

MATLAB

STUDENT SOFTWARE

Engineers, scientists, and mathematicians at the world's leading universities, technology companies, and government labs use MATLAB and Simulink to solve their most challenging technical computing problems. With student software, you can use the same tools to complete your coursework.

There are two options for purchasing student software:

- MATLAB and Simulink Student Suite includes MATLAB, Simulink, and 10 of the most widely used add-on products for control systems, signal and image processing, statistics, optimization, and symbolic math.

- MATLAB Student gives you access to MATLAB and provides the flexibility to choose from more than 50 domain-specific add-ons including Simulink.

MATLAB

MATLAB is a high-level technical computing language and interactive environment for algorithm development, data visualization, data analysis, and numeric computation. Using MATLAB, you can solve technical computing problems faster than with traditional programming languages. You can integrate your MATLAB code with other languages and applications.

Key Features

- Development environment for managing code, files, and data
- Interactive tools for iterative exploration, design, and problem solving
- Mathematical functions for linear algebra, statistics, Fourier analysis, filtering, optimization, and numerical integration
- 2D and 3D graphics functions for visualizing data
- Tools for building custom graphical user interfaces
- Functions for integrating MATLAB-based algorithms with external applications and languages, such as C, C++, Fortran, Java, COM, and Microsoft Excel
- Object-oriented programming for rapid application development without engaging in low-level housekeeping tasks

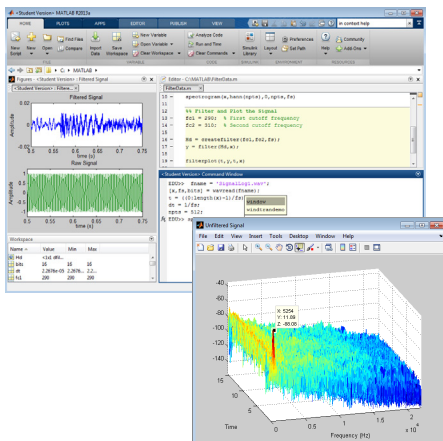
- Generation of Simulink blocks from symbolic math expressions in Symbolic Math Toolbox

Simulink

Simulink is a platform for multidomain simulation and Model-Based Design of dynamic systems. It provides an interactive graphical environment and a customizable set of block libraries that let you accurately design, simulate, implement, and test dynamic systems, such as control signal processing, and communications.

Key Features

- Extensive and expandable libraries of predefined blocks
- Interactive graphical editor for assembling and managing intuitive block diagrams
- Built-in support on Windows for prototyping, testing and running embedded/autonomous models on low-cost target hardware, such as Arduino, LEGO MINDSTORMS, and Raspberry Pi
- Ability to manage complex designs by segmenting models into hierarchies of design components
- Model Explorer to navigate, create, configure, and search all signals, parameters, and properties of your model
- MATLAB Function blocks for bringing MATLAB algorithms into Simulink
- Accelerated simulation modes for running simulations interpretively or at compiled C code speeds using fixed- or variable-step solvers



MATLAB development environment. You can develop algorithms, interactively analyze data, view data files, and manage projects.

- Graphical debugger to examine simulation results and diagnose unexpected behavior in your design
- Full access to MATLAB for analyzing and visualizing data, developing graphical user interfaces, and creating model data and parameters

Products in MATLAB and Simulink Student Suite

Control System Toolbox

Design and analyze control systems

Data Acquisition Toolbox

Connect MATLAB to data acquisition hardware

DSP System Toolbox

Design and simulate signal processing systems

Image Processing Toolbox

Perform image processing, analysis, and algorithm development

Instrument Control Toolbox

Connect MATLAB directly to instruments such as oscilloscopes, function generators, signal analyzers, power supplies, and analytical instruments

Optimization Toolbox

Solve standard and large-scale optimization problems

Signal Processing Toolbox

Perform signal processing, analysis, and algorithm development

Simulink Control Design

Compute PID gains, linearize models, and design control systems

Statistics and Machine Learning Toolbox

Perform statistical modeling and analysis

Symbolic Math Toolbox

Perform mathematics using symbolic computation and variable-precision arithmetic

Getting additional MathWorks products

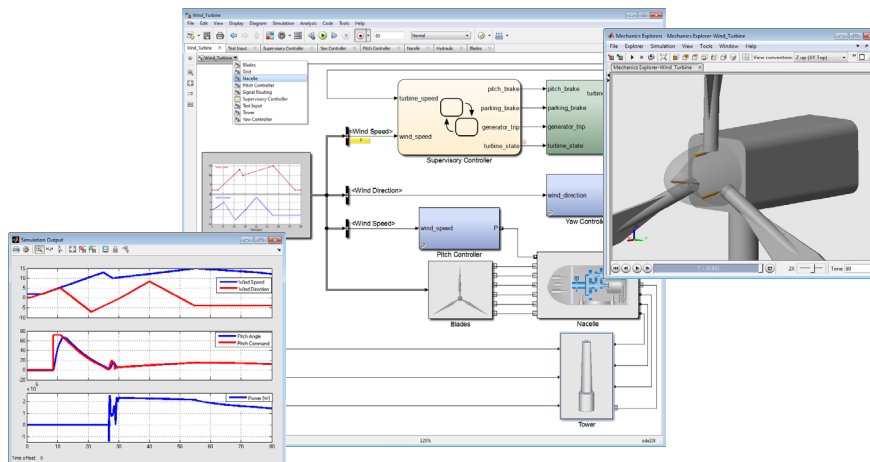
Students can purchase additional products to add to their student software package. For the complete list of add-on products, visit mathworks.com/student/add-ons.

Acceptable Software Use

Student software is for use by students on student-owned hardware to meet course requirements and perform academic research at degree-granting institutions only. It is not available for government, commercial, or other organizational use.

Ordering MATLAB and Simulink Student Suite

Ask your campus bookstore to stock MATLAB and Simulink Student Suite (ISBN-13: 978-0-9896-140-23), or send your students to the MathWorks Store at mathworks.com/store to purchase it online.



Simulink environment. You can construct a model by assembling design components, each of which can be a separate model.

RESOURCES

MathWorks in Academia

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MATLAB and Simulink Based Tutorials

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