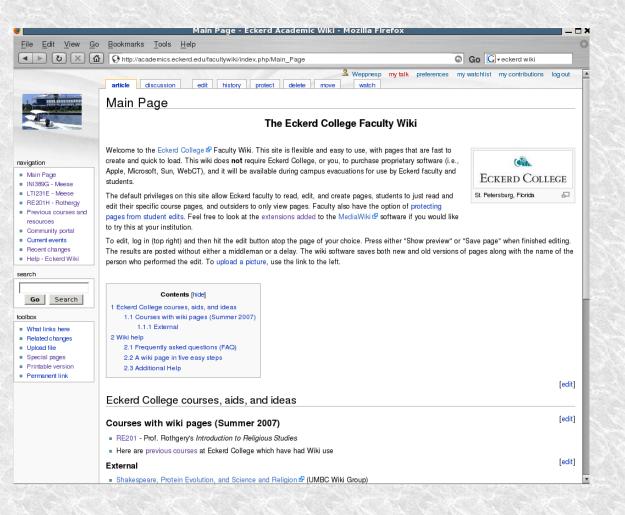
# Wiki - What, Why, How?



The wiki in an academic environment Special considerations, uses and pitfalls

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Hosted with Gregory Kohs of Mywikibiz.com

July 15th, 2007 Orlando, Florida

# Outline

- I. My Background
- II. What is a wiki? How does it differ from Blackboard and WebCT
- III. What is it good for in an academic environment?
- IV. Examples

# My Background:

- A PhD in computational nuclear physics from Ohio University
- Associate Professor of Physics, Eckerd College, St. Petersburg, Fl
- Research in nuclear physics and physics education
- Eckerd College is an small liberal undergraduate institution of 1800 students
- I teach ~6 courses a year (introductory physics, advanced physics, general education)
- Class size is relatively small (10 to 30 students)
- I maintain and installed the Eckerd College Wiki in August of 2006
- I have personally used the wiki in 3 courses, 1 committee, and 1 faculty resource

# How does a wiki differ from a course management system?

WebCT, Blackboard, Desire2Learn, Angel Learning, Moodle\*, Sakai Project\*, etc...

- Advanced Assessment Tools Quizzes / Tests Assignments / Projects
- Advanced Administrative tools

Batch enrollment Varying levels of administrative roles (sys-op, instructor, student) Reporting facilities Importing tools

- Advanced Instructor Tools Posting of syllabus, other docs. Grading Test and assessment banks
- Advanced Comunication Tools Email Blog **Discussion Page** Live Whiteboards Live chatting Wiki

# A Wiki Software Package does much less....

MediaWiki\*, PhpWiki\*, PMWiki\*, TWiki\*, DokuWiki\* etc...

- Advanced Assessment Tools
   Quizzes / Tests
   Assignments / Projects
- Advanced Administrative tools

(more difficult)
Varying levels of administrative roles
(sys-op, instructor, student)
Reporting facilities
(less functionality)

```
    Advanced Instructor Tools
        Posting of syllabus, other docs.
        Grading
        Test and assessment banks

    Advanced Communication Tools
        (less functionality)
        (less functionality)
        Live White board
        Live chatting
        Wiki
```

### Characteristics of a Wiki\*

Several characteristics of wikis facilitate their multiple author capability which are useful in an academic setting. The most frequently used of these are:

Ease of editing: Many wikis now provide a simple "What You See is What You Get" editor, which allows contributors who infrequently make edits or lack sufficient technical knowledge to edit wiki pages responsibly.

**Review and revert:** Wikis usually provide a system in which authors can review changes to pages and revert to older versions if this is appropriate.

**Permissions:** Most wikis allow administrators to assign different levels of permissions to visitors to view, edit, create or delete pages. Assigning permissions helps prevent misuse of wikis.

**Discussion pages:** Most wikis facilitate discussion by having a separate page attached to each wiki page for discussion.

\*taken from the English Wikipedia article "Wiki" on July 2nd, 2007 (http://en.wikipedia.org/wiki/Wiki)

### Features of a Wiki that are appropriate in an academic context

Multiple Author Collaboration – This is what separates a wiki from a blog or a discussion. Faculty working together on grant proposals, committee documents. Students collaborating on data collecting projects and summaries.

"What You See is What You Get" editor -- Greg has discussed this

Authors can review changes – Facilitates faculty grading, students can 'rollback' to previous versions

Allow administrators to assign different levels of permissions — administrator, faculty, students, general public have different access control to create, edit, and view different pages

facilitate discussion – discussion in class or on the wiki itself about the collaborative effort.

# Comparing Versions List -- Grading

```
po251s-001
                discussion
                                view source
                                               history
PO251S-001:Rolling Out Iran
  Revision history
(Latest | Earliest) View (previous 50) (next 50) (20 | 50 | 100 | 250 | 500).
Diff selection: mark the radio boxes of the versions to compare and hit enter or the button at the bottom.
Legend: (cur) = difference with current version, (last) = difference with preceding version, M = minor edit.
    Compare selected versions
 (cur) (last)

    11:10, 8 May 2007 Burkebl

                  23:27, 7 May 2007 Wegnerse
 (cur) (last) ○
 (cur) (last) ○
                  23:24, 7 May 2007 Wegnerse
                  23:24, 7 May 2007 Wegnerse
 ■ (cur) (last) ○
 (cur) (last) ○
                  13:53, 7 May 2007 Mckelvab (→Corrections and Summary)
 ■ (cur) (last) ○
                  13:41, 7 May 2007 Mckelvab (→Corrections and Summary)
 (cur) (last) ○
                  13:16, 7 May 2007 Mckelvab (→Corrections and Summary)
 ■ (cur) (last) ○
                  13:24, 3 May 2007 Eiroagea (→Foreign Perspectives: The British Media on Iran)
                  11:01, 26 April 2007 Merrithc (UK Media (edit))
 ■ (cur) (last) ○

    (cur) (last) 

                  00:37, 24 April 2007 Duquetmi (→New York Times Coverage of Iran)
 (cur) (last) 
                  00:33, 24 April 2007 Duquetmi (→New York Times Coverage of Iran)
 (cur) (last) 
                  23:56, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)

    (cur) (last) ○

                  23:34, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)
 ■ (cur) (last) ○
                  23:32, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)
                   23:25, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)
 ■ (cur) (last) ○
 (cur) (last) ○
                  23:22, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)
 ■ (cur) (last) ○
                  23:20, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)
                  23:19, 23 April 2007 Duquetmi (→New York Times Coverage of Iran)

    (cur) (last)
```

# Comparing two revisions -- Grading

po251s-001 discussion

view source

### PO251S-001:Rolling Out Iran

(Difference between revisions)

#### Revision as of 00:37, 24 April 2007

Duquetmi (Talk | contribs)

(→New York Times Coverage of Iran)

← Previous diff

#### Line 226:

== Foreign Perspectives: The British Media on Iran ==

The major media in the United Kingdom have taken quite a different focus during this timeperiod than their American counterparts. Like in the U.S. media, a large upsurge in stories focusing on Iran appeared in February. Articles with titles such as "US Ex-Generals Reject Iran

Strike"[http://news.bbc.co.uk/2/hi/middle\_east/6328801.stm], "Target Iran: US Able to Strike in the

Spring"[http://www.guardian.co.uk/international/story/0,,2010001,00.html], and "US 'Attack Plans'

Revealed"[http://news.bbc.co.uk/2/hi/middle\_east/6376639.stm] appeared; in fact the revealations of a "plan of attack" or timeline for a strike against Iran by the U.S. seemed to be the dominant story throughout February. The other dynamic of military dissent against possible strikes against Iran's nuclear facilities, such as "US Generals 'Will Quit' If Bush Orders Iran Attack"[http://www.timesonline.co.uk/tol/news/world/iraq/article1434540.ece].

The tone in the British media shifted significantly with the internment of 15

#### Revision as of 11:01, 26 April 2007

Merrithc (Talk | contribs) (UK Media (edit)) Next diff →

#### Line 226:

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Attack"[http://www.timesonline.co.uk/tol/news/world/iraq/article1434540.ece] emerged several times.

The tone in the British media shifted significantly with the internment of 15 Royal Navy sailors by Iran in March. The media was flooded with a variety



### ... no students or public allowed, faculty resources



#### navigation

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- INI389G Meese
- LTI231E Meese
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#### search

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### Eckerd Academic Wiki:Community Portal

### Committees

Computer Policy Group (Restricted)

Science Curriculum Review (Restricted)

### Additional Eckerd Information

Information about Eckerd Alumni (Restricted)

This page has been accessed 949 times.

Disclaimers

Content is available under Eckerd Honor Code.

Privacy policy

About Eckerd Academic Wiki

This page was last modified 14:23, 18 June 2007.



Powered By MedigWiki

Log in / create account

# Faculty Resources that are on the wiki

### **Committees**

**Computer Policy Group (Restricted)** 

Science Curriculum Review (Restricted)

### **Additional Eckerd Information**

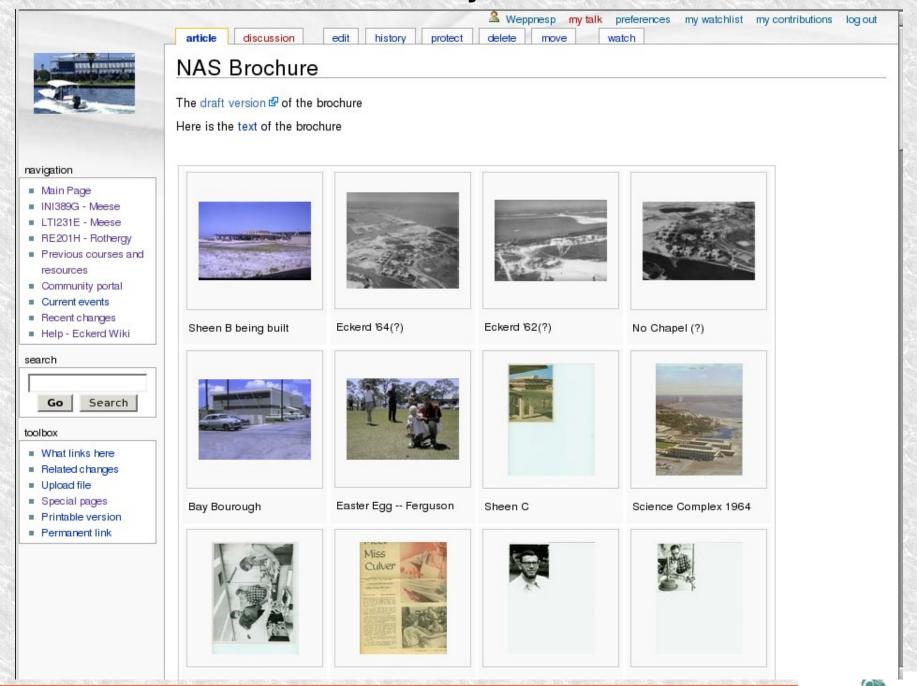
<u>Information about Eckerd Alumni</u> (Restricted)

## Fall, 2006 Resources for Faculty

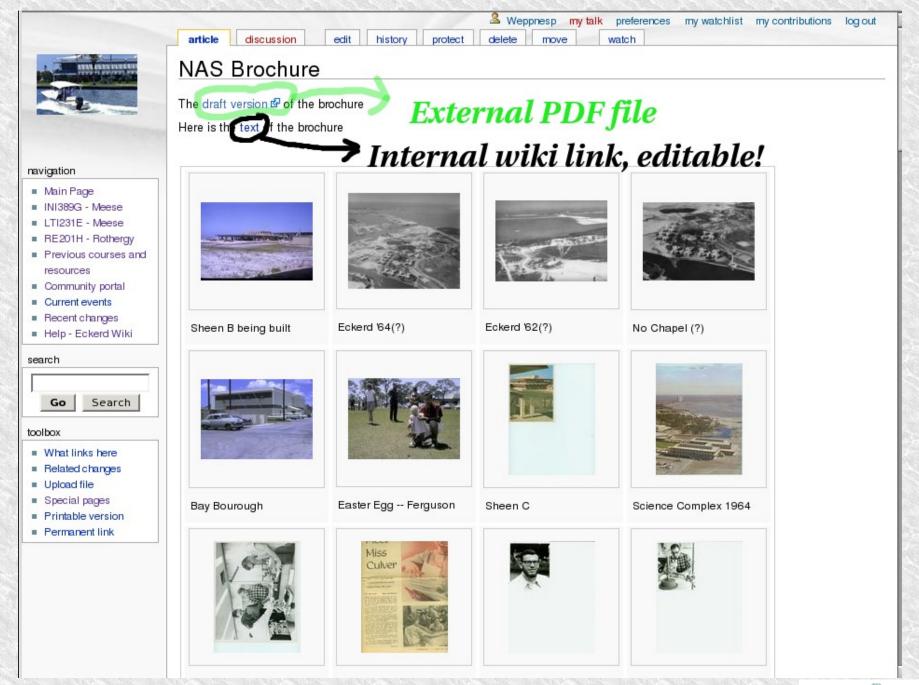
- OFM resources
- WHGC 181 Resources

it is also being used to facilitate writing a Howard Hughes Medical Institute grant proposal

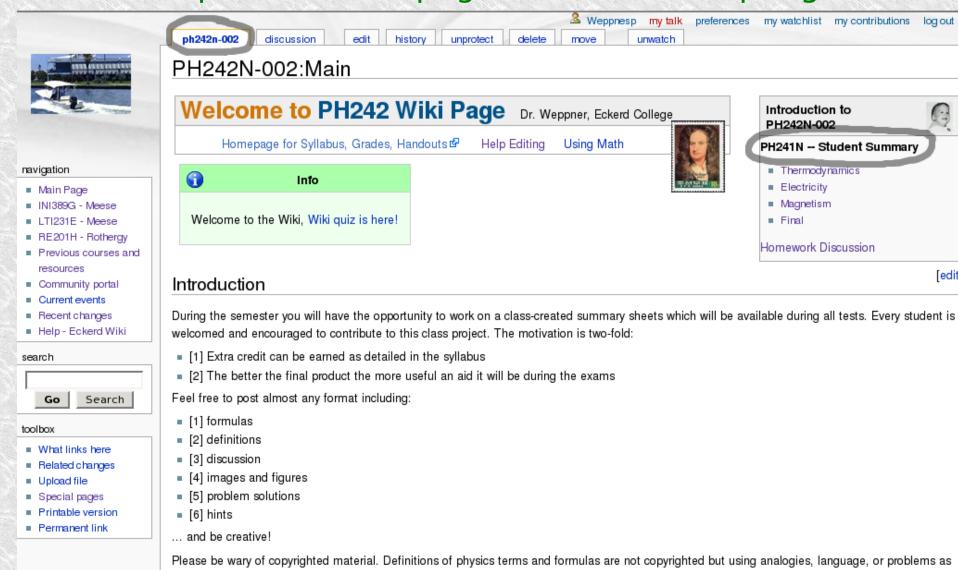
# Faculty uses



# One place for all resources, including galleries



# A sample wiki homepage that I used in Spring 2007



Please be wary of copyrighted material. Definitions of physics terms and formulas are not copyrighted but using analogies, language, or problems as found in your textbook must be used sparingly and correctly referenced (see the Help page). All figures should follow the same guidelines. Preferred figures are either your own or non-copyrighted material. For an example of how to use references you can check out the Wikipedia artice on Isaac Newton @ as an example.

Since this is a summary sheet you will also want the final product to be concise and organized.

[edit]

### Fine access control



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#### search



#### toolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link



# Welcome to PH242 Wiki Page Dr. Weppner, Eckerd College

unprotect

Homepage for Syllabus, Grades, Handouts &

Info

The final will be handed out on Friday, May 4th

Help Editing

delete

Using Math



watch

Weppnesp my talk preferences my watchlist my contributions log out

Introduction to PH242N-002 PH241N -- Student Summary Thermodynamics Electricity Magnetism ■ Final Homework Discussion

Contents [show]

Electric Field

•

### Table of contents

Adding E fields or B fields

[edit]

- Electric fields extend outwards from every charge and permeates all of space
  - vector whose direction is the direction of the force on a positive test charge at that point
- Electric field, E, is the force exerted on a positive test charge at that point divided by the magnitude of the test charge

• 
$$E = \frac{F}{q}$$

- Units: N/C
- Test charge: a positive charge so small that the force it exerts does not significantly alter the distribution of the charges that create the field being measured
- Single Point Charge

• 
$$E = \left(\frac{1}{4\pi \epsilon_0}\right) \left(\frac{Q}{r^2}\right)$$

- - The electric field due to a positive charge points away from the charge, whereas the electric field due to a negative charge points towards that

# A wiki can upload scientific figures

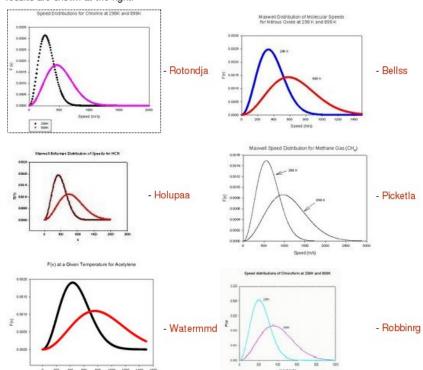
#### Your personal molecule - Finished

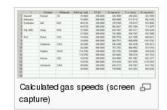
Graph the Maxwell-Boltzmann distribution for your molecule at 298 K and at 898 K. Use wide enough limits to get a smooth graph similar to that drawn on p. 393 of your textbook. Use the SigmaPlot software to make the graph. (Spreadsheet software is not good enough.)

- (a) Calculate the root-mean-square speed for your molecule at 298 K and at 898 K. Do the results seem reasonable? Explain.
- (b) Calculate and then compare the average speeds of your molecule at 298 K and 898 K. Do the results seem reasonable? Explain.
- (c) Use your Maxwell-Boltzmann distribution to determine the probability of finding your molecule with a speed between v and 2v no. This will require an integration. Use either the cut-and-weigh or counting-squares technique. If you use a numerical method, show all details. In any case, briefly explain the method used.
- (d) Post your graph and results here, with appropriate explanations of your work. For identification purposes, include your initials in the file name for your graph. [Example: If your name is John Quincy Adams, then Graph JQA.jpg would be a good file name.]

#### Answers and comments

The graphs submitted were all reasonable, showing the expected shapes and trends. The calcuations were verified with the SigmaPlot software, and the results are shown at the right.







### ...and can even do formulas

### **Angular Motion Equations**

eang

Angular Velocity (ω)

$$\omega = \frac{\Delta \theta}{\Delta t}$$

- - Average

$$\alpha = \frac{\Delta \omega}{\Delta t}$$

Instantaneous

$$\alpha_{inst} = \frac{d\omega}{dt}$$

Radius of Rotation (r)

Linear Motion Formula	Angular Motion Equivilent
$\Delta x = V_i t + \frac{1}{2} a t^2$	$\Delta \theta = \omega t + \frac{1}{2} \alpha t^2$
$V_f = V_i + at$	$\omega = \omega_i + \alpha t$
$V_f^2 = V_i^2 + 2a\Delta x$	$\omega_f^2 = \omega_i^2 + 2\alpha \Delta \theta$
$V_{avg} = \frac{V_f + V_i}{2}$	$\bar{\omega} = \frac{\omega_f + \omega_i}{2}$

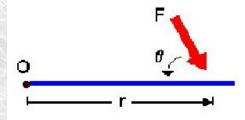
### Centripetal acceleration

[edit]

$$a_R = \frac{v^2}{R} = \frac{(\omega R)^2}{R} = \omega^2 R$$

### **Torque**

[edit]



most effective moment arm is the largest and perpendicular to the force applied.

### Fall, 2006 courses at Eckerd College which used the wiki

- <u>CH121N</u> Prof. Hudson's *General Chemistry I* -- A somewhat successful extra credit questions page with some inventive problems and cute images. Student involvement was less than hoped. High investment for faculty member.
- CH321 Prof. Hudson's *Physical Chemistry I* -- A successful questions and projects page with high student involvement and feedback. High investment for faculty member.
- <u>HI324G</u> Prof. Johnston's *Native American History* A project on individual indian tribes, not collaborative. Some good projects, some poor. Little faculty involvement.
- PH241N Prof. Weppner's Fundamental Physics I A collaborative "cheat sheet" page, good results. Little faculty involvement.
- OM410 Prof. Weppner's Quest for Meaning An extra credit journal page, similar to a blog
- WH181 Prof. Cox's Western Heritage in a Global Context A collaborative summary of texts, not as collaborative as professor would have hoped but an interesting experiment.

### Spring, 2007 courses at Eckerd College which used the wiki

- · CH122L Prof. Hudson's General Chemistry II Lab An experiment for a laboratory class. Not too much student input but well done by the faculty member
- PH242 Prof. Weppner's Fundamental Physics II Another good attempt at the "cheat sheet", collaborative.
- PH341 Prof. Cox's Classical Mechanics Another attempt at the "cheat sheet", not as successful, students were not motivated.
- <u>PO251</u> Prof. Oglesby's *Media & Foreign Policy* A collaborative work on how journalism is portrayed, the professor explicitly wanted the students to collaborate on media pieces for contemporary events
- WH182 Prof. Gowans' West Heritage-Global Context 2 Another summary of the texts, not collaborative really, but some good efforts by individual students.
- WH182 Prof. Meese's West Heritage-Global Context 2 A course page where the faculty member put additional resources for students. Occasional student feedback.

# Wiki Reviews by Fellow Faculty Members

The students found it very helpful and fascinating. I especially liked the accountability factor regarding the teams' research of various [Native American] tribes. It was quite obvious who had been serious about the assignment. The site also allowed more free exchange of knowledge about many different tribes. Maybe it would be possible to have more instructions for them to just hand out to them and discuss first before beginning. I didn't find it particularly obtuse but some of the student floundered. In fact, their colleagues helped them through it in many cases. This was also good for the team building.

# ...Another positive review

About one-third of the students, who also turned out to be those who did not participate as frequently in class discussions, used the wiki to strengthen their contributions. I could bring those ideas into class very effectively as discussion starters by projecting their actual words on the class screen, acknowledging their ideas, and then ask others to respond. This improved students' perceptions of each other as active thinkers, too, and improved class rapport. The ease of use and the ability to import great visuals alongside text made the wiki popular with the students--at mid-semester, when asked about things to change, they voted almost unanimously to keep using the wiki as a regular component of the course.

### **Another Review**

I think the Wiki worked well enough. It was a great way to get reporting on the war and journalism conference because they had to do it right away. For the longer term reporting on a theme, it worked less well which was my fault. I did not require staged posting. I reminded them and gave them time in class for the groups to meet but I did not assign midpoints in the schedule before the entire project was due. The students advise me to repeat the project but to build in required stages. I liked being able to assess the individual work. I could tell from the history who did what and how long they worked. There pleas of technical incompetence were not valid -- we solved all the bugs along the way.

# Some things that did not work

My use in upper level physics was not particularly successful—Students were supposed to contribute equations to the wiki (and any on the wiki became part of the equation sheet)—students had difficulty with latex (again, they did this at the last minute) and ended up scanning in equation sheets and pages of homework assignments. There was no editing of other students' work. I probably would not use it this way in an upper level physics course again.

In my writing class, we discovered that 18 people trying to edit the same page kept a number of them from seeing the editing icons, etc. They could log in, but not edit. I did not try that type of exercise again,



### Wikis as pedagogical tools are best when:

Projects with some level of collaboration (data collection included!)

The assignment has few constraints

Faculty and peers want to follow the development process in real time

Motivation for success is well defined

The project is good for public exposure (same as developing a website)

A helpful website on wikis in education: <a href="http://www.scienceofspectroscopy.infd">http://www.scienceofspectroscopy.infd</a>



Thanks to AACP, Eckerd College, Greg Kohs, Chandra Gilmore, and Rebecca Morgan