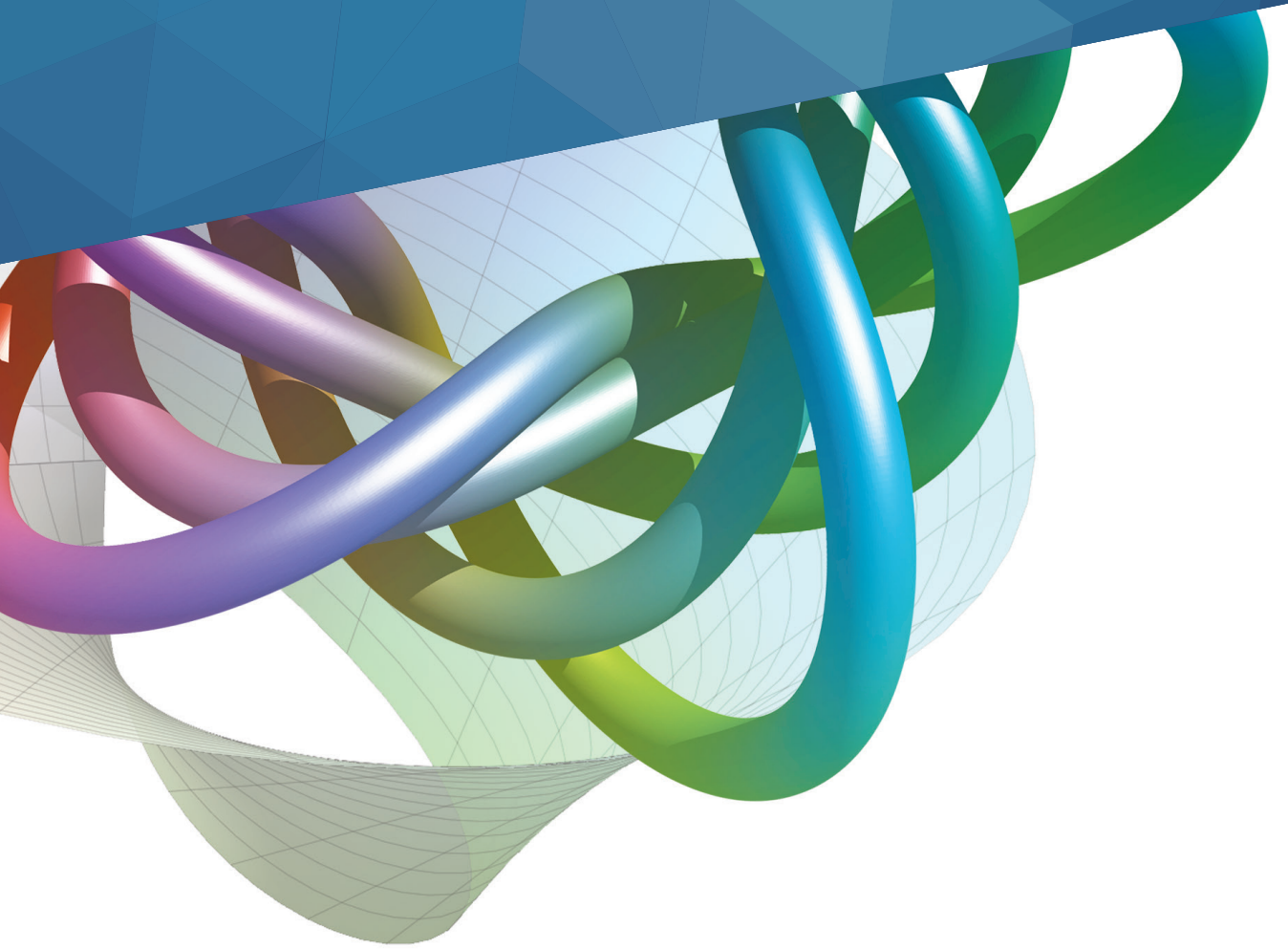
Solutions for Every Aspect of STEM Education



Maplesoft™

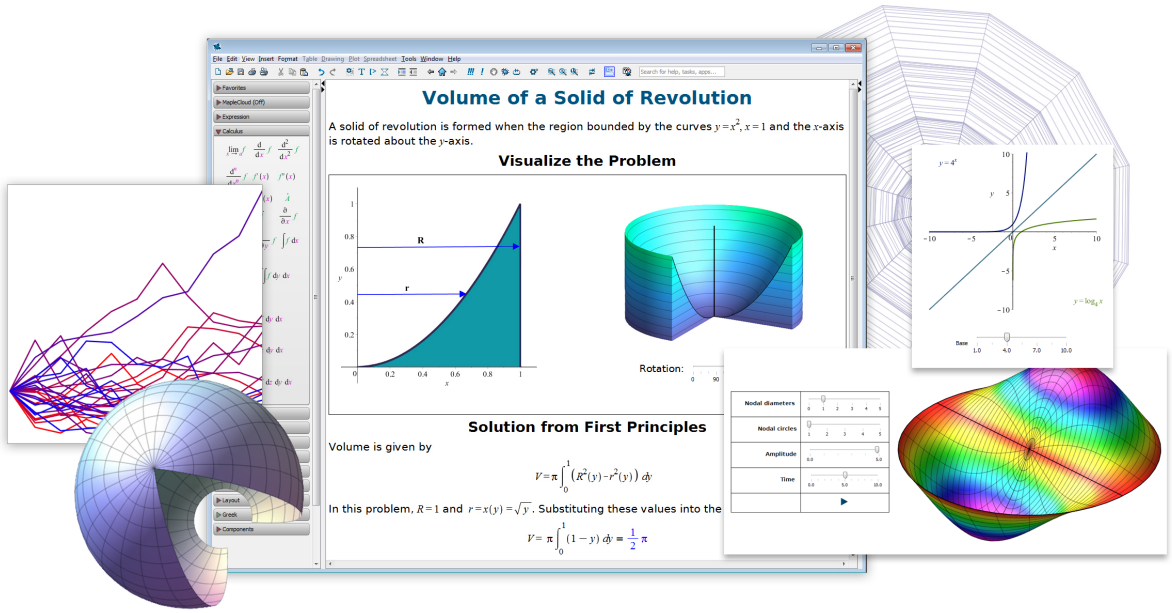
Mathematics • Modeling • Simulation

A Cybernet Group Company

Maple™

The Essential Tool for Mathematics

Maple™ is math software that combines the world's most powerful math engine with an interface that makes it extremely easy to analyze, explore, visualize, and solve mathematical problems. With Maple, you aren't forced to choose between mathematical power and usability, making it the ideal tool for both education and research.



Extremely Powerful Math Engine

Maple has the depth, breadth, and performance to meet all your mathematical challenges.

- Over 5000 functions covering virtually every area of mathematics, including calculus, algebra, differential equations, statistics, linear algebra, geometry, and much more
- Symbolic, numeric, and hybrid computation algorithms
- World-leading algorithms for solving problems that are beyond the reach of any other software system
- Sophisticated 2-D and 3-D plotting and animations
- Efficient algorithms and tools for high performance computing and large-scale problem solving

Incredibly Easy to Use

Whether you are doing a quick calculation, developing complex algorithms, illustrating a concept, or creating an interactive technical document, Maple makes it easy to get the job done.

- Clickable Math™ interaction for point-and-click problem solving
- Sophisticated programming language designed for mathematics
- Specialized tools specifically for teaching and learning key topics in calculus, algebra, and more
- Rich authoring environment for creating technical documents and applications

Application areas include:

Calculus
Visualization
Differential Equations
Control Design
Financial Modeling
Transforms
Code Generation
Parallel and Grid Computing
Algebra
Statistics
Polynomial Systems
Physics
Scientific Data Management
Curve Fitting
Application Development
Web Deployment
Matrices and Vectors
Geometry
Advanced Mathematics
Optimization
Signal Processing
Units and Tolerances
CAD Connectivity
...and much more!

Maple Add-ons

Maple Global Optimization Toolbox
Powered by Optimus®

Formulate optimization models easily inside the powerful Maple numeric and symbolic system, and then use world-class optimization technology to return the best answer robustly and efficiently.

Maple Grid Computing Toolbox

Deploy your parallel programs to large-scale compute clusters and supercomputers, taking full advantage of all available processing power to tackle very large problems.

Maple IDE
Powered by DigiArea

Increase your productivity with an integrated development environment for the Maple programming language.

Join the Maple Community!

Maple is used by more than 8000 educational institutions, research labs, and companies, in over 90 countries. When you choose Maple, you are immediately supported by:

- Thousands of examples, applications, and Math Apps contributed by Maple users
- Active online community dedicated to sharing experiences, techniques, and opinions
- Teacher and student resource centers, with classroom materials, training videos, tips and techniques, and more

E-learning Solutions

Maple T.A.™

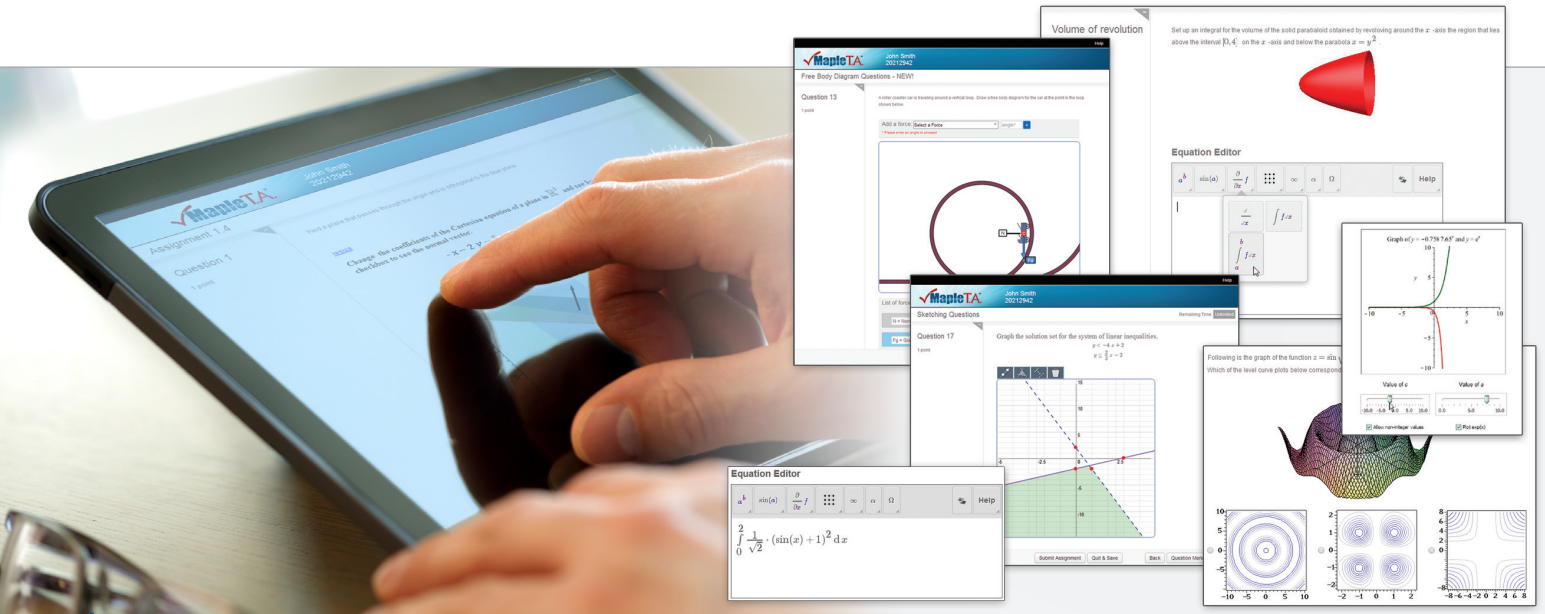
Online Testing and Assessment

Maple T.A.™ is a powerful online testing and assessment system designed especially for courses involving mathematics. Its unparalleled abilities allow instructors to truly assess student understanding of math-based concepts, making it ideal for science, technology, engineering, and mathematics (STEM) courses. Compatible with virtually any course management environment, Maple T.A. can be seamlessly integrated into your online learning infrastructure. It also supports mobile strategies in education by allowing students to access their tests and assignments from tablet devices.

- **Designed especially for courses involving mathematics**
  Science, technology, engineering, and mathematics (STEM) courses have their own requirements when it comes to automated assessment, and Maple T.A. was designed specifically to meet those needs. Offering standard math notation, sophisticated plotting, free-response math questions, intelligent grading of responses, and more, Maple T.A. provides everything you need to take full advantage of automated assessment in your math-based courses.
- **Compatible with virtually any online course management environment**
  From augmenting a standard course management system to providing automated assessment for a custom-built MOOC, Maple T.A. can be seamlessly integrated into all your online offerings. Maple T.A. can be integrated with Blackboard®, Moodle™, and more, offering single sign-on, a consolidated gradebook, and easy access to all student assignments regardless of where they were created.
- **Mobile-accessible**
  Today's students expect mobile access to all their course materials, including tests and assignments. Whether you are developing a full mobile strategy or simply giving students a way to do homework from the campus coffee shop, Maple T.A. provides a tablet-compatible assessment environment that works with iPad®, Android™ tablets, and more.

Getting started with Maple T.A. is easy!

Licensing options include a Maplesoft-hosted solution for worry-free server setup and maintenance.

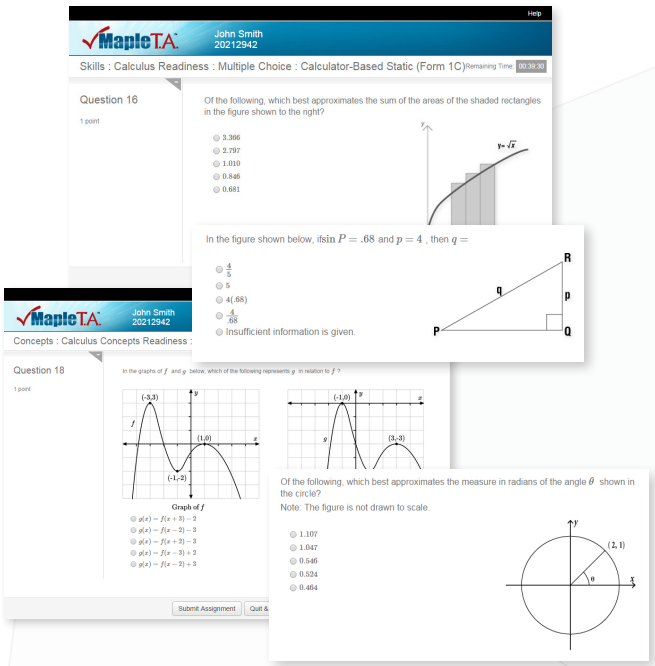


Maple T.A. MAA Placement Test Suite

Partnering with the Mathematical Association of America (MAA) to Revolutionize Placement Testing

MAA
MATHEMATICAL ASSOCIATION OF AMERICA

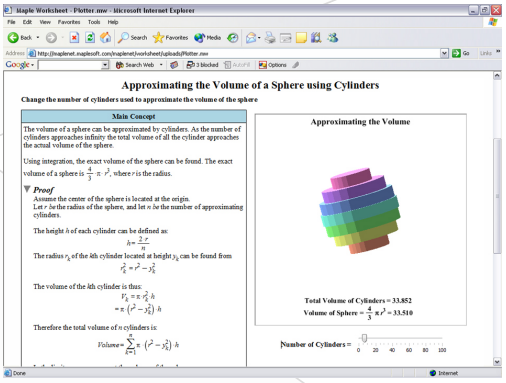
- **Easy to administer.** Deliver tests online, without the logistical headaches of room scheduling, paper copy delivery, marker hiring, marathon marking sessions, and manual mark entry.
- **Placement before scheduling.** Because tests are taken online, placement testing can be done at any time before students arrive on campus. Class scheduling can then be done using the placement information.
- **Created by experts.** MAA placement test items are written and MAA placement tests are constructed by panels of college mathematics teachers who are directly involved with teaching students the courses served by the placement tests. Final approval for each test comes from the MAA.
- **Comprehensive.** Topics include calculus and calculus concepts readiness; trigonometry and elementary functions; basic, regular, and advanced algebra; arithmetic; and high school mathematics. Standard, calculator-based, and algorithmic tests are available.



MapleNet™

Bringing the Power of Maple to Your Web Site

With MapleNet, you can easily share your Maple documents, calculators, and technical applications. Your colleagues and students can interact with your content, perform calculations, and visualize results, all from within a standard web browser. Maple provides the most intuitive interface available for creating web applications that rely on mathematical computations.



Möbius

Möbius™ is a comprehensive online courseware environment that focuses on science, technology, engineering, and mathematics (STEM). It is built on the notion that people learn by doing. With Möbius, your students can explore important concepts using engaging, interactive applications, visualize problems and solutions, and test their understanding by answering questions that are graded instantly. Throughout the entire lesson, students remain actively engaged with the material and receive constant feedback that solidifies their understanding.

We want to hear from you!

If you are involved in a project to develop online education materials for STEM courses, let us know! Möbius is available as a content development platform to qualified authors. Contact us today!

www.maplesoft.com/mobius

Learn by Doing

Möbius allows you to integrate powerful, dynamic learning and assessment tools throughout you online course materials, so your students receive constant feedba that keeps them engaged and on

Online cours

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Everything You Need

Designed especially for mathematics, science, engineering, and technology courses, Möbius provides the tools you need to author and deliver rich, engaging online offerings for STEM education.

Your Content, Your Rules

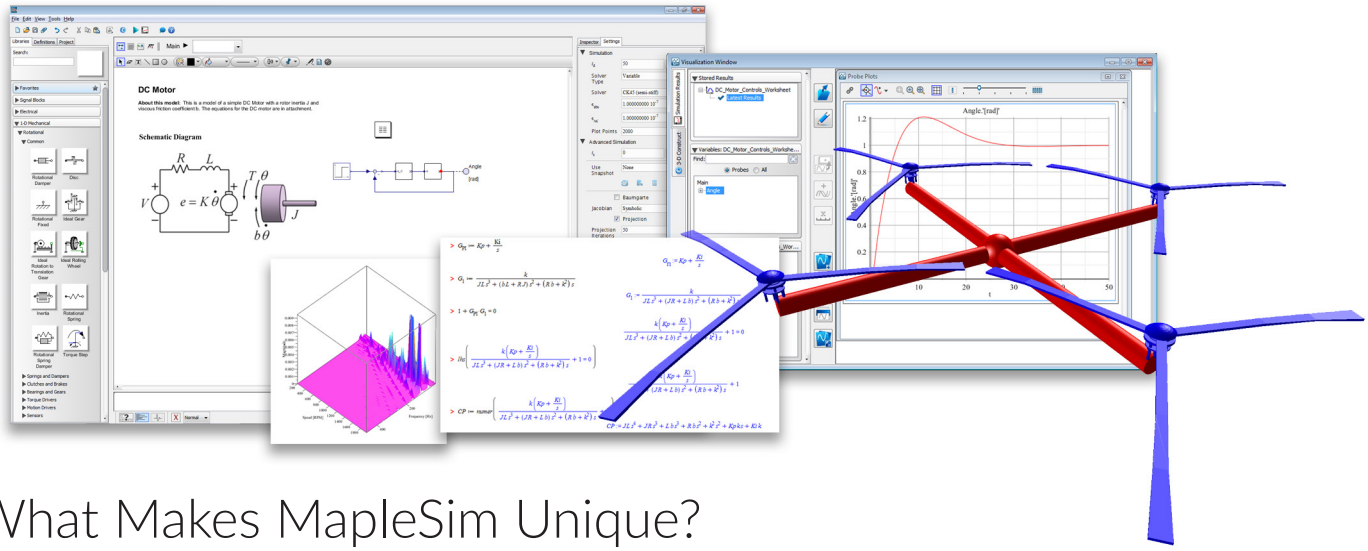
When you use Möbius to develop and deliver your online offerings, you remain in full control of your content and the learning experience.

eware environment that puts STEM first!

MapleSim™

The modern approach to modeling and simulation

With MapleSim™, educators have an industry-proven tool to help bridge the gap between theory and practice. Built on the world-leading Maple mathematics engine, MapleSim gives you the ability to engage your students with complex, real-world examples and prepare them for the challenges they will face in industry.



What Makes MapleSim Unique?

Multiple domains, one environment

With industry increasingly turning toward system-level modeling to meet the demand for more efficient products at lower cost, there is a growing need to incorporate multidisciplinary concepts into the engineering curriculum. The MapleSim modeling environment combines components from different engineering domains, including mechanical, electrical, and multibody, so that students in all engineering streams can build and explore realistic designs and study the system-level interactions.

Connect the concepts

With MapleSim you can easily access a model's system-level equations and use them to demonstrate concepts, such as parameter optimization, sensitivity analysis, and linearization. Conversely, you can use mathematical equations to define new components directly from first-principles, allowing students to immediately make the connection between the math and the model behavior.

Model systems, not equations

Systems that would take hours or days to construct from first-principle equations can be created in a fraction of the time using MapleSim. Instead of building signal-flow diagrams based on abstract mathematical expressions, MapleSim lets you build system-level models simply by connecting physically meaningful components, such as motors and gears. Since model development is so much easier, you can incorporate significantly more complex examples into your courses.

Simulate virtually, validate physically

Simulation allows students to safely investigate a much larger range of conditions than is possible by testing with hardware alone, with no risk of damage to equipment and for much less cost. Once their design has been analyzed and optimized, the results can be exported to C code, Simulink®, LabVIEW™, and other tools, where it can be incorporated with a physical prototype.

Teaching Resources

Video Series: Teaching Concepts with Maple

This collection of videos, together with step-by-step Maple applications that you and your students can use and modify, makes it easy to explore a wide variety of mathematical concepts using Clickable Math techniques. Created by Dr. Robert Lopez, Emeritus Professor of Mathematics at the Rose-Hulman Institute of Technology and Maple expert, this series covers topics taken from a wide variety of courses. Subjects include:

- Differential calculus
- Multivariate calculus
- Linear algebra
- Algebra and precalculus
- Integral calculus
- Differential equations
- Vector calculus
- Trigonometry

Thousands of Homework Questions

Maple T.A. users can take advantage of thousands of free questions on calculus, precalculus, algebra, physics, and more. Questions and assignments can be freely used, recombined, and modified.

Clickable Math Applications for the Classroom

The idea of powerful mathematics delivered through very visual, interactive, point-and-click methods has launched a new generation of teaching and learning techniques in mathematics. Classroom materials include interactive concept demonstrations, lecture notes, homework assignments, and more.

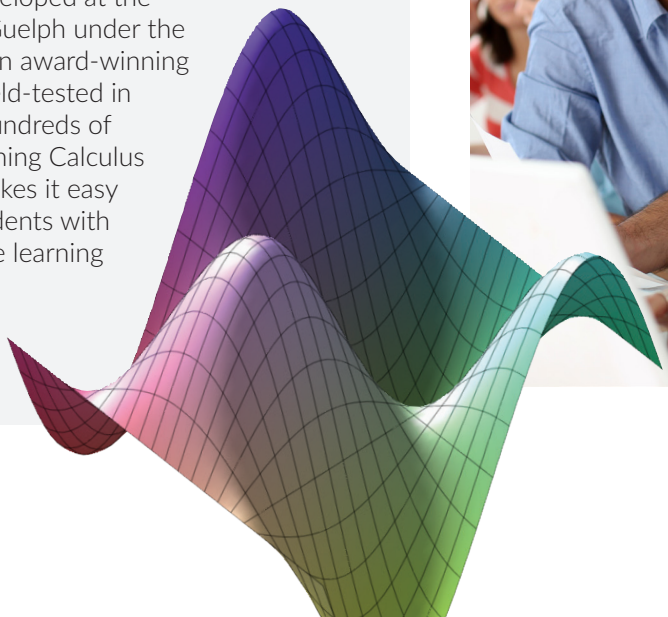
Exploring Engineering Fundamentals

Enhance your lectures, labs, and assignments with professionally developed content designed to teach engineering fundamentals. Materials include Maple documents to explain the theory, MapleSim models to reinforce the concepts, and Maple T.A. questions to assess understanding.

Visit the Maplesoft Teacher Resource Center:
www.maplesoft.com/teacherresource

Teaching Calculus with Maple: A Complete Kit

Everything you need to teach Calculus 1 and Calculus 2! Leveraging both Maple and Maple T.A., *Teaching Calculus with Maple* includes lecture notes, student worksheets, Maple demonstrations, Maple T.A. homework, and more. Developed at the University of Guelph under the leadership of an award-winning teacher and field-tested in classes with hundreds of students, Teaching Calculus with Maple makes it easy to provide students with a rich, effective learning environment.



Licensing Options

Maplesoft offers a wide variety of flexible licensing options for all our products to suit your institution's budget, infrastructure, and policies. Options include:

- **Virtualization.** With a virtualization license option, students can access Maplesoft software through a campus cloud, from their own computers, through flexible license key sharing using Citrix® software or similar systems, and more. Maplesoft's flexible licensing can accommodate whichever virtualization method you choose.
- **Maplesoft Hosting Services.** In addition to a self-hosting option, Maplesoft offers hosting services for Maple T.A. and the Maple T.A. MAA Placement Test Suite. We can look after all the details of setting up and maintaining a server so you can get started immediately and never have to worry about your Maple T.A. and Placement Test Suite services.
- **Student Purchase Models.** You can make Maplesoft products available to your students directly, or ask them to purchase their software and server access through Maplesoft.

These are only some of the possibilities. We will be happy to work with you to find the best solution to meet the needs of your institution.

Maple and Your Students

When you use Maple in the classroom, you want to be sure your students can also take advantage of Maple's learning and exploration capabilities on their own. Maplesoft makes this easy.

- Maplesoft offers a wide range of flexible student licensing options, including volume discounts, virtualization, and redistribution models.
- Students can purchase Maple at drastically discounted student prices, making the full power of Maple available for less than the cost of many textbooks.
- Even without Maple, students can view and even interact with Maple documents to solve problems, visualize solutions, and explore concepts. You can share your Maple applications through the MapleCloud, and students can access them online at **maplecloud.maplesoft.com** or through the free Maple Player™.

Maplesoft Subscriptions

Be sure to subscribe to one or more of our Maplesoft e-mail lists to receive special offers, product tips, news, and more! Visit www.maplesoft.com/subscribe

Academic Maple Reporter

This monthly newsletter offers resources designed for educators and students.

Special Announcements List

Be among the first to hear about new product announcements, exclusive promotions and special offers.

Events and Seminars List

Learn about Maplesoft events, workshops, seminars and webinars as they are announced.

What Customers Are Saying

"Maple goes out of the way to make the learning curve as short as possible."

Joshua Holden, Rose-Hulman Institute of Technology, USA

"…after moving to Maple T.A., we've found we can save approximately $100,000 per year on our grading budget…"

Carrie Howells, University of Waterloo, Canada

"Using Maple made the calculations more thorough and secure; its computational power can calculate and explore very sensitive details, so it was a trusted companion in our discovery process."

Gábor Domokos, Budapest University of Technology and Economics, Hungary

"The depth of questions possible with Maple T.A. and the Maple engine is what I consider its biggest strength."

Phillipa Williams, University of Canterbury, New Zealand

"MapleSim's intuitive interface makes the software a particularly easy tool to learn, both for educators and students."

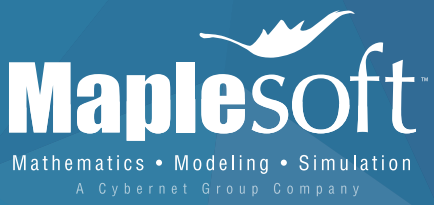
Cédric Dziubanowski, Lycée des Métiers Gustave Eiffel, France

"The lower drop-out rate indicates that students who used the Maple T.A. tests and assignments had a better understanding and grasp of the subject than the other students."

Asha Sadanand, University of Guelph, Canada

"The students really appreciate the power and the beauty of Maple, and as a result, gain a greater appreciation of the subjects being studied."

Joanna Ellis-Monaghan, Saint Michael's College, USA



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