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1. Welcome to the Web-Based Class Projects

Web-based Class Projects is a cyber-enabled application that aims to facilitate Professors and students in the geotechnical engineering field develop and execute projects as part of courses. Graduate geotechnical courses that include projects, typically include a deliverable to the instructor in some kind of report that the instructor reviews and corrects. With this application, we open up this educational activity to the entire geotechnical profession.

The application allows students to create an entire project, with text, photos, tables, and even videos on the website. The instructor can correct it electronically, but more importantly, the project can be open to the entire profession and have visitors review the content and provide comments, edits, and other feedback. That way, practitioners can learn from the content of the project and also, if they have expertise on the topic covered, provide feedback that can help the student learn.

Research in teaching and learning indicates that students are more motivated, find more appealing and also learn better when class projects have an impact, or are viewed by more than the instructor. Students preparing projects through this application will be exposed to the entire profession. Their work will be reviewed and criticized by professionals and experts around the globe. Their final project will not disappear in their course binders, but will have a life on its own. Their work may educate other students or professionals on the topic they studied.

Use of the application is entirely free. Faculty members interested in implementing "Web-based Class Projects" on their classwork at no cost, are encouraged to contact Geoengineer.org.

Getting Started

The "Web-Based Class Projects" is hosted on Geoengineer.org. To start publishing your project you have to visit http://www.geoengineer.org and You will find the introductory "Web-Based Class Projects" page under the "Education" menu.

- Scroll down until you find the "Geoenvironmental Engineering" (CEE 549) and click on the "Click Here to Enter" button.
- You will be taken to the projects main page where you will find a list with all the projects. On the right side of the page you will see the "Login Form" box. Here you can use the Username and Password that were sent to you via email.
- Once you have logged in, click on your projects name (ex. Landfill Gas Collection Systems) and you will gain access to the section of the website that eventually will become your web project. The manual then outlines how to edit things. There is already a sample article uploaded which you can use as an example.
2. Text Formatting Guidelines

Creating or editing an article is simple as the process is similar to creating or editing pages using a common text editor. However, there are some text formatting guidelines that you need to follow. Using the drop down box named "Format" you can select the style for your word, phrase or paragraph.

- **Page Title**: Set every major page title as "Heading 4".
- **Paragraph Titles**: If you want to add paragraph titles again use the "Format" drop down box and select the appropriate "Heading No#" number. Remember that since the pages' main title is set to "Heading 4" then the paragraphs' title must be set to "Heading 5" and so on.
- **Font size**: As you will notice you there is a default font size set to all the articles and cannot be changed.
- **Paragraphs**: Make your paragraphs' beginning and ending are distinct by leaving an empty row before and after it.
- **Pagination**: Make sure that every time you create a new page, you must include a main Page Title ("Heading 4") as this will be automatically scanned by the system and will be included in the "Table of Contents".
3. Editing an article

In order to edit your article you must first log in to your account using the credentials that were sent to you via email.

1. Upon logging in, you will notice that an extra icon (in the shape of a gear) appears at the top of the article.

2. By clicking this icon the page will reload and you will be able to edit your article (Figure 1).

![Figure 1](image1.png)

3. Figure 2 shows the article's edit screen, where you can take full advantage of the JCE content editor. You can add, delete or edit any part of the article's content!

![Figure 2](image2.png)
4. The JCE Editor
The text editor has many text formatting capabilities that are available to you in the form of buttons. Brief explanations on each button are provided below.

**Text Formatting**

<table>
<thead>
<tr>
<th>Help</th>
<th>New document</th>
<th>Undo</th>
<th>Redo</th>
<th>Bold</th>
<th>Italic</th>
<th>Underline</th>
<th>Strike through</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Align full</th>
<th>Align Center</th>
<th>Align Left</th>
<th>Align Right</th>
<th>Blockquote</th>
<th>Format</th>
<th>Styles</th>
<th>Remove format</th>
<th>Cleanup HTML</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ordered list</th>
<th>Unordered list</th>
<th>Subscript</th>
<th>Superscript</th>
<th>Uppercase</th>
<th>Custom char.</th>
<th>Insert line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direction right</th>
<th>Direction left</th>
<th>Full screen mode</th>
<th>Preview</th>
<th>Print</th>
<th>Find</th>
<th>Find/Replace</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add a table</td>
<td>Delete a table</td>
<td>Row properties</td>
<td>Cell properties</td>
<td>Insert row before</td>
<td>Insert row after</td>
<td>Delete row</td>
</tr>
<tr>
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<td>-------------------</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toggle guidelines</th>
<th>Chars on/off</th>
<th>Block elements on/off</th>
<th>Non breaking space chars</th>
<th>Edit CSS</th>
<th>Citation</th>
<th>Abbreviation</th>
<th>Acronym</th>
<th>Insertion</th>
<th>Insert anchor</th>
<th>Unlink</th>
<th>Link</th>
<th>Insert/ Edit image</th>
<th>Spellchecker on/off</th>
<th>Pagebreak</th>
</tr>
</thead>
</table>

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5. Pagination

Create different pages
Every time you want to start a new page, just click the "Page break" button. A small pop-up box will appear asking you to input the name of the page you just finished. Enter the same alias on both boxes and click "Save".

Important: Keep in mind that every time you press the "Page break" button, you have to enter the aliases for the page you have just finished NOT the one you will start writing.

Table of Contents
The Table of Contents will be created automatically by the system as long as you have split your article to pages following the procedure mentioned in the previous paragraph. Make sure you follow the guidelines mentioned in the "Text Formatting Guidelines" on page 3.
6. Adding Images

Copyrights
When uploading images for your project, always acknowledge the source as most images you might find on the Internet are copyrighted and need permission in order to be used on individual projects.

*Note:* Every student will have a unique folder where he/she will able to upload images. Each student’s folder is unique and not shareable which means that each student will be responsible for uploading, editing and deleting his/her content.

Uploading an Image
1) Uploading and using an image to your project is easy. You just have to press the "Insert/Edit Image" button which you will find on the last row of the JCE toolbar (Figure 3).

![Insert/Edit Image Button](image.png)

Figure 3

2) In the following pop-up window you will find all the information needed to be filled out to have your image uploaded to your project. In the image below you can see the contents of your unique image folder. As this is the first time that you try to upload an image the folder will be empty. The area marked as 1 is your unique folder and the area marked as 2 lists your uploaded images (Figure 4).

![Image Contents](image2.png)
Uploading images from your hard drive

1. Pressing the "Upload" button located at the right side in the middle of the page of the window will bring up another small popup window requesting to either "drag and drop" images or browse your hard drive. When done press the "Upload" button and your image will be shown in the server folder (Figure). The last step is to click on the title of the image and click "Insert" (located on the bottom right of the window). Now, your image will be added in your article!
7. Adding Equations

We have included a powerful mathematics engine called Mathjax that will allow you to add any equations you need in a very simple way. MathJax is a cross-browser JavaScript library that displays mathematical equations in web browsers, using TeX and LaTeX math markup. There is a good quick introduction to Maths in LaTeX here. Skip down to the "Math in LaTeX" section. Find a LaTeX symbol code quickly just by drawing it on this page http://detexify.kirelabs.org/classify.html

How to use MathJax

To put mathematics in your article, you can use TeX and LaTeX notation between these delimiters $\{\ldots\}$. You can find several online LaTeX editors by searching on Google to help you create your own equations. You can even use the Copy + Paste function so that you can add an equation written in TeX or LaTeX you may find on another website even more easily! You will then need to copy and then paste it into your article.

Examples

Below are examples of equation that may help you understand the notation. If you encounter problems with creating an equation, please contact us for help.

Boutwell Permeameter Equations

Stage 1:

\[
\begin{align*}
\frac{k_{1}}{11} & = \frac{\pi \cdot d^{2}}{D \cdot \left( t_{2} - t_{1} \right)} \cdot \ln \frac{H_{1}}{H_{2}}
\end{align*}
\]

will produce:

\[
k_{1} = \frac{\pi \cdot d^{2}}{11 \cdot D \cdot \left( t_{2} - t_{1} \right)} \cdot \ln \frac{H_{1}}{H_{2}}
\]

Stage 2:

\[
\begin{align*}
\frac{k_{2}}{B} & = \frac{A}{B} \cdot \ln \frac{H_{1}}{H_{2}}
\end{align*}
\]

will produce:

\[
k_{2} = \frac{A}{B} \cdot \ln \frac{H_{1}}{H_{2}}
\]

Where:

A. \[
\begin{align*}
A = d^{2} \cdot \ln \left( \frac{L}{D} + \left( 1 + \frac{L^{2}}{D^{2}} \right)^{0.5} \right)
\end{align*}
\]

will produce:

\[
A = d^{2} \cdot \left\{ \ln \left[ \frac{L}{D} + \left( 1 + \frac{L^{2}}{D^{2}} \right)^{0.5} \right] \right\}
\]

B. \[
\begin{align*}
B = 8 D \cdot \ln \frac{L}{D} \cdot \left( t_{2} - t_{1} \right) - 1.57 \cdot \exp \left( -1.57 \cdot \ln \frac{L}{D} \right)
\end{align*}
\]

will produce:

\[
B = 8 D \cdot \ln \frac{L}{D} \cdot \left( t_{2} - t_{1} \right) - 1.57 \cdot \exp \left( -1.57 \cdot \ln \frac{L}{D} \right)
\]

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\[ B = 8 \cdot D \cdot \frac{L}{D} \cdot (t_2 - t_1) \cdot \left[ 1 - 0.562 \cdot \exp \left( -1.57 \cdot \frac{L}{D} \right) \right] \]

8. Comments

After uploading your article you will be able to make and receive comments on the assignments progress. Each student will be able to comment on his/her article as well as receive comments and suggestions by its reviewers. Every group will be responsible for replying to comments made on their article and also will be eligible to make alteration to their comments or even delete them.

Making a comment

1. Write your comment in the comment box
2. Modify your text, add a link or an emoticon by using the buttons above the box.
3. Check the box in case you want to be notified when you get a follow-up comment.
4. Click "Send"

Editing your comments

1. Click the "Change" button.
2. Make your changes and click the "Save" button.
Deleting your comments

1. Click the "Delete" button.
2. A pop-up will come up asking for your decision.

9. Technical Support

Geoengineer.org’s Technical Support Team is here to help you with any enquiries and troubleshooting questions.
Feel free to contact us at: it@geoengineer.org