mathematics, and science.

Books About Using MATLAB and Simulink Software

At www.mathworks.com/support/books, you can find books in many disciplines that use MATLAB and Simulink for examples and assignments.

The MathWorks Store

At www.mathworks.com/store, you can purchase add-on products and documentation.

MATLAB Central – File Exchange/Newsgroup Access

At www.mathworks.com/matlabcentral, you can access the MATLAB Usenet comp.soft-sys.matlab newsgroup, as well as an extensive library of files that users contribute to the MATLAB Central File Exchange. MATLAB

Central also contains the Link Exchange, where you can share your favorite links to various educational, personal, and commercial MATLAB Web sites.

The `comp.soft-sys.matlab` newsgroup is for professionals and students who use MATLAB and have questions or comments about it and its associated software. Use this important resource for posing questions and answering queries from other MATLAB users. MathWorks staff also participates actively in this newsgroup.

Technical Support

At www.mathworks.com/support, you can get technical support.

Telephone and e-mail access to our technical support staff is not available for students running Student Version unless you are experiencing difficulty installing or downloading MATLAB or related products. There are numerous other vehicles of technical support that you can use.

If you experience a problem that is unrelated to installing MATLAB or related products, look at the available MathWorks sources for help. If you still cannot resolve your problem, contact your instructor. Your instructor might be able to help you. (Registered instructors who have adopted Student Version in their courses have access to telephone and e-mail technical support.)

Installation Instructions

You can download Student Version at http://www.mathworks.com/downloads/student_downloads, or request a Student Version DVD.

This chapter describes how to install and activate Student Version using the Student Version DVD:

- “Installing Student Version on Microsoft Windows Platforms” on page 2-2
- “Installing Student Version on Apple Macintosh Computers” on page 2-6
- “Installing Student Version on Linux Operating System Platforms” on page 2-13

Installing Student Version on Microsoft Windows Platforms

In this section...
“System Requirements” on page 2-2
“Installing and Activating Student Version” on page 2-2
“Installing Additional Products” on page 2-5

System Requirements

- Windows XP (Service Pack 3) Microsoft Windows Vista™ (Service Pack 1 or 2) or Windows 7
- Any Intel® or AMD® x86 processor
- 1 GB disk space (MATLAB only)
- 1 GB RAM or higher (2 GB or more recommended)

Note For detailed and current information on system requirements, see http://www.mathworks.com/support/sysreq/current_release/.

MEX-Files

MEX-files are dynamically linked subroutines that MATLAB automatically loads and executes. MEX-files provide a mechanism by which you call your own C and Fortran subroutines from MATLAB as if they were built-in functions.

To build your own MEX-files, you need a supported compiler.

For the most up-to-date information about compilers, see the support area at the MathWorks Web site (http://www.mathworks.com/support/sysreq/current_release/).

Installing and Activating Student Version

This procedure installs the Student Version software and documentation.

- 1** Exit any existing copies of MATLAB that you are running.
- 2** Insert the Student Version DVD into your DVD drive. The installation script launches automatically. If the installation script does not launch in a short time, run `setup.exe` from the DVD.
- 3** Read the information in the MathWorks Installer dialog box, and then click **Next**.
- 4** Review the software licensing agreement and, if you agree with the terms, select **Yes** and click **Next**.
- 5** Select the installation type and click **Next**.

Typical installation installs all products. Custom installation gives you control over the installation, such as selecting which products to install. Use the Custom installation if you are an advanced user and you do not need detailed instructions. The remainder of these steps provide instructions for a Typical installation.

- 6** In the Folder Selection dialog box, accept the default installation folder for Custom installation or specify a different folder where you want to install MATLAB. If the folder does not exist, the installer creates it. Click **Next**.
- 7** In the Confirmation dialog box, confirm your installation options. To change a setting, click **Back**. To proceed with the installation, click **Install**.

After a successful installation, the activation process begins by displaying the Activation Overview dialog box.

The Activation Overview dialog box outlines the steps for the activation process, as follows.

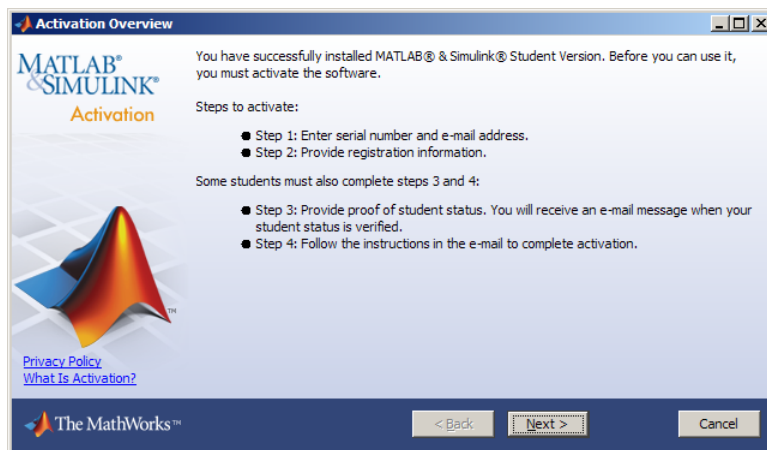
Step 1. Enter your serial number and e-mail address.

Step 2. Provide registration information by creating a MathWorks account.

Some students must also complete Steps 3 and 4.

Step 3. Provide proof of student status.

Step 4. If you receive an e-mail indicating you have been authenticated, follow the instructions in that e-mail to complete the activation.



8 Click **Next**.

The Student Use Policy dialog box opens. If you are a student using the software for course work at a school, college, or university, select **Yes** and then click **Next**. If you are not a student using the software for course work at school, college, or university, select **No**, and then click **Cancel**. You cannot use this software if you do not fit the description presented in this dialog box.

9 Follow the steps to complete the activation process.

At the completion of the activation process, you can use Student Version.

In certain cases, your software is temporarily activated for 30 days until your proof of student status is verified. In these cases, you are reminded that your activation is temporary and that you need to complete the activation process. After your proof of student status is verified, your activation is complete.

Note If you encounter a problem during the activation process, check http://www.mathworks.com/academia/student_version/faq/index.html for more information.

- 10** To start MATLAB, double-click the MATLAB icon that the installer creates on your desktop.
- 11** Customize any MATLAB environment options, if desired. For example, to specify welcome messages, default definitions, or any MATLAB expressions that you want executed every time you invoke MATLAB, you must create a file named `startup.m`. For Windows XP operating system, create `startup.m` in the `My Documents\MATLAB` folder. For other supported Windows platforms, create `startup.m` in the `Documents\MATLAB` folder. Every time you start MATLAB, it executes the commands in the `startup.m` file.
- 12** Perform any additional configuration by typing the appropriate command at the MATLAB command prompt. For example, to configure the MATLAB Notebook, type `notebook -setup`. To configure a compiler to work with the MATLAB External Interface, type `mex -setup`.

For more details about installation, see the *Installation Guide*.

Installing Additional Products

To purchase and install additional products, go to the MathWorks Store at www.mathworks.com/store. After you purchase a product, you can download the product and its online documentation to your computer.

When you download a product, you receive an installation program for the product. To install the product and its documentation, run the installation program by double-clicking the installer icon. After you successfully install the product, all of its functionality and documentation are available to you when you start MATLAB.

Installing Student Version on Apple Macintosh Computers

In this section...
“System Requirements” on page 2-6
“Installing and Activating Student Version” on page 2-7
“Installing Additional Products” on page 2-12
“Documentation for Macintosh Computers” on page 2-12

System Requirements

- Mac® OS X 10.5.5 (Leopard) and above, Mac OS X 10.6 (Snow Leopard)
- All Intel-based Macs
- 1 GB disk space (MATLAB only)
- 1 GB RAM (2 GB or more recommended)

Note For detailed and current information on system requirements, see http://www.mathworks.com/support/sysreq/current_release/.

MEX-Files

MEX-files are dynamically linked subroutines that MATLAB automatically loads and executes. MEX-files provide a mechanism by which you call your own C and Fortran subroutines from MATLAB as if they were built-in functions.

To build your own MEX-files, you need a supported compiler.

For the most up-to-date information about compilers, see the support area at the MathWorks Web site (http://www.mathworks.com/support/sysreq/current_release/).

Installing and Activating Student Version

This procedure installs the Student Version software and documentation.

Permissions

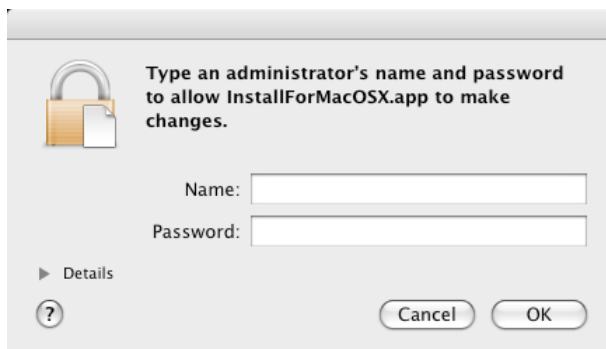
If you want to install Student Version in a particular folder, you must have the appropriate permissions. For example, to install MATLAB software in the Applications folder, you must have administrator status.

Note The user account you set up when you configured your Mac computer is an administrator account. If you do not know the user name and password for an administrator, check with the person who administers your Macintosh computer.

To create symbolic links in a particular folder, you also need the appropriate permissions. For information on setting permissions (privileges), see the Apple® Macintosh computer help information (press **Command+?** from the desktop).

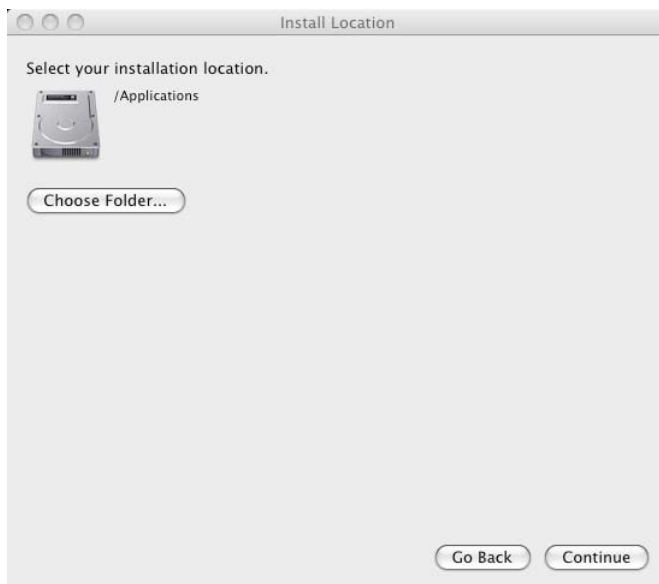
Installation Procedure

- 1** Insert the Student Version DVD into the DVD drive. When the DVD icon appears on the desktop, double-click it to display the DVD contents.
- 2** Double-click the InstallForMacOSX icon to begin the installation.
- 3** In the dialog box, enter a user name and password for an administrator, and then click **OK**.

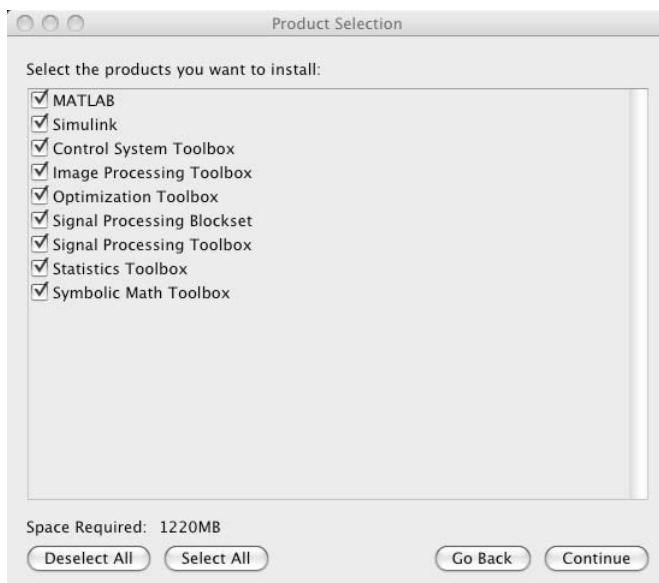


- 4 When the **MathWorks Installer** window opens, review its contents. Click **Continue**.
- 5 The Software License Agreement displays. If you agree to its terms, click **Continue**.
- 6 Choose your installation location. If you accept the default, the installer puts the `MATLAB_R2010aSV` application in the `Applications` folder on your system disk. To accept the default, click **Continue**. To change the location, click **Choose Folder**, and then navigate to the location you want.

Note Your installation folder name cannot contain spaces, the @ character, the % character, or the \$ character. You cannot install into a folder named `private`, but you can have a folder named `private` on the path. To create the installation folder in this location on your system, you must have administrator privileges. For information on setting privileges, see the help for the Macintosh computer (press **Command+?** from the desktop).



- 7** From the list of products, select the products you want to install. Click **Continue**.



- 8** After a successful installation, the installer displays the **Installation Complete** window. Click **Continue** to activate MATLAB.



The Activation Overview dialog box opens and lists the steps to activate your Student Version.

The prompt asks you to either to complete just the first two steps, or to complete all four steps.

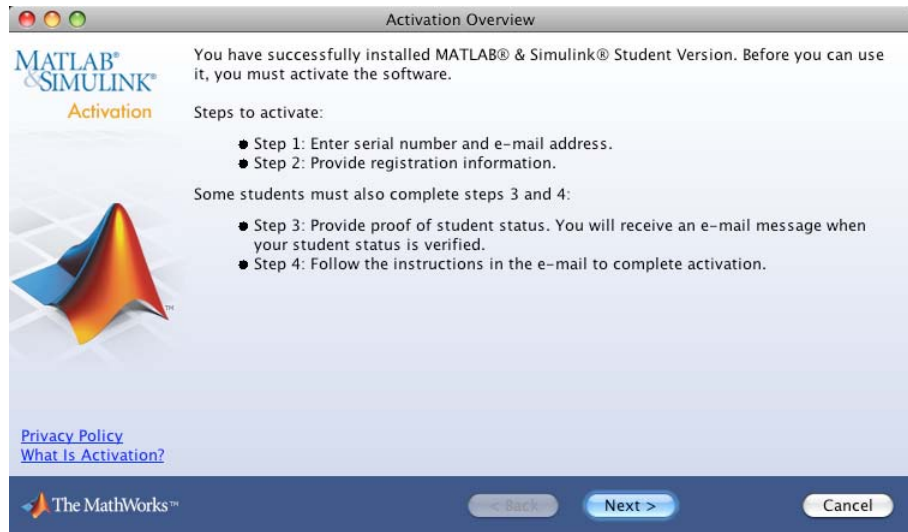
Step 1. Enter your serial number and e-mail address.

Step 2. Provide registration information by creating a MathWorks account.

Some students must also complete Steps 3 and 4.

Step 3. Provide proof of student status.

Step 4. If you receive an e-mail indicating you have been authenticated, follow the instructions in that e-mail to complete the activation.



9 Click **Next**.

You see the Student Use Policy dialog box. If you are a student using the software for course work at a school, college, or university, select **Yes** and then click **Next**. If you are not a student using the software for course work at school, college, or university, select **No**, and then click **Cancel**. You cannot use this software if you do not fit the description presented in this dialog box.

10 Follow the steps to complete the activation process.

At the completion of the activation process, you are able to use Student Version.

In certain cases, your software is temporarily activated for 30 days until your proof of student status is verified. In these cases, you will be reminded that your activation is temporary and that you need to complete the activation process. After your proof of student status is verified, your activation is complete.

Note If you encounter a problem during the activation process, see http://www.mathworks.com/academia/student_version/faq/index.html for more information.

- 11 In the MATLAB installation folder (Applications, by default), start MATLAB by double-clicking the MATLAB icon.

Note For detailed installation information, see the *Installation Guide for Mac OS® X*.

Installing Additional Products

To purchase and install additional products, go to the MathWorks Store at www.mathworks.com/store. After you purchase a product, you can download the product and its online documentation to your computer.

Documentation for Macintosh Computers

The documentation for MathWorks products does not vary for individual platforms unless the product or feature is available only on a particular platform. When there is a specific difference for the Macintosh computers, the documentation describes the platform differences.

Installing Student Version on Linux Operating System Platforms

In this section...

“System Requirements” on page 2-13

“Installing and Activating Student Version” on page 2-14

“Installing Additional Products” on page 2-19

System Requirements

- Ubuntu 8.04, 8.10, 9.04, and 9.10; Red Hat Enterprise Linux 5.x; OpenSUSE 11.x; Debian 5.x
- Any Intel or AMD x86 processor
- 1 GB disk space (MATLAB only)
- 1 GB RAM (2 GB or more recommended)

Note For detailed and current information on system requirements, see http://www.mathworks.com/support/sysreq/current_release/.

MEX-Files

MEX-files are dynamically linked subroutines that MATLAB automatically loads and executes. MEX-files provide a mechanism by which you call your own C and Fortran subroutines from MATLAB as if they were built-in functions.

To build your own MEX-files, you need a supported compiler.

For the most up-to-date information about compilers, see the support area at the MathWorks Web site (http://www.mathworks.com/support/sysreq/current_release/).

Installing and Activating Student Version

This procedure installs the Student Version software and documentation.

Privileges

On most systems, you need root privileges to perform certain steps in the installation procedure.

Installation Procedure

- 1 Insert the Student Version DVD into the DVD drive.

If your DVD drive is not accessible to your operating system, mount the DVD drive on your system. Create a folder to be the mount point for it:

```
$ mkdir /dvd
```

Mount a DVD drive using the command:

```
$ mount /dvd
```

If your system requires that you have root privileges to mount a DVD drive, these commands work on most systems:

```
$ su root  
# mount -t iso9660 /dev/dvd /dvd
```

To enable nonroot users to mount a DVD drive, include the `exec` option in the entry for DVD drives in your `/etc/fstab` file, as in the following example:

```
/dev/dvd /dvd iso9660 noauto,ro,user,exec 0 0
```

This option is often omitted from the `/etc/fstab` file for security reasons.

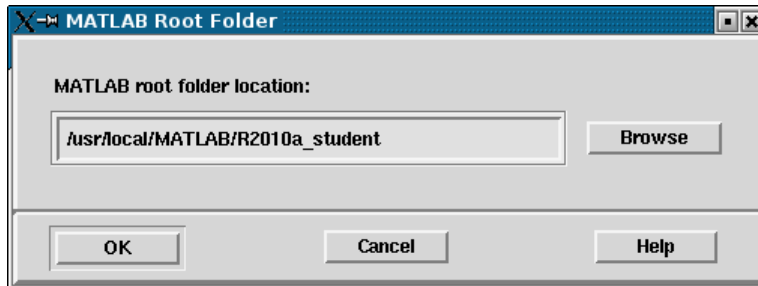
- 2 Start the MathWorks Installer by running the install script.

```
/dvd/install_unix.sh
```

You see the MathWorks Installer dialog box. Read the information, and then click **OK**.

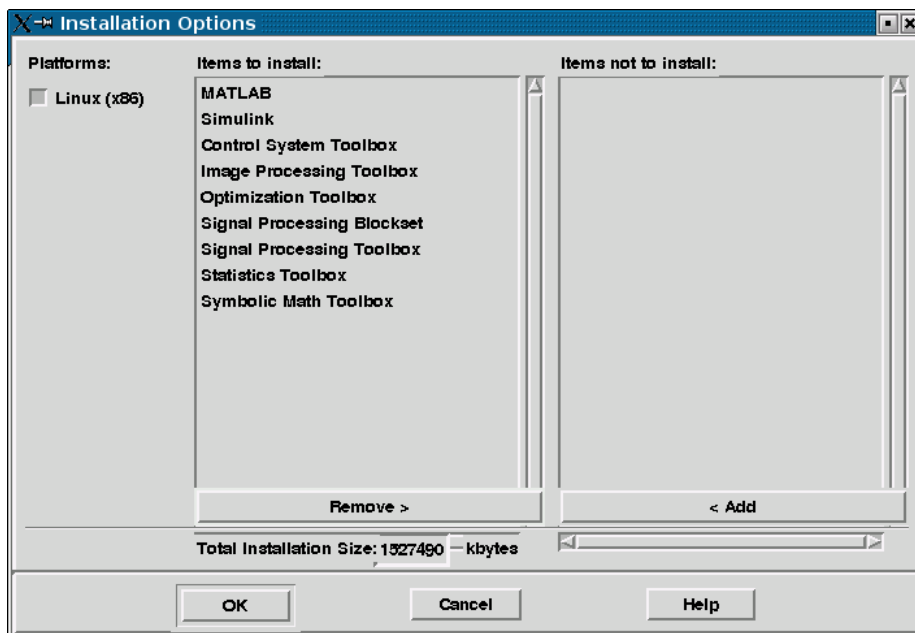
Note If you need additional help on any step during this installation process, click the **Help** button at the bottom of the dialog box.

- 3 The Software License Agreement displays. If you agree to its terms, click **Yes** to continue the installation.
- 4 In the MATLAB Root Directory dialog box, verify the name of the folder in which you want to install MATLAB. If the MATLAB root folder is correct, click **OK**.



Subsequent instructions in this section refer to this directory as *matlabroot*.

- 5 In the Installation Options dialog box, select the products you want to install.

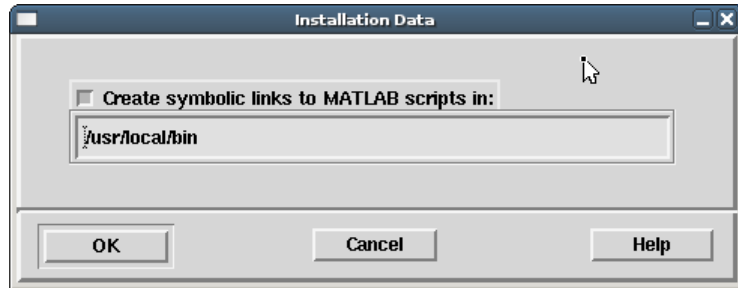


The products that you are licensed to install are in the **Items to install** list box. If you do not want to install a product, select it and click **Remove**. The installer moves the product to the **Items not to install** list.

To install the complete Student Version, keep all the products listed in the **Items to install** list.

After you select the products you want to install, click **OK**.

- 6 In the Installation Data dialog box, specify the folder in which you want to install symbolic links to the `matlab` and `mex` scripts. Choose a folder that is common to the paths of all users, such as `/usr/local/bin`. Log in as `root` to specify the folder. If you choose not to set up these links, you can still run MATLAB; however, specify the full path to the MATLAB startup script. Click **OK**.



- 7** In the Begin Installation dialog box click **OK** to start the installation. During the installation, the installer displays information about the status of the installation.

When the installation successfully completes, the Installation Complete dialog box opens.

- 8** Click **Continue** to begin the activation process.

The Activation Overview dialog box opens and describes the steps in the process, as follows:

The prompt asks you either to complete just the first two steps, or to complete all four steps.

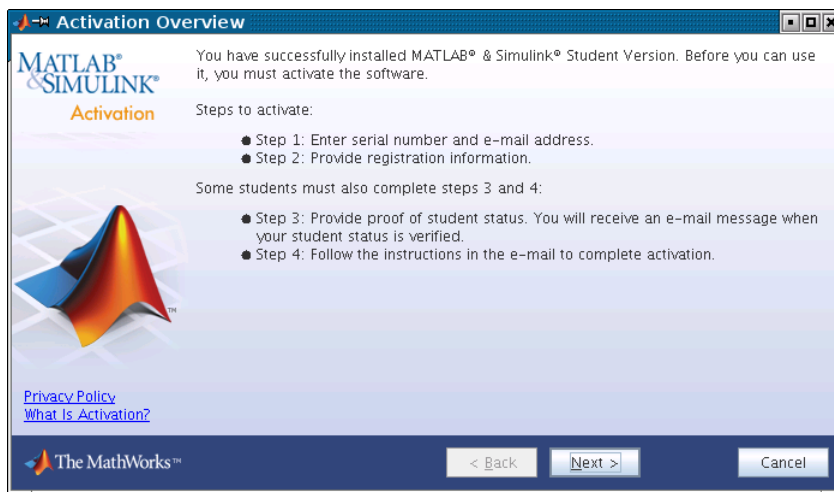
Step 1. Enter your serial number and e-mail address.

Step 2. Provide registration information by creating a MathWorks account.

Some students must also complete Steps 3 and 4.

Step 3. Provide proof of student status.

Step 4. If you receive an e-mail indicating you have been authenticated, follow the instructions in that e-mail to complete the activation.



9 Click Next.

The Student Use Policy dialog box opens. If you are a student using the software for course work at a school, college, or university, select **Yes** and then click **Next**. If you are not a student using the software for course work at school, college, or university, select **No**, and then click **Cancel**. You cannot use this software if you do not fit the description presented in this dialog box.

10 Follow the steps through the activation process.

At the completion of the activation process, you can use Student Version.

In certain cases, your software is temporarily activated for 30 days until your proof of student status is verified. In these cases, you will be reminded that your activation is temporary and that you need to complete the activation process. After your proof of student status is verified, your activation is complete.

Note If you encounter a problem during the activation process, check http://www.mathworks.com/academia/student_version/faq/index.html for more information.

- 11 Start MATLAB by entering the `matlab` command. If you did not set up symbolic links in a directory on your path, provide the full path to the `matlab` command:

```
matlabroot/bin/matlab
```

where *matlabroot* represents your MATLAB installation folder.

Installing Additional Products

To purchase and install additional products, go to the MathWorks Store at www.mathworks.com/store. After you purchase a product, you can download the product and its online documentation to your computer.

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