

# Wikiacademia : a Learning Platform Inspired by MediaWiki

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## Introduction

Content management systems are everywhere these days, and those aimed at academic courses are no exception.<sup>1</sup> However, none provide quite what I want for my own teaching: a clean, consistent method of posting course materials and assignments, and easy access to student work and faculty feedback. So I wrote one.

The design and interface were patterned on Wikipedia for two reasons. First, I want my students to be able to connect easily to its wealth of information and absorb its sense of active participation. Second, the MediaWiki software<sup>2</sup> has many features I wanted to incorporate; however, I found that its model of a collection of articles didn't quite stretch far enough to meet my notion of courses and assignments.

My thesis advisor used to complain that when he asked me to dig a hole, I'd spend too much time sharpening the shovel. Here's my latest shovel.

## Features

### o Pages are files in directories.

Course materials, discussions, and student work may be wiki pages (page\_name.wiki), text files, HTML files, or anything else, which allows easy access from other applications. For example, faculty can compile and run student computer programs, edit documents in an external editor, or install other software packages within the course directory. (MediaWiki instead puts pages into a database, which is faster but less versatile.)

### o Directories correspond to URIs.

A URI that points to a directory lists it or displays an index.wiki file if it exists. Users with edit access may also create sub-directories and upload files; see the screenshot to the right and below.

### o Access privileges by directory

By default the course directory is for faculty content, a public directory named "wiki" is open to student posts, and each student's work and grades are restricted to that student and the faculty.

### o Assignments, student work, and grades

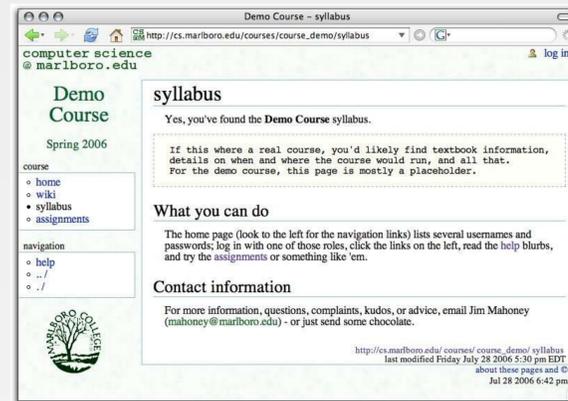
Beyond the typical wiki functionality, the academic core of the system is an "assignment" - essentially anything that gets a grade, including tests and the final course grade. Each course has a list of these assignments as well as a private page for student work and faculty feedback for each. The screenshots at the right show an example.

### o Other bells and whistles

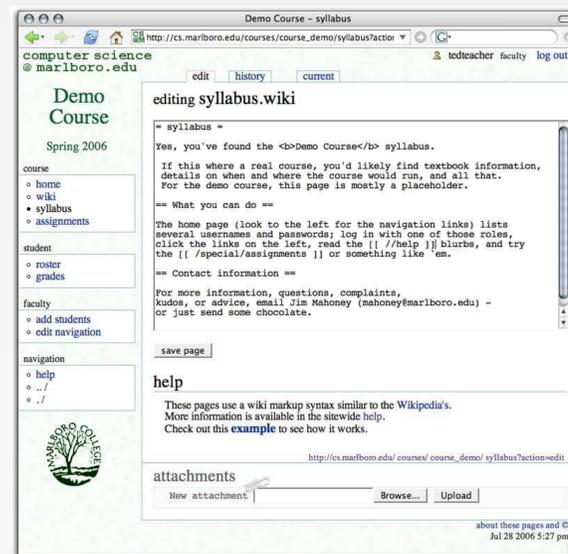
- o Navigation menu for each course
- o Revision history
- o Attachments stored in a subdirectory
- o Math markup with texvc<sup>3</sup>.

## Course Components

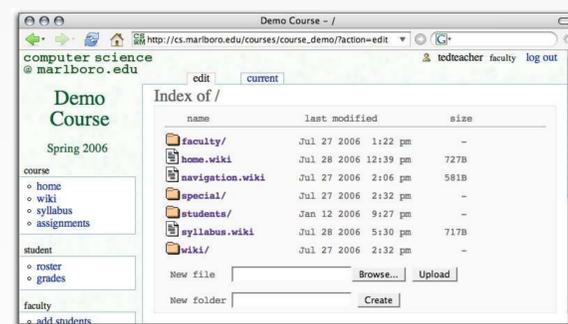
### Pages



A typical page from the demonstration course. <sup>4</sup>

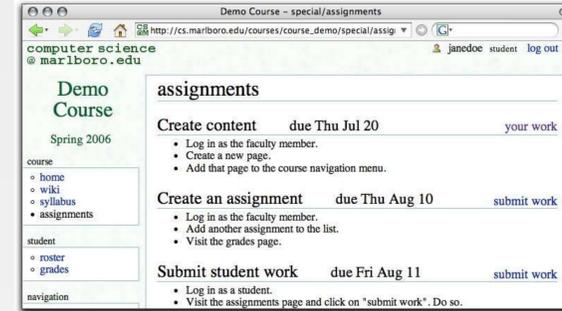


The corresponding markup syntax.



The course's home directory.

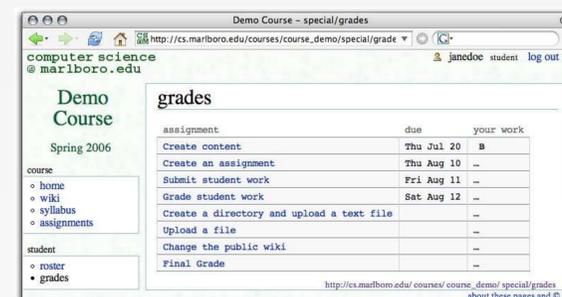
### Assignments



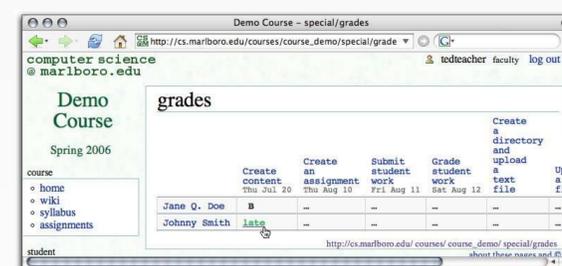
Course assignments as seen by a student.



A student's submitted work and grade, in this case user janedoe's work on the "Create content" assignment, as seen after clicking on the "your work" link in the top screenshot. Faculty may also see and edit this page to change both the wiki markup and the text grade.



The grades page as seen by a student, showing a list of all assignments and grades received. The assignment entries link to the description of that assignment, while the grades in the "your work" column link to the submitted work.



The grades page as seen by the faculty, showing a table of all student grades and links to the students' work.

## Software

Initial development took place in the summer and fall of 2005. A preliminary version was deployed for a half dozen classes at Marlboro College in the spring of 2006.

Technologies include

- o Apache<sup>5</sup> web server
- o Perl<sup>6</sup> programming language
- o HTML::Mason<sup>7</sup> dynamic web content (similar to PHP)
- o Class::DBI<sup>8</sup> object-oriented database interface
- o MySQL<sup>9</sup> database for sessions, users, roles, courses, etc
- o Subversion<sup>10</sup> revision control system

The code is open software licensed under the GPL; see the project homepage<sup>11</sup> for details and current status.

## Discussion

What distinguishes this effort from other course software is its emphasis on restricted wiki pages for student work and faculty feedback. While public access wikis work fine for course materials and textbooks, an actual class also needs private spaces. If the Wikiversity<sup>12</sup> (the Wikipedia community's collection of educational resources and course outlines) ever conducts online courses, then it too will likely require something like the student work pages described here.

In the computer science classes at Marlboro College taught with Wikiacademia, student reactions have generally been positive. They especially liked seeing what was expected of them and their grades all in one place. Most had no prior experience with a wiki but nevertheless picked up the basic skills within the first week.

This project therefore demonstrates that a wiki with access rights can be a viable educational software alternative to the popular discussion forum systems such as Moodle.<sup>13</sup>

## References

- <sup>1</sup> [http://en.wikipedia.org/wiki/Virtual\\_learning\\_environment](http://en.wikipedia.org/wiki/Virtual_learning_environment)
- <sup>2</sup> <http://www.mediawiki.org/wiki/MediaWiki>
- <sup>3</sup> <http://en.wikipedia.org/wiki/Texvc>
- <sup>4</sup> [http://cs.marlboro.edu/courses/course\\_demo/home](http://cs.marlboro.edu/courses/course_demo/home)
- <sup>5</sup> <http://httpd.apache.org>
- <sup>6</sup> <http://www.perl.org>
- <sup>7</sup> <http://www.masonhq.com>
- <sup>8</sup> [http://wiki.class-dbi.com/wiki/Main\\_Page](http://wiki.class-dbi.com/wiki/Main_Page)
- <sup>9</sup> <http://mysql.com>
- <sup>10</sup> <http://subversion.tigris.org>
- <sup>11</sup> <http://cs.marlboro.edu/wikiacademia>
- <sup>12</sup> <http://en.wikibooks.org/wiki/Wikiversity>
- <sup>13</sup> <http://moodle.org>