10.3 Updates

**HTML: Graphical Equation Editor**

There is a new Equation option in all HTML editors!

In order to get the Pre-10.3 Equation Editor to work, users had to download and install a Java applet. That step (and complication) is no longer needed!

**Background:**

**IMPORTANT** The Equation Editor in Learning Environment 10.3 does not require* Java support or have specific browser compatibility considerations.

*Existing equations created before Learning Environment 10.3 will still require Java Applet support but are up-converted to MathML upon an edit.

**NOTE:** D2L Version 9.4.1 and higher only support MathML 3.0 markup. You might need to update existing equations if you wrote them using MathML 2.0 markup.

**NOTE:** Java and Javascript are two different things. Java is a general purpose programming language, and JavaScript is used on websites to make them animated and interactive. [http://www.seguetech.com/blog/2013/02/15/java-vs-javascript](http://www.seguetech.com/blog/2013/02/15/java-vs-javascript)
The Editor has three options:

1. **Graphical equation** editor
2. **MathML**
3. **LaTeX**

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1. **The Graphical Equation Editor** is a Javascript-based application that features a toolbar equipped with a selection of buttons. This toolbar provides the necessary elements to construct your equations quickly and easily. Each button in the Equation Editor toolbar opens a palette of related mathematical symbols.

**Before using the Graphical Editor:**
- Ensure that you have installed the latest version of your internet browser and that you enable Javascript.
- Disable any software or browser settings that block pop-up windows.

**Keyboard shortcuts available in the Graphical Equation Editor**
- Use `Ctrl + f` to create a fraction.
- Use `Ctrl + 9` to add round brackets.
- Use `Ctrl + h` to create superscript.
- Use `Ctrl + j` to create subscript.
- Use `Ctrl + z` to undo your last action.
- Use `Ctrl + i` to create an integral.
- Use `Ctrl + >` to enlarge text and `Ctrl + <` to shrink text.
The equations will be displayed as a symbol block in the HTML Editor window, but will appear as a mathematical equation after **Publish** is clicked.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>General tab</td>
<td>Add a template for building equations. Add and edit text in your equation using the Cut, Copy, Paste, Undo, Color, and other text editing functions.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Symbols tab</td>
<td>Add mathematical symbols to equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Arrows tab</td>
<td>Update or add arrows to equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Greek and letters tab</td>
<td>Update or add uppercase and lowercase Greek characters to equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Matrices tab</td>
<td>Update or add matrices to equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Scripts and layout tab</td>
<td>Add scripts or layouts to build equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Decorations tab</td>
<td>Add fences such as brackets and vertical bars around text fields.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Big operators tab</td>
<td>Update or add big operators to equations.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Calculus tab</td>
<td>Add a template for building Calculus equations.</td>
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</table>
2. **MathML** is a standard adopted by the World Wide Web Consortium (W3C). It uses XML to describe mathematical notation by capturing both its structure and content. This enables MathML to support visual display and assistive technology access.

3. **LaTeX** is a typesetting system based on TeX. It provides a text syntax for complex mathematical formulae. The Learning Environment stores equations entered in LaTeX format as MathML to ensure consistency and accessibility.

   **As a standard**, the Learning Environment stores and displays all equations in the MathML format, regardless of the format you use to enter equations. The Learning Environment uses the MathJax JavaScript engine to display MathML equations. Go to [http://www.mathjax.org](http://www.mathjax.org) to learn more about MathJax features.
MathJax is an open source JavaScript display engine for mathematics that works in all browsers.  
“No more setup for readers.  No more browser plugins.  No more font installations… It just works.”

For more information and guidance:
* Talk to your eMentor
* Inquire about D2L-102 advanced workshops
* Talk to the staff in the Faculty Innovation Center
* Visit the Help files