Innovative Online Format for Mathematica® Courses

New Options from Wolfram Education Group

Wolfram Education Group is now offering online certified Mathematica training. In addition to step-by-step courses, customers may now take a training class from the comfort of their own home or office—almost anywhere around the globe! This is an attractive alternative for customers who prefer the familiarity of their own computer, as well as for those with financial constraints on travel.

Online training courses are identical in content to Wolfram Education Group’s site-based courses and are taught by the same certified instructors. Taking an online class requires a phone line and internet connection for web conferencing. Upon registration, students are given instructions for joining the class and downloading courseware.

Since the program’s inception three years ago, Wolfram Education Group has expanded to accommodate users of varying levels and interests. Additions to the catalog include courses in specialized fields such as parallel computing, image processing, and neural networks. With the new online education option, Wolfram Research brings high-quality Mathematica training to a growing number of users around the world.

Both M101: A First Course in Mathematica and M110: Working with Data Using Mathematica can be taken online. Additional classes will be posted to the schedule soon.

For more information: www.wolfram.com/weg

Growing Global Adoption of Mathematica

Mathematica has broadened its impact as the global standard for technical computing with new, government-sponsored multinational adoptions. These initiatives will educate users on Mathematica technology and expand current national science programs. The Nordic Education Centre (NE C)—a joint venture between Wolfram Research and LMI C (the Danish IT Centre for Education and Research)—is integrating Mathematica Training to Denmark, Norway, Sweden, Finland, and Iceland for the first time, with courses on complex data analysis, modeling, and symbolic calculation. As a Wolfram Research Expertise Partner, NE C is supported with special discounts on licensing kits, free training for NE C personnel, and enhanced marketing support from Wolfram Research.

Mathematica technology has also been chosen to improve programs in science and technology in the Arab states by the United Nations Educational, Scientific, and Cultural Organizations (UNESCO). The UNESCO Office (UCO) will establish a Mathematica demonstration and training center for the 22 Arab states (except for the UCO. Minister of Technology and education foregrounded the Arab states will then be able to visit the center and learn how they can use the technology to build and improve curricula in their own countries. Similar training was presented for the first time in the Arabian Peninsula at the Mathematica Gulf Conference in Oman.

These collaborations are the latest in a series of large-scale developments dedicated to promoting Mathematica training worldwide.

World’s Largest Collection of Mathematical Functions Now Online
87,160 Formulas and 10,828 Graphics about Mathematical Functions Are Available Free at The Wolfram Functions Site

Special functions—with names like Bessel functions, hypergeometric functions, and elliptic functions—define focal points of mathematical knowledge. The Wolfram Functions Site provides the most comprehensive collection of such knowledge in a readily accessible way, making it an important resource for mathematicians, scientists, engineers, and students. Several widely used handbooks of mathematical functions have been published, the largest of which contains only 15,000 formulas. Traditional handbooks also included a limited amount of graphics illustrating the properties of functions. With Mathematica, a huge number of new visualizations of functions have become possible. The Wolfram Functions Site, with partial support from the National Science Foundation, assembles over 10,000 of these, and many more are being planned.

Material in The Wolfram Functions Site can be downloaded in several standard formats, including Mathematica 5, PostScript, and PDF. Formulas can be copied from the site and immediately used as input to a computer system. For ease of citation, each formula has been assigned a unique, permanent ID. While having far surpassed previous knowledge bases for mathematical functions, continued growth is projected for The Wolfram Functions Site, with new searching capabilities, external contributions, and new datasets of graphics and information.

Visit the site at: functions.wolfram.com

Also New Online

A New Kind of Science
Stephen Wolfram’s groundbreaking book, now online with complete text and images, full searchability, 30,000+ links, and many other enhanced features.

“The many in the sciences believe that what Wolfram’s lain out in this great 1,714-page book fundamentally re-organizes the way we see the universe, and some few have critical line for not making such a significant text more freely available. Nice to have! This is probably the most rigorous reading you’ll do all year, and—if you’re talking to undergraduates—extraordinarily riveting.”

— USA Today, February 2002

www.wolframscience.com/nksonline

mathworld.wolfram.com, the most visited math site on the web, has a new look! Many Mathworld™ notebooks and packages can also be downloaded for use in Mathematica. Check back often for the latest updates.

mathworld.wolfram.com

Contributed Mathematica Packages in the Mathematica Information Center
The 536 solutions for the world’s oldest puzzle, the Locus of Archimedes, are given in an Mathematica notebook.

library.wolfram.com/infocenter/MathSource/5108

A coding theory package was developed for the course Error-Correcting Codes with Mathematica.

library.wolfram.com/infocenter/MathSource/5085

AELink is an application that allows Mac OS X users to send AppleEvents from Mathematica.

library.wolfram.com/infocenter/MathSource/5114

See how to construct zonotiles, a generalization of Penrose tilings, in which rhombs, hexagons, and other shapes arise.

library.wolfram.com/infocenter/MathSource/5197

Experience Exchange
Submit your nonproprietary journal or conference articles, papers, web links, or other Mathematica-related success stories to experience@wolfram.com. If we feature your work on our website, we’ll send you a Mathematica T-shirt.

www.wolfram.com/mathematica/experience

Mathematica Adopted as Exclusive Curriculum Tool in India High Schools.

The State Government of Gujarat has introduced Mathematica into the upper-level math and science curriculum for the 12th Standard under their Classroom Project for High Schools. Gujarat, one of the largest, most prosperous states in India, recently passed a resolution making Mathematica a regular part of the syllabus. To facilitate the implementation, local teachers with Mathematica expertise have published a computer science textbook in accordance with the syllabus. Entitled Introduction to Computer Science (Science Stream) of Standard 12, this textbook explains how to use Mathematica by providing examples of useful constructs and functions, as well as illustrative problem sets and solutions.


Intell Talent Search Finalists Researches Enzymes with Mathematica
As a senior at Snowy River High School, 17-year-old Varun Narendra placed among 40 finalists in the 2003 Intel Science Talent Search, a competition often referred to as the Junior Nobel Prize. Narendra used Mathematica to create a model that could help treat Gaucher’s Disease, a genetic disorder Patients with Gaucher’s Disease need enzyme replacement therapy to properly metabolize fat cells. The therapy is effective in most cases, but it is not a cure. Because the cost of the lifelong treatments can exceed $200,000 a year, Narendra researched a way to determine each person’s optimal enzyme dosage by testing enzymatic reactions within the blood cells. He then created a mathematical representation of these reactions using Mathematica and spent 250 hours by coding loops in his project.


Now Available

CalculationCenter 2 for Networks and Students
New editions of CalculationCenter 2 offer more convenient and inexpensive access for a wider range of user environments.

Network CalculationCenter 2 lets sites optimize a given number of licenses over a larger group of users. Using the MathML Licensing Manager, it simplifies system installation and maintenance and offers the convenience of working from any networked computer.

CalculationCenter for Students is a fully functional, discounted option for students to use on their personal computers and is ideal for those enrolled in business, statistics, and other related courses.

For more information, visit: www.wolfram.com/calculationcenter

Mathematica 5 for AMD64 Increases Speed by Up to 50%
Mathematica 5 is among the first technical computing platforms specifically designed to provide optimal performance for the AMD64 architecture. The new Mathematica port outperforms a regular Linux version of Mathematica on AMD64 systems by up to 50% in typical scientific and technical calculations. With the release of Mathematica 5 and gnuMathematica® for Linux on AMD64, Wolfram Research continues to provide advanced technical computing options for the latest and most-advanced microprocessor systems.

For more information, visit: www.wolfram.com/news/amd64.html

webMathematica 2.1 for Fast, Efficient Web Computation
webMathematica now delivers web computations with the increased speed and scope of Mathematica 5. Users of webMathematica 2.1 can spend less time building applications and waiting for results, and more time exploring the new functionality now available to them.

New 64-bit platforms and server options for Mathematica 5 enable the development of very intensive, robust webMathematica applications that can be deployed within virtually any existing infrastructure. Additionally, new graphic, web, and matrix file formats let users integrate more features into their webMathematica application.

For more information, visit: www.wolfram.com/webmathematica

GUIKit
Try GUIKit Version 1.0 Beta for the Development of Graphical User Interfaces with Mathematica
GUIKit simplifies the construction and layout of common graphical user interface (GUI) programming components while minimizing the need to know all details of the underlying Java framework. It is ideal for developing interactive GUIs that can be used to expose the full, rich functionality of Mathematica to beginning users through customized, targeted interfaces, or to provide transparent connectivity to systems outside of Mathematica. GUIKit renders native-looking platform windows and dialog boxes containing text fields, sliders, and other mouse-driven utilities. It was developed to help users enhance their existing add-on packages and create new ones, such as sophisticated demos and presentations, interactive courseware, applications, and wizard designs and tools built on specific Mathematica functionality. The beta release provides a high-level Mathematica expression syntax for defining a graphical user interface along with a runtime environment for deployment, and includes many examples of GUIKit implementations.

For more information, visit: www.wolfram.com/mathlink/gui kit

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