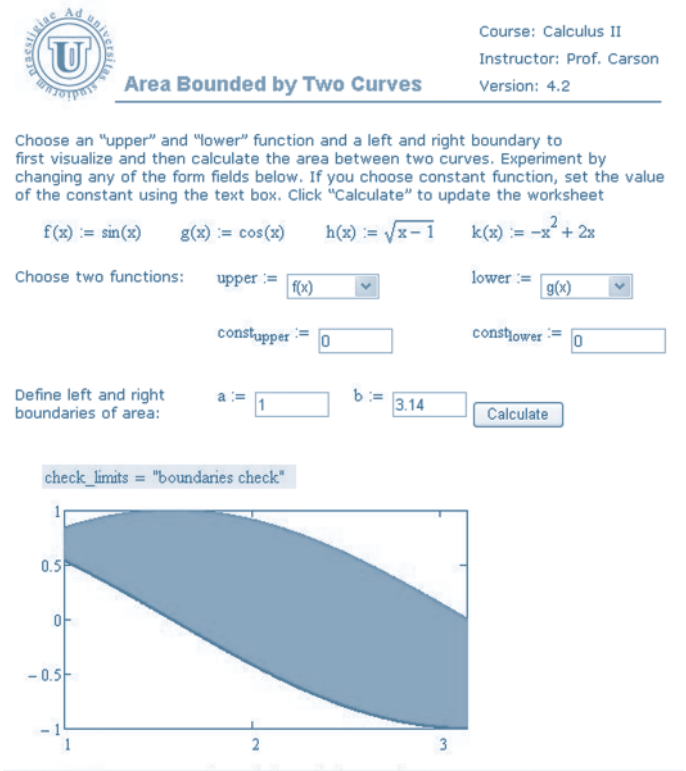
Mathcad® for Education

Teach and Learn the Tools Now in Demand by Companies Worldwide

More than 2,000 colleges and universities around the world use Mathcad in their Math, Science, Engineering, and other technical courses. Graduates bring their well-developed Mathcad skills to some of the most diverse and prestigious engineering organizations in the world. Today, Mathcad is a standard at 90% of the Fortune 1000, including Qualcomm, Boeing, General Electric, IBM, Compaq, Kellogg-Brown & Root, and Parsons Brinkerhoff. Mathcad is an ideal tool for all Math, Science and Engineering coursework – wherever numerical and symbolic calculations are required. If your goal is to put your students in the best possible position to enter college or the workforce, then teach Mathcad – the skills in the greatest demand across global engineering.



Mathcad Calculation Server lets students learn through instant recalculation.

A Time-Saving, Cross-Disciplinary Tool

Mathcad is the first and only engineering calculation solution that simultaneously solves and documents engineering calculations while dramatically reducing the risk of errors. With Mathcad, educators and students are able to design and document technical work simultaneously, with complete math functionality and unique, unit-aware calculations, for excellent results and significant productivity gains. Mathcad's open application architecture, combined with its support of the .NET architecture and its native XML file format, enable users to easily integrate Mathcad with other applications.

Mathcad's real math notation makes applied math easy for non-mathematicians across a wide spectrum of engineering and scientific disciplines. Mathcad automates mundane, repetitive, and arcane math steps – freeing students to enhance their calculation skills and visualize mathematical, engineering, and other technical concepts.

Benefits

- Intuitive visual format – Mathcad brings together equations, text, graphs, and diagrams in a scratchpad, so you work visually, just as you would on paper.
- Lowest learning curve – Students learn to use Mathcad faster and easier than any mathematical package.
- Outstanding ease of use – Change a variable, and Mathcad instantly recalculates your equations and draws graphs – a major advantage when preparing coursework, assignments, lab work, and demonstrations.
- Easy access to symbols – Mathcad's comprehensive toolbars let students easily access math symbols, operators, expressions, and Greek letters.

- Easy to check, easy to find errors–Mathcad calculations and formulae are always visible, making it easy to check and validate results; the error-tracing tool easily pinpoints errors.
- Units-aware–Mathcad checks inconsistent units and allows conversion of results with units, instantly.

Mathcad Benefits for Educators

- Conserve valuable time by reducing development and checking-time for both solutions and courseware.
- Create math-intensive courseware for the Web, as well as interactive lecture notes.
- Easily change parameters and explore "what-if" scenarios, so you can demonstrate math-oriented concepts, and help students visualize routines and relationships.
- Apply standard math notation to ensure consistency and clarity in your teaching materials.
- Hide selected worksheet regions behind password-protected areas–ideal for preparing homework assignments and solution sets.

Mathcad Benefits for Students

- Mathcad is self-documenting in its math representations, and has the ability to annotate the math, helping students use words to demonstrate their understanding.
- Students can refine their work continuously, and create professional-looking homework assignments, lab write-ups, expository papers, and math-intensive Web pages.
- No programming is required to get going; all levels of students can use Mathcad for their coursework.
- Mathcad encourages exploration by enabling students to quickly modify variables and instantly observe the results.

Features

- Output formats include print, Web (PDF, HTML) and RTF.
- Areas can contain any worksheet regions and allow the author to lock or hide math, text, images, etc. Users can also protect critical worksheet elements and hide homework solutions.
- Web controls and scriptable controls simplify input, particularly for novice users, providing flexible input handling and enabling you to create interactive worksheets for the Mathcad Application Server.
- Mathcad and Web templates allow you to streamline homework submission and standardize formats, facilitate course creation, and export worksheets to the Web for publishing consistency.
- Interoperability with Excel, LabView, and MATLAB enables easy interaction with other common educational tools.
- Automation of Mathcad allows access to worksheets and their variables for use within other program environments.

Additional Packages Included with Mathcad

- Signal Processing Extension Pack
- Wavelets Extension Pack
- Image Processing Extension Pack
- Data Analysis Extension Pack
- Mechanical Engineering Library
- Civil Engineering Library
- Electrical Engineering Library

Licensing

PTC offers extremely flexible on-campus and off-campus licensing options for educational users.

Mathcad Calculation Server

The Mathcad Calculation Server is ideal for faculty interested in harnessing the raw power of a mathematical engine without having to bring students and colleagues up to speed on specifics. Document transparency–with real-math notation and seamless integration of calculations, graphs, data, text, and objects–provides power within elegantly presented Web documents. Interactive Web pages that calculate enable widespread use with a Web browser. Visit the Calculation Server in action: **http://mes.ptc.com/mes**

For More Information

For more information about Mathcad or other PTC educational products, please visit **http://www.ptc.com/go/education** or email PTC at **education@ptc.com**.

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