

# Meet my friend ALEKS

He isn't imaginary,

But he is artificial

A snapshot not a comprehensive review

# My pet peeve number 1: Making big profits for publishers

- Premise: The textbook is not the most important thing:
- So why spend so much money on a new one?
- In the words of the prophet:
- “Chemistry is chemistry”
- Premise: All books are basically the same:
- So why assign one in particular?

<i>Num eric valu e</i>	<i>Answer</i>	<i>Frequ ency</i>	<i>Perce ntage</i>
1	In-class lectures/presentation of material	30	43.4 8%
2	Textbook	9	13.0 4%
3	Student study guide (optional companion to textbook)	2	2.90 %
4	Course website	0	0.00 %
5	ALEKS	24	34.7 8%
6	Quiz sections	4	5.80 %
7	Professor office hours	0	0.00 %

# My pet peeve number 2: Making more profits for publishers

- Those online homework systems that publishers like to flog you
- I don't set "homework"
- They put the cost on students to make life easier for instructors
- Students don't willingly use them:
- The single most frequent suggestion for improving course: "Get rid of WebAssign"
- Masteringchemistry
- OWL
- WebAssign
- Etc.

# The “great experiment”:

A small profit for ALEKS, a big saving for students

- Instituted Fall 2010 in honors chemistry:
- ALEKS is the centerpiece for learning and assessment outside the classroom
- Sidebar: The only community college in America to do so
- It costs \$40 per term
- No assigned textbook (Don't tell the publishers I put some old ones on reserve in library)
- No weekly quizzes
- Watch what happens

# What is ALEKS anyway?

- Assessment and LEarning in Knowledge Spaces
- ALEKS uses adaptive questioning to quickly and accurately determine exactly what a student knows and doesn't know in a course.
- Two components:
  - Assessment
  - Learning
- Let's take a [look](#)

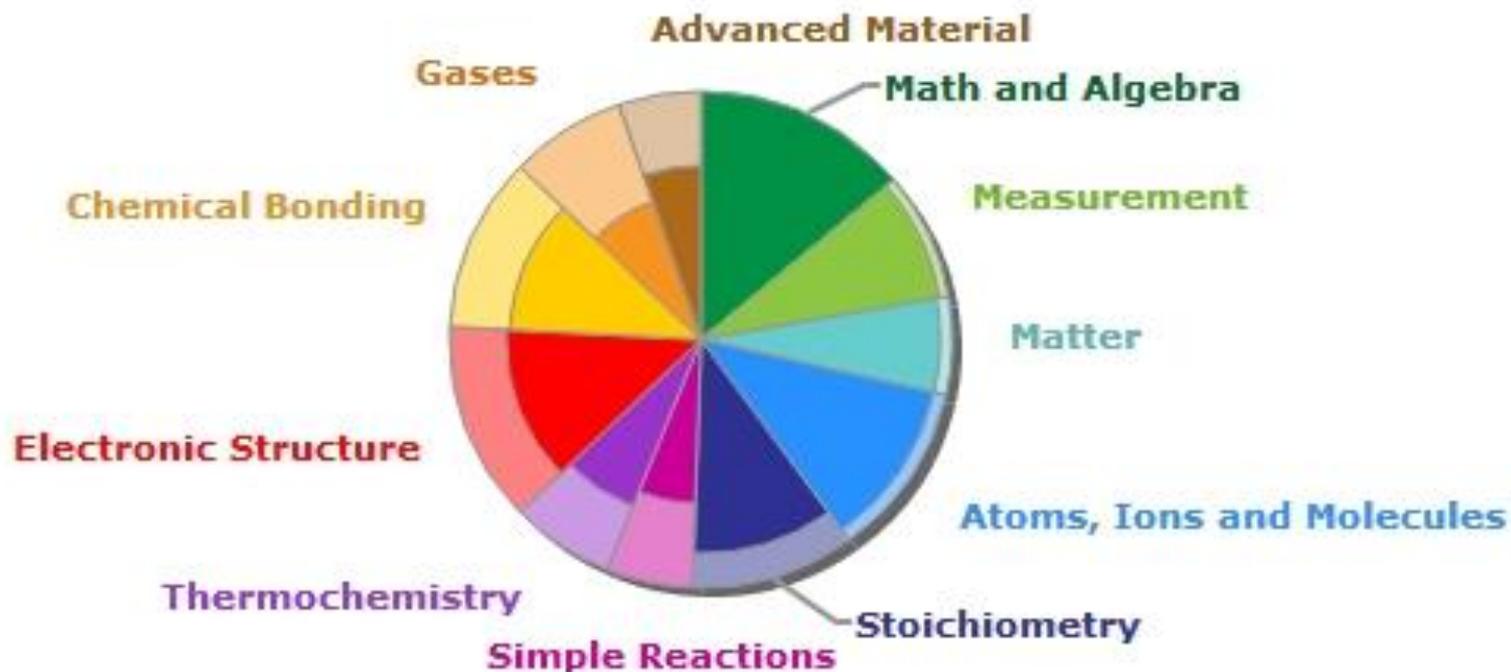
# Snapshots: setting learning objectives

ALEKS Objectives	Due Date
Objective #1 (33 topics) <a href="#">Edit</a> + Ch.0-Math and Algebra Prerequisites	09/02/2012 10:00 pm
Objective #2 (26 topics) <b>A</b> <a href="#">Edit</a> + Ch.1-Matter, Measurement, and Problem Solving	09/09/2012 10:00 pm
Objective #3 (15 topics) <b>A</b> <a href="#">Edit</a> + Ch.2-Atoms and Elements	09/14/2012 10:00 pm
Objective #4 (30 topics) <a href="#">Edit</a> + Ch.3-Molecules, Compounds, and Chemical Equations	09/21/2012 10:00 pm
Objective #5 (4 topics) <b>A</b> <a href="#">Edit</a> + Ch.4-Chemical Quantities and Aqueous Reactions	09/26/2012 10:00 pm
Objective #6 (21 topics) <b>A</b> <a href="#">Edit</a> + Ch.4-Chemical Quantities and Aqueous Reactions	10/01/2012 10:00 pm
Objective #7 (12 topics) <a href="#">Edit</a> + Ch.7-The Quantum-Mechanical Model of the Atom	10/07/2012 10:00 pm
Objective #8 (22 topics) <b>A</b> <a href="#">Edit</a> + Ch.8-Periodic Properties of the Elements	10/14/2012 10:00 pm

# Snapshots: it's all about the pie!

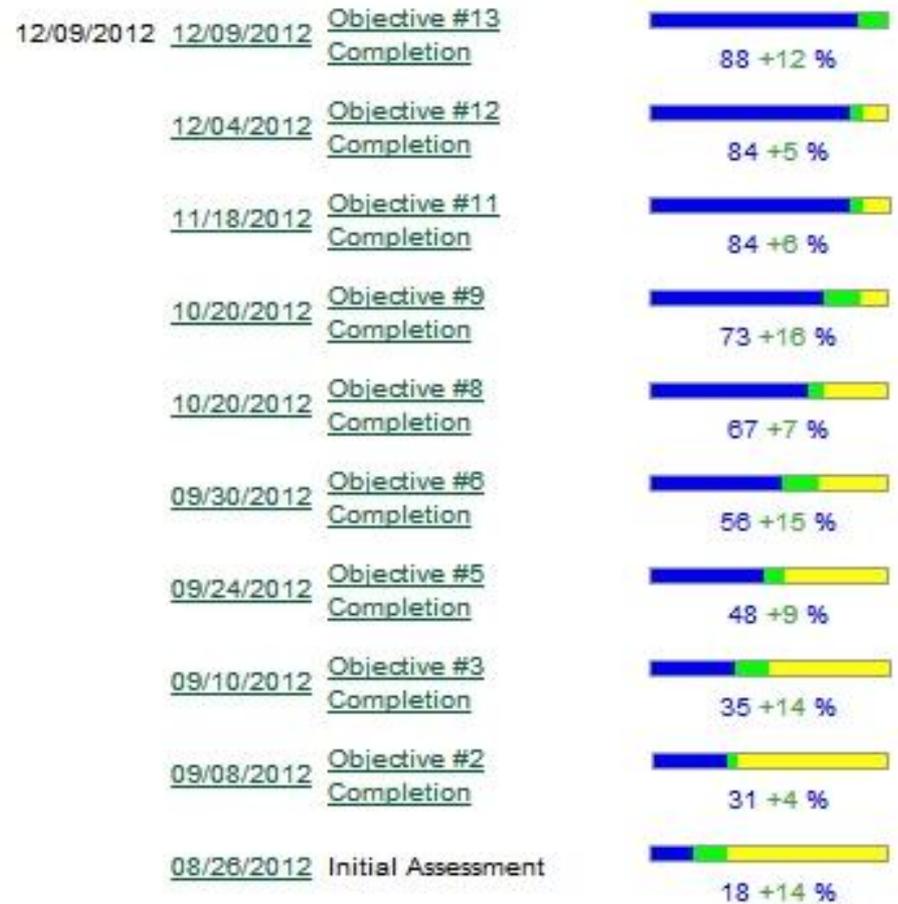
Course Mastery

Course Mastery  
(182 of 237 Topics)



# Snapshots: moving the blue bars

- Progress report for a winning student
- Assessments are taken at regular intervals
- The blue represents mastery at previous stage
- Green represents new mastery since previous
- It's not where you start but where you finish



# Well, does it work?

Comparing exam scores over 8 years of honors chemistry

	F2005	F2006	F2007	F2008	F2009	F2010	F2011	F2012
Unit I	0.808	0.800	0.833	0.826	0.878	0.886	0.871	0.848
Unit II	0.721	0.739	0.720	0.751	0.763	0.778	0.734	0.761
Unit III	0.713	0.762	0.803	0.803	0.794	0.823	0.806	0.800
Unit IV	0.634	0.655	0.643	0.734	0.684	0.715	0.665	0.750
AVG	0.719	0.739	0.750	0.779	0.780	0.801	0.769	0.790
	S2006	S2007		S2009	S2010	S2011	S2012	S2013
Unit I	0.820	0.743		0.862	0.818	0.847	0.741	
Unit II	0.708	0.694		0.770	0.770	0.788	0.784	
Unit III	0.664	0.661		0.839	0.699	0.746	0.606	
Unit IV	0.760	0.798		0.818	0.785	0.822	0.777	
AVG	0.738	0.724		0.822	0.768	0.801	0.727	
ACS	43.0	36.0		43.9	41.8	43.5	39.2	

# Do students like it?

- Comments from users at University of Washington
- “I liked the fact that it focused on material that you didn’t know, instead of wasting time going over stuff you already have learned.”
- Simple and to the point.
- Explained how to do problems (the “explain tool”).
- The pie chart...ability to see progress.
- Having to redo problems for a “typo”.
- Timing of assessments.
- “Sometimes the problems were not challenging enough”.